

BRIDGING THE GAP-LET THE  
CHILDREN COME UNTO ME

AN INAUGURAL LECTURE,  
2015/2016

OBAFUNKE OLUFUNLAYO DENLOYE

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**BRIDGING THE GAP – LET THE CHILDREN  
COME UNTO ME**

*An inaugural lecture delivered  
at the University of Ibadan*

*on Thursday, 26 May, 2016*

*By*

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## **Preamble**

I am grateful to Almighty God my Heavenly Father, the source of wisdom and knowledge and by whose inspiration men receive understanding for a day like this. I am also grateful to the authority of the University of Ibadan headed by the Vice-Chancellor, Professor Idowu Olayinka, for the honour and privilege given to me to deliver this inaugural lecture on behalf of Faculty of Dentistry, the 9<sup>th</sup> in 2015/2016 series. I am the 9<sup>th</sup> to deliver the inaugural lecture from Faculty of Dentistry since its inception. We are privileged in the Faculty to have our inaugural lecture settled in the University calendar awaiting our elevation.

Historically, earlier lectures were delivered by great teachers and mentors from different disciplines in Dentistry with fifty percent of the delivered inaugural lectures by Professors from Oral and Maxillofacial Surgery which happens to be the oldest Department in Faculty of Dentistry. The 1<sup>st</sup> inaugural lecture was delivered by Professor J.O. Daramola of the Department of Oral and Maxillofacial Surgery on the 28<sup>th</sup> January, 1988, while Professor A.E. Obiechina from the same department delivered the 2<sup>nd</sup> lecture. The 3<sup>rd</sup> lecture was delivered by Professor Gbemisola A. Oke from Department of Preventive Dentistry as it was called then (now Department of Periodontology and Community Dentistry), and the 4<sup>th</sup> Lecture was given by Professor J.O. Lawoyin of the Department of Oral Pathology. Professor Modupeola O. Arowojolu of the Department of Periodontology and Community Dentistry delivered the 5<sup>th</sup> lecture, while Professor J.T. Arotiba the current Dean delivered the 6<sup>th</sup> lecture. The 7<sup>th</sup> lecture was delivered by

Professor A.O. Fasola of Oral and Maxillofacial Surgery and the 8<sup>th</sup> lecture by Professor O.O. Dosumu of Department of Restorative Dentistry. I stand before you this day to deliver the 1<sup>st</sup> inaugural lecture from Department of Child Oral Health—the youngest Department in Faculty of Dentistry and the 1<sup>st</sup> from the speciality of Paediatric Dentistry in this University. It is therefore a great honour for me to deliver this Lecture. I thank my Dean Professor J.T. Arotiba, for believing in me and allowing me to become the 2<sup>nd</sup> Paediatric Dentist to deliver an inaugural lecture in the entire West African sub-region. The 1<sup>st</sup> being Professor Elizabeth Sote of University of Lagos, who is also the first female Professor in Dentistry in Nigeria.

Mr. Vice-Chancellor Sir, the mouth is the mirror of the body as well as the gate way to the body. Nigerian children are known to have dental problems as against the erroneous beliefs that Africans have no dental problems aside those associated with ageing. With this knowledge, some of us decided to develop our interests in the oral health of Nigerian children who make up about 45% of the Nigerian population (Nigeria Unicef). Paediatric Dentistry is quite challenging and demanding, as convincing and managing some children on the dental chair require extra effort. Therefore, the need to have specialists in this area of dentistry, who see the child as a whole being and bridge the gap between his/her oral health and general wellbeing, cannot be overemphasized.

### **History of Paediatric Dentistry**

Paediatric Dentistry (formerly Pedodontics) is the branch of Dentistry dealing with children from birth through adolescence. It is an age-defined specialty that provides primary, comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs (American Dental Association 2013). Paediatric dentists promote the dental health of children as well as serve as educational resources for parents.

Interest in better child oral health commenced during the 19<sup>th</sup> century. Before then, children and adults were seen together by general practitioners without any distinction. Modern children dentistry started in 1902 when the first European dental clinic for children was opened in Strasbourg by Ernst Jassen. The first textbook describing dental problems and management for children was published in the year 1924 and American Society for the promotion of dentistry for children was established at Detroit in the year 1927. In 1947, the American Academy of Paedodontics was founded and later in the year 1984, the name was changed to American Academy of Paediatric Dentistry and this was done to involve every one interested in the management of oral health needs of children. All these are history now as paediatric dentistry is practised all over the world and this led to the formation of International Association of Paediatric Dentistry—an Association formed by all countries where Paediatric Dentistry is practised and Nigerian paediatric dentists are active members.

The foundation for Paediatric Dentistry in Nigeria was laid by Professor J.O. Adenubi. Others who contributed to the development of Paediatric Dentistry in the early years include Professor N.O. Salako from University of Lagos and Dr. Moronke Noah who was appointed Research Fellow in 1976 at the University of Ibadan. Professor Elizabeth Sote became the 1<sup>st</sup> female Professor in Dentistry consequently, the 1<sup>st</sup> female Professor in Paediatric Dentistry. As at today, there are about twenty-five paediatric dentists in Nigeria and many undergoing training in the specialty.

### **Department of Child Oral Health, University of Ibadan**

At inception, in 1975, Dentistry was a Department under plastic unit of the Department of Surgery, University of Ibadan. Dr. Moronke Noah was the pioneer lecturer of Paedodontics as it was called then and she was later joined by Dr. Osuji in the late 1980's. In 1981, three departments were created from the then Department of Dentistry, of which

Preventive Dentistry Department was one, and Paedodontics was a unit in Preventive Dentistry. Unfortunately, the search for greener pasture in the late 80's led to brain drain of almost all lecturers in dentistry except for Professor Oke (then Dr. Aderinokun) and Professor Obiechina (then Dr.) and by 1990 all the Senior Registrars in Dentistry were called upon to help prevent the collapse of dentistry programme. Mr. Vice-Chancellor Sir, between the year 1990 and 2000 (ten years) I was the only dentist teaching paediatric dentistry in the University. I was also called upon to give lectures in orthodontics and restorative dentistry. The work load was so much for me as a young lecturer but, my joy today is that one of my students whom I taught orthodontics developed interest in the subject and he is now a Professor of Orthodontics in one of our federal universities. I developed interest in virtually every aspect of paediatric dentistry and I was also involved in running daily paediatric dentistry clinic in the Hospital and this robbed me of months of my leave periods in those years.

In the year 2002, the National University Commission approved the establishment of the Faculty of Dentistry, University of Ibadan. Also, because of the staff strength and to meet the internationally-recognized categorization, a need for a split of Department of Preventive Dentistry was identified. In the year 2005, the Department of Child Oral Health was created from Department of Preventive Dentistry and I was appointed the 1<sup>st</sup> Ag. Head of Department, a post I have held 3 times and have become "Emeritus Ag. Head". The department which consists of 2 units – Paediatric Dentistry and Orthodontics, has grown over the past 10 years through thick and thin and I am happy and proud to be associated with the department.

. During those years, I had my biological children and watching them develop and grow improved my interaction with my patients and it also helped me teach my students better. I am proud to say today that I have been able to influence many of my undergraduate students to study

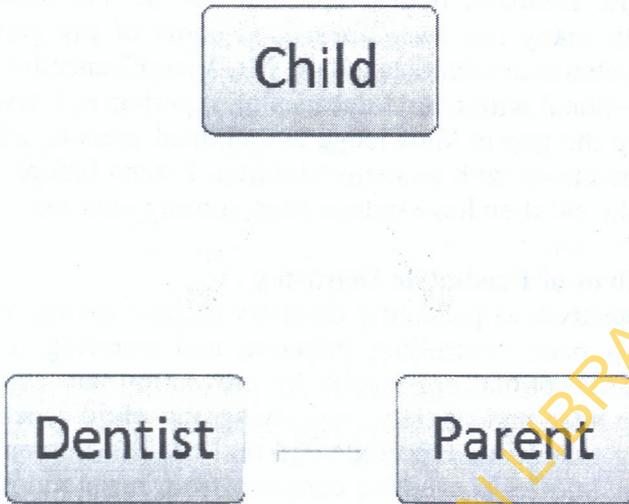
Paediatric Dentistry both within and outside this country—a specialty many run away from, and some of my paediatric dental patients are dentists today. Mr. Vice-Chancellor Sir, as a professional with over 2 decades of experience, I have been bridging the gap in knowledge and clinical practice and with my interactions with so many children, I stand before you all to say the children have indeed been coming unto me.

### **Objectives of Paediatric Dentistry**

The objectives of paediatric dentistry include giving comfort, relieving pain, controlling infection and restoring function, promoting optimal oral health by prevention and education, allaying fear and anxiety, modifying the child's behaviour (leading to a positive attitude and oral health), implementing the principles of preventive dentistry from birth and parental guidance and counselling. All these have been met in my practice of paediatric dentistry.

A child differs from an adult in three general areas namely; physiologic and anatomic differences, pharmacokinetic differences and emotional differences (Rao 2008). Their physiologic and anatomic difference lies in the smaller body size of children compared to adult and a higher body surface area compared to their weight as many physiologic functions are proportional to body surface area. There are also differences in their respiratory, cardiovascular and urinary systems.

Pharmacokinetic is a dynamic process of drug turnover in the body and this differs between adults and children. The knowledge of the emotional differences between an adult and a child is very important to the successful management of any child patient. While in an adult, there is a one to one relationship that is, the adult patient to the dentist, the child has a one to two relationship that is, the child to his caregiver (parent) and the dentist. This relationship can be represented by a triangle known as paediatric dentistry treatment triangle (fig. 1) as given by Wright (1975).



**Fig. 1:** Paediatric dentistry treatment triangle.

The other important emotional differences which determine outcome of the management of any child include, less concentration and fear of the unknown exhibited by most children. This restricts their treatment time to 30 – 40 minutes. Also, very young children cannot rationalize and children need behaviour management modalities which depend on their age and understanding. Due to these differences between the adult and the child patient, the paediatric dentist being the first contact with children, must have deep knowledge and interplay with other specialties such as, oral surgery, interceptive orthodontics, prosthodontics, preventive dentistry, endodontics, restorative dentistry and psychology (fig. 2). We often recite nursery rhymes, sing songs and puppeteer in order to gain the cooperation of some young children. The paediatric dentist can therefore be described as Jack-of-all-trade but master of children.

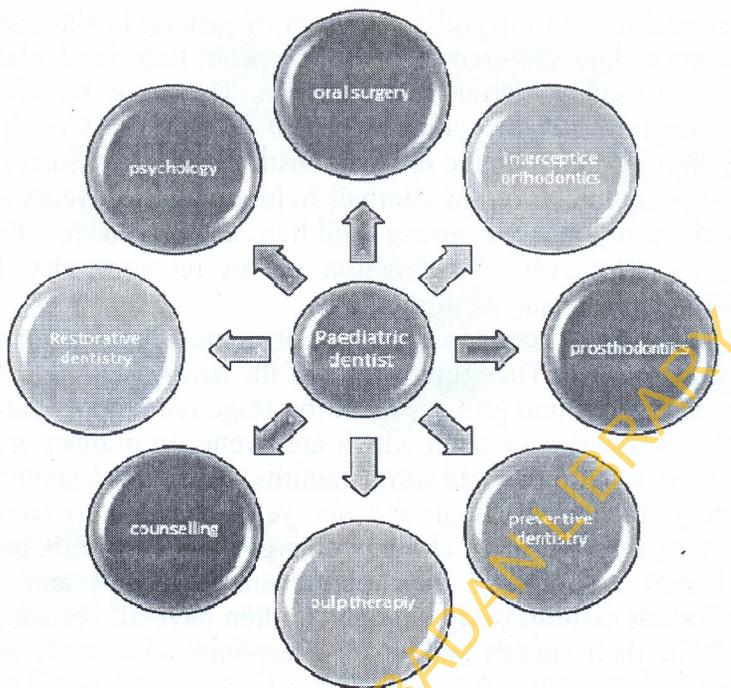


Fig. 2: Interplay with other specialties.

### Oral Cavity

The oral cavity is bordered anteriorly and laterally by the alveolar arches, which contain the teeth, posteriorly, by the isthmus of the fauces, while the palate forms the roof of the cavity and also separates the oral cavity from the nasal cavity. The hard palate forms the anterior portion of the palate while the soft palate is placed posteriorly. The tongue occupies the oral cavity when the cavity is closed. Salivary glands responsible for production of saliva are located in different areas of the mouth while the pharynx is the posterior boundary of the oral cavity and connects the mouth, the nose and the larynx.

The mouth as the gateway to the body reflects the general health and wellbeing of an individual. The mouth can also be a barrier to, as well as a portal for infection into the body.

Oral health is an integral component of general health and it influences how children grow, look, speak, taste food, chew, swallow food and drink, and socialize. These are, therefore, the functions of the components of the oral cavity. The function also include the one demonstrated by Luis Suarez, a popular footballer on the football field a couple of years ago which many of our young children engage in for their defence. However, this function is not recommended for either a child or any adult.

The type of teeth on the alveolar arches depends on the age of the child. Therefore, stages of the dentition of children can be divided into primary dentition stage (commonly called milk dentition)—the teeth which are twenty in number erupt between six months and thirty months. The mixed dentition stage (which is from around six years through to twelve years, is a period when children change from their milk teeth and start eruption of their permanent dentition) and the permanent dentition stage (when children have all permanent teeth in their mouth and this corresponds with adolescent period).

Vice-Chancellor Sir, my modest contribution in the area of research has focused on comprehensive preventive and therapeutic oral health care for children including those with special health care needs and achieving a reduction in widespread of various forms of oral morbidities in children. With my knowledge on determinants of oral health in children in this environment which include diet modification, cultural practices and dental service utilization among others (fig. 3), I have covered most of the major sub-divisions in the specialty, which include orofacial anomalies, teething and teething problems, infective lesions in children, oral health of children with special needs and interceptive orthodontics. I shall be addressing these, highlighting the effects of our research findings on the improvement of child oral health care.

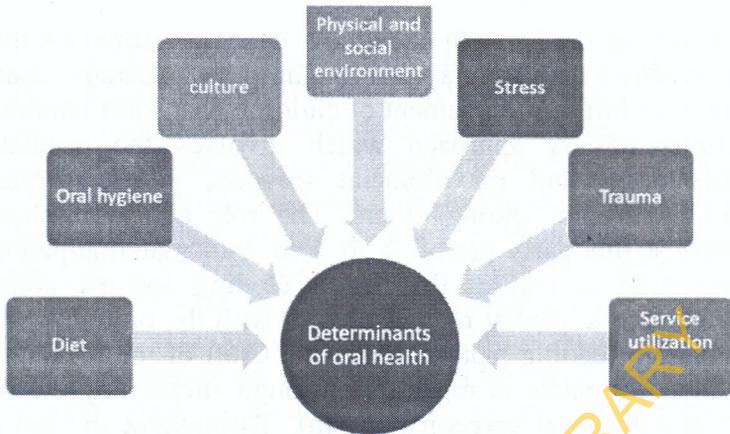


Fig. 3: Determinants of oral health.

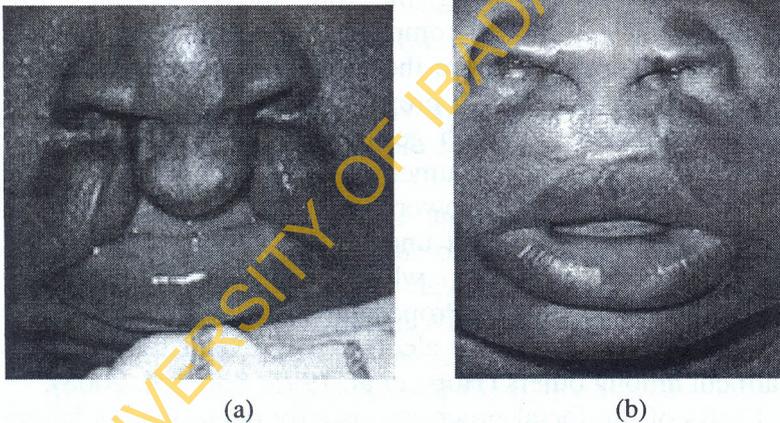
## Craniofacial Anomalies

### *Orofacial Clefts*

Orofacial clefts are among the four most common birth defects in the world. They comprise of cleft of the lip with or without the palate. They are the most common birth defects of the head and neck with a prevalence of 1 in 600-700 births. This prevalence varies with geographic and ethnic distribution. Ireghulam (1982) documented a prevalence of 0.3/1000 births in Nigeria, a figure lower than that of Europe, America and Asia. Aetiology is still uncertain but, there is a genetic predisposition to clefting which may be triggered by environmental factors. Proposed environmental factors include maternal smoking, alcohol abuse, and hypertension treatment among others (Hurst et al. 1995; Shi et al. 2008).

Clefts of the facial processes usually occur due to failure of the facial processes to meet—most importantly the frontonasal process with the maxillary process (fig. 4a) and the two palatal shelves failing to meet in the midline. Olasoji et al. (2007) documented perceived causes of cleft lip/palate among Nigerian parents in some communities to include work of the evil spirits, worms within the abdomen, when a woman is denied food during pregnancy, or if she went out during a solar eclipse.

Clefts of the lip with or without palate constitutes a main reason why a neonate may be brought to the paediatric dentist soon after birth. Management of children with cleft requires a multidisciplinary approach which involves the paediatric dentist, oral and maxillofacial surgeon, plastic surgeon, speech therapist among others. The role of the paediatric dentist at this early period is to help with maternal/parental counselling as regards the child's feeding and acceptance. The paediatric dentist may also work with the orthodontist to fabricate a feeding plate if indicated. Cleft of the lip with or without the palate is repairable through surgery by the oral and maxillofacial surgeon (fig. 4b). Throughout the growth period of the child up till adolescent period, the paediatric dentist is called upon to help with the correction of any dental anomaly present in the child's mouth and prevent development of dental caries.



**Fig. 4:** Bilateral cleft lip (a) before treatment; (b) after treatment  
(Courtesy of Dr. Olusanya–Dept. of OMS, UI)

### ***Ectodermal Dysplasia***

Ectodermal dysplasia is a hereditary disease characterized by congenital dysplasia of ectodermal structures and their accessory appendages. In majority of cases it is sex linked recessive character with males more affected while in some

cases, it has an autosomal dominant or recessive characteristics (Familusi et al. 1975). Features include defective formation of hair, nails and iris, defective sweat, salivary and sebaceous glands while anodontia or hypodontia are the most striking dental manifestation with attending socio-psychological problems due to impaired aesthetics, masticatory deficiency and underdeveloped jaw bones. A case of a set of 4 year old twins with this anomaly was reported in the literature (Denloye, Dosumu, Aderinokun et al. 1996). Provision of prostheses was postponed for the children due to their very young age and lack of cooperation from the children as the provision of prostheses is usually a challenge due to underdeveloped alveolar ridge. The role of the paediatric dentist in the management of these children apart from provision of prostheses also include parental counselling about feeding and informing their school teachers on the need to prevent the children from vigorous physical exercises and the sun, as their defective sweat glands make sweating difficult and the children may become febrile too often leading to convulsive disorders. Figures 5a and b show a 6 year old child who presented in our clinic and had a prosthetic replacement.



(a)



(b)

**Fig. 5:** Ectodermal dysplasia (a) before; (b) after placement of upper/lower dentures.

## **Tooth Eruption**

The current guiding principle in dentistry for children is to solicit for full infant care during the first year of life as a way of ensuring good oral health. Tooth eruption which occurs at about six months of age is said to be a milestone both in terms of functional and psychological changes in the child's life and in emotional terms for the parents (Cunha et al. 2001). In some cases abnormal tooth eruption can constitute a problem for the attending obstetrician, the pediatrician or the parent.

## ***Teething and Teething Misconceptions***

Teething is a harmless, normal physiological process of emerging new teeth that does nothing other than to bring out teeth. It is associated with multiple physiological processes that make interpretation quite difficult. The first set of primary teeth erupt at about 6 months of age, a period that coincides with a reduction in acquired maternal antibodies. At this period, the most active part of a child's body is his mouth and as the child sits and learns to crawl, he picks and places unclean objects in his mouth. This can readily introduce pathogens into his body and eventually lead to gastrointestinal disturbances especially diarrhoea. Also, normal salivary glands functioning occur when the child is about two to three months old, this explains the constant drooling, which mothers may misinterpret as a sign of teething.

Misconceptions about teething have been found among people of various cultures and professions and have spanned centuries. As far back as 1732, Arbuthnot attributed 10% of child morbidity to teething. Interestingly, in this present age; beliefs about teething have not changed and teething myths and misconceptions have permeated even the medical profession. Tables 1 and 2 show opinions and beliefs held by some nurses and community health officers respectively in earlier studies by Bankole, Denloye and Aderinokun (2004) and Denloye, Bankole and Aderinokun (2005).

**Table 1: Frequency of Opinions and Beliefs held by Some Nurses on Problem of Teething**

<b>Opinions and Beliefs</b>	<b>%</b>
Fever	82.1
General irritability	80.8
Drooling	70.7
Crying	63.8
Diarrhoea	61.4
Loss of appetite	39.5
Sleeplessness	39.5
Weight loss	35.8
Boils	27.9
Increased thirst	16.8
No ailment	16.4

Source: Bankole, Denloye, Aderinokun (2004)

**Table 2: Frequency of Perceived Symptoms of Teething by Community Health Officers**

<b>Perceived Symptoms</b>	<b>%</b>
Fever	43.4
Diarrhoea	18.5
Cough	6.2
Loss of appetite	6.2
Painful gum	5.4
Salivation	5.4
Headache	3.9
Catarrh	3.1
Boils	3.1
Convulsion	1.5
Vomiting	1.5

Source: Denloye, Bankole, Aderinokun (2005)

A total of 542 nurses participated in the first study while 132 community health officers participated in the second study. Of interest is the observation of headache as one of the symptoms of teething. These are health care providers whose

beliefs may influence their practices and the need to separate cultural beliefs from scientific and proven medical practices is important. The findings in these earlier studies are not different from those of Opeodu and Popoola (2013) in a study that assessed the beliefs of nursing mothers concerning symptoms that are associated with teething among children in a Nigerian community.

We (Opeodu and Denloye 2014) also documented the practice of some nursing mothers in the use of pre-emptive medications for children in order to prevent perceived symptoms of teething. Teething mixtures, bought over the counter, were the most common medications used for the prevention of symptoms believed to be due to teething. It was observed from the study that some of these medications contain benzocaine which had been implicated as a possible cause of methemoglobinemia, in which there is a reduction in oxygen carried by the blood stream, often times life threatening.

In a study carried out by Macknin et al. (2000), he found no evidence that teething was associated with any severe health threatening conditions, although they found some associations with biting, drooling, gum rubbing, irritability and sucking. Study by Oziegbe et al. (2009) shows that those in higher socioeconomic strata were less likely to have misconception about teething and less likely to report on teething symptoms. This was attributed to better sanitation, hygiene, and nutritional standards. Children are usually comforted at this period of “teething” by providing teething rings on which they bite. The need for public enlightenment was identified and a poster (fig. 6) prepared in three major Nigerian languages was developed by the group on Oral Health Promotion (GrOHP) ably led by Dr. Aderinokun (Professor G.A. Oke) in collaboration with the World Health Organization to enlighten on teething process.



Fig. 6: Photo poster developed in Yoruba to enlighten on teething process.

This was distributed among the three major ethnic groups. The goal of using photo posters is to paint a picture of health and vibrancy in the teething period in the minds of mothers and health care workers. It is believed that pictures of real babies who are seen to be healthy when they are erupting teeth should go a long way in reducing some of the misconceived ideas pervading the communities. This was the first time a photo poster was used for such purpose. The development of the photo poster was documented by Bankole, Denloye, Aderinokun and Badejo (2003). We recognized that photo posters are effective health promotion tools which offer a strategy to the health promotion planner with a great potential to influence the populace. One of the advantages of photo posters we recognized include their ability to catch people's attention, as what is seen is usually retained better, having a lasting impression on the reader. The impact of the display of the poster on nurses revealed

some identifiable changes in their perception of teething problems in a study by Bankole, Aderinokun and Denloye (2005).

### ***Natal and Neonatal Teeth***

Several terms have been used in the literature to describe teeth that erupt before the normal time. They include congenital teeth, fetal teeth, predecidual teeth and dentitia praecox (Massler and Savara 1950). In an attempt to assign uniformity, Massler and Savara (1950) took the time of eruption as reference and those teeth found in newborn babies were known as natal teeth while those that erupt within the first 28 days of life were known as neonatal teeth. The phenomenon though rare has a prevalence range of 1:800–1:3000 with no sex predilection. Record of the prevalence and incidence rate in Nigerian babies to date is lacking but isolated cases exist in the literature (Ajagbe and Daramola 1978; Aderinokun and Onadeko 1990; Sote and Egri-Okwaji 1998). The aetiology is unknown but maternal factors such as hormonal stimulation, genetics, malnutrition and infections have been associated. These teeth are usually located in the central incisor region of the mandible. Majority (95%) of cases are early eruption of the normal primary teeth or they are supernumeraries in 5% of cases. Usually, the presence of natal or neonatal teeth is discovered by the mother due to inconvenience during suckling, ulcer of the nipple, the baby's refusal to suck, ulcer of the ventral surface of the infant's tongue or it may be noticed by the doctor or nurse during examination of the mouth.

These teeth are further classified as matured or immatured based on their resemblance and level of development. Usually, they are very mobile on the ridge because of undeveloped roots. Denloye and Aderinokun (2007) reported the first occurrence of a prematurely erupted tooth in the molar region in Nigerian literature in a thirteen day old baby (fig. 7) as none of the isolated cases reported in Nigeria documented the occurrence of the tooth in this region. Distinction between natal and neonatal tooth could not be made as the mother of the child died soon after birth.



**Fig. 7:** Neonatal molar in a 13-day old baby.

The condition has been the subject of curiosity and study for a long time as it was surrounded by beliefs and superstitions. As far back as 59BC, Titus Livius considered natal teeth to be prediction of disastrous events. Caius Secundus in 23BC believed that a splendid future awaited male infants with natal teeth while the same phenomenon was a bad omen for girls. In some African tribes, children born with teeth were murdered soon after birth because they were believed to bring misfortune to all they would contact (Bodenhoff and Gorlin 1963).

Treatment of these teeth is usually directed at preserving them especially if they are the mature type as some have been found to belong to the normal deciduous series and their removal may lead to malocclusion at a later date. However, due to strong negative societal reaction to the presence of these teeth in babies, they are usually removed. In a Nigerian study, 53.79% of respondents in a community felt that the condition was an indication that the child was evil and 4.1% of them said they would get rid of the child (Oyejide and Aderinokun 1992). Other reasons for their removal include traumatization of the mother's nipple at breastfeeding,

discolouration of the crown of the tooth and possible aspiration of the tooth if it exfoliates as their roots are poorly formed and they are usually mobile.

### ***Reversal of Eruption Sequence***

Tooth eruption is a normal physiological process expected to occur in every child from about the age of six months. It is an important milestone during a child's development and most parents are often anxious of the time of eruption. In the majority of children, the mandibular central incisors are the first teeth to erupt. Occasionally, a reversal occurs in the sequence of eruption whereby the upper central incisors erupt before the lower. This occurrence which is said to be unusual is not acceptable in parts of Nigeria, especially among the Yoruba race who believe such children bring bad omen to the family and self. My years of clinical practice have shown some parents requesting the extraction of the maxillary central incisors in their children with such eruption sequence, even after the eruption of the full complement of the primary dentition. The standard clinical practice is to reassure parents of such children by stressing that the condition is only a deviation from the usual pattern and it is not an abnormality (Denloye et al. 2012). Such parents are also warned about the possibility of their children being infected especially with HIV if extraction is done by unqualified people who may want to capitalize on their desperate situation. Sometimes some parents are convinced.

However, an earlier study by Aderinokun and Oyejide (1991) documented societal perception, beliefs, attitude and behaviour in respect of eruption of maxillary central incisors before the mandibular ones. Findings from this study showed majority of respondents labelling such children as evil. A high percentage of respondents felt such teeth should be removed or extracted and appropriate rituals performed, while two respondents from the study felt such children should be gotten rid of. We documented a case in the literature (Denloye et al. 2012) where counselling did not work and the father of the child was ready to disown the child and his mother, if the teeth were not removed. The case report

recognized social wellbeing as a significant part of health which has to be well catered for as societal reactions can affect the social wellbeing of an individual (Denloye et al. 2012). The authors identified the need to adopt transcultural approach and incorporate it in some health issues with cultural beliefs and values. We identified older age group especially older grandparents as custodians of traditions and cultural beliefs. They influence decision-making especially among young parents and efforts to change cultural beliefs among these grandparents may not be accepted. Educational strategies, especially among young uneducated parents to empower them to make independent decisions were effected.

## **Infective Oral Conditions in Children**

### ***Dental Caries***

This is one of the most common diseases in the world and it continues to be a common health problem among children with a large health and economic impact, affecting 60-90% of school children and many adults. Its prevalence among population and its extent in individuals vary among nations and over time. It is a transmissible as well as a preventable infectious disease which affects the dental hard tissues as a result of bacterial action on sugar substrate on the tooth over a period of time.

Development of dental caries in an individual is hinged on the relationship of three important factors: the tooth, substrate (simple carbohydrate—sucrose) and microorganisms present in dental plaque (biofilm) relating over a period of time as represented in figure 8, while saliva flow rate, saliva PH and saliva buffering capacity modify the carious process. Mehta (2012) described dental caries as a dynamic process of demineralization and remineralization resulting from microbial metabolism on the tooth surface which over time results in a net loss of mineral content of the tooth and subsequently, but not always, leading to cavitation.

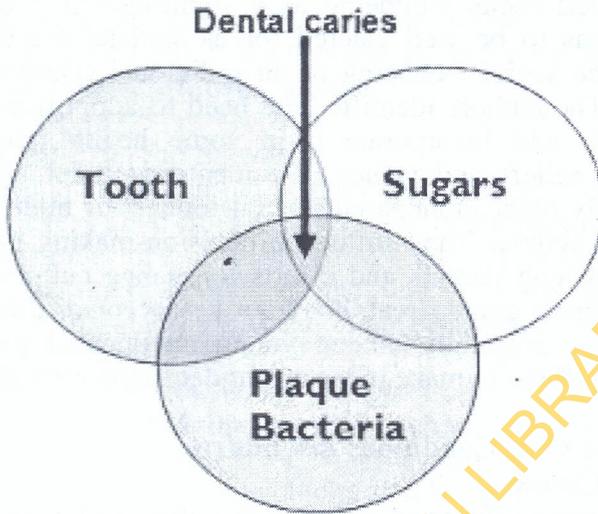


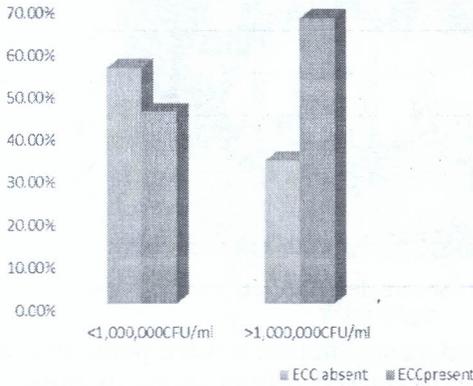
Fig. 8: Dental caries etiology.

In a study (Denloye et al. 1999), we found that dental caries and its sequelae were the most common reason for tooth extraction in a clinic-based study carried out among 429 children and over 75% of the extracted teeth in the study were primary molars. This was not surprising as parents believe that primary teeth are not important since they will be replaced, therefore, present their children for management very late when restorative care is almost impossible as is seen in figure 9. Early Childhood Caries (ECC) is caries found in children who are less than seventy one (71) months old. A prevalence of 23.5% was reported in a study by Iyun, Denloye, Bankole et al. (2014) among preschool children in Ibadan, a figure higher than 10.5% reported in a study conducted in Lagos (Sowole and Sote 2007).



**Fig. 9:** Severe dental caries.

The sequelae of dental caries include severe pain, abscess formation and consequently missed school days, inability to eat or sleep, and disturbances of growth and maturation of the child. Akpata (2004) reported that there is an ongoing change in diet in many developing countries, Nigeria inclusive, from the traditional diet to a more cariogenic western diet. Clinical observations have shown that many of our children do not drink much water nowadays but they go around with fizzy drinks and sugary snacks even till late in the night. In the course of our study on prevalence of early childhood caries in Ibadan, it was observed that parents frequently provided their children with commercially-prepared fruit juices to school because of the belief that they contain large quantities of vitamin C. The high sugar content of fruit juices and their acidic PH are highly cariogenic. Sucrose is the most widely consumed and it is regarded as the most important cariogenic food as it serves as a specific substrate for the synthesis of extracellular polysaccharides (dextran and levan) favouring Mutans Streptococci (MS) adherence to tooth surfaces and subsequent acid production by the plaque bacteria. In one of our studies (Iyun et al. 2014), MS was found in all the children seen who were between 3-5years of age and high bacterial scores of  $\square 10^6$  CFU/ml were observed more frequently in subjects who had dental caries (fig. 10). The study also revealed an increased risk of caries development in children older than 3 years with plaque MS score  $\square 10^6$  CFU/mls.



**Fig. 10:** Levels of MS colonization in relation to ECC.

Among adolescents, caries prevalence was found to be between 4.6–16% in studies done in Ibadan using the WHO assessment method (Denloye et al. 2005; Ajayi, Denloye et al. 2008; Denloye et al. 2015). This prevalence was found to be lower than findings in Lagos and Enugu (Agbelusi and Jeboda 2006; Udoye et al. 2009). In a recent study on dental caries prevalence and bilateral occurrence in premolars and molars of adolescent school children in Ibadan, we observed that first permanent molars were mostly affected and over 50% bilateral occurrence were also noticed in first permanent molars (Denloye et al. 2015). Adolescence was found to be a time of heightened caries activities as a result of increased intake of cariogenic diets with disregard to oral hygiene care procedures.

However, when International Caries Detection and Assessment System (ICDAS) was used to determine caries prevalence on the occlusal surfaces of 1<sup>st</sup> molars because of their vulnerability to dental caries among young adolescents with mean age of 13.2 years, caries prevalence was found to be 32%, a prevalence higher than findings in previous studies. ICDAS scores 1 and 2 that represented early decay had

59.5% teeth affected, while ICDAS scores 3 and 4 that represented established decay had 12.4% teeth affected. These scores are usually ignored and not recorded in earlier studies using WHO assessment method. Use of ICDAS in this study which was the 1<sup>st</sup> in Nigerian literature, captured the continuum of the lesion process which is important in the diagnosis and management of caries in low and some middle socioeconomic classes (Denloye, Alade and Popoola 2015).

Met Need Index (MNI) is an index that measures treatment received by an individual who has dental caries. It is measured by the ratio of the mean missing (M) plus filled (F) teeth to mean decayed, missing and filled teeth (DMFT). Restorative Index (RI) reflects the restorative care of those who have suffered the disease. These two indices were measured among 12-14 year old school children and were found to be very low (table 3) (Denloye et al. 2005). This was one of the few times a quantitative measurement was used to determine provision and utilization of dental services by children in Nigerian literature. Similarly, in another of our studies, Dedeke, Denloye and Oke (2014) also documented a high burden of untreated caries among a cross section of school children using the PUFA index with most of the children having pulpal involvement. High cost of restorative care was identified as a reason for the low care index.

**Table 3: Mean DMFT, RI and MNI**

Age (years)	n	D	M	F	DMFT	Mean DMFT	RI	MNI
12	17	33	-	-	33	1.94±1.0	-	-
13	18	27	1	-	28	1.56±0.6	-	0.04
14	30	56	5	2	63	2.10±1.2	3.45	0.11
Total	65	116	6	2	124	1.90±1.0	1.70	0.07

Source: Denloye, Ajayi and Bankole (2005)

With an observed increase consumption of non-alcoholic beverages, fast foods and an accompanying decrease in physical activities in many children, a study was carried out

to determine any significant relationship between body mass index (BMI) and dental caries in some selected adolescents since both indices measure diet-related outcomes. Hooley et al. (2012) in a systematic review of literature published from 2004-2011 concluded that a non-linear association exists between the two indices. Finding from our study observed that most children had normal BMI (Denloye et al. 2015) and there was no significant trend between BMI and dental caries at ages 12, 13 and 14, but a significant finding was observed at age 15 years with obese children recording a mean DMFT of 4—the highest score observed in all the children under study.

Adolescent period in the past had been observed to be characterized by great physical activities. But in recent times, adolescents engage in non-physical activities such as film watching and use of the computers with an attendant increase in eating and snacking. The continuous need for improved oral health by reduction in snacking frequency among children and adolescents should be encouraged.

Dental caries has been identified to play a major role in the overall health and wellbeing of the child (Folayan et al. 2014). When caries is left untreated, it can lead to infection which can spread to other parts of the body including the brain and there had been two reported cases of children dying from brain abscess resulting from untreated dental caries (Fox 2011). Severe caries has also been shown to contribute to a child failing to thrive, as children with caries weigh significantly less than their peers (Acs, Ladolini et al. 1992). Caries is a preventable disease and from all the foregoing, the need for oral health education with emphasis on reduction in snacking habit on sweetened foods and drinks among children was identified and instituted by giving oral health talks to school children and in some cases to parents and caregivers.

In the book of Daniel chapter 1, we read about the 4 young Israelite boys who refused to defile themselves with the Kings food... . They ate beans and drank water and were found to be healthier than their peers who ate the king's food.

Parents need to understand the importance of healthy foods and drinks, and that fizzy drinks and fast foods are not a measure of affluence. This has been communicated to many parents and caregivers in many fora.

Reduction in caries prevalence in developed countries has been observed and associated with exposure to fluoride. One of the mechanisms of action of fluoride is to replace the hydroxyl ion in the tooth to become fluoro-apatite crystal which is stronger and more stable in an acidic medium than hydroxyl apatite. A literature review on fluoride in caries treatment and prevention in children, identified the various sources of fluoride. In the review, community water fluoridation was identified as the most effective, most convenient and reliable source of systemic fluoridation (Denloye 2004). With this in mind, my co-researchers and I set out to evaluate the fluoride level of the different drinking water sources in Ibadan, Oyo State (Ajayi, Denloye, and Dosumu 2008). Sixteen samples of drinking water sources from various locations in the five local government areas of the city were analysed for their fluoride concentration. Fluoride level of different drinking water sources at the five local government areas were found to be low and are as shown in table 4, with the range of 0.02 – 0.03 parts per million (PPM) as against the recommended optimal level of 0.7 - 1.2 PPM depending on the climatic condition of the area (FDI 2000).

**Table 4: Fluoride Level of Different Drinking Water Sources at Local Government Areas**

Local Government Areas (LGAs)	Sources of water and fluoride levels in PPM			
	Well	Tap	Borehole	Spring
Ibadan South East	0.02	-	0.02	-
Ibadan North	0.03	0.02	0.02	-
Ibadan South West	0.03	0.02	0.02	-
Ibadan North East	0.02	0.02	0.03	0.02
Ibadan North West	0.02	0.02	0.02	-

Source: Ajayi, Denloye, Dosumu (2008)

Fluoride content of selected chewing sticks used in Nigeria were also analysed knowing that in developing countries majority of the population especially the rural population use chewing sticks to maintain oral hygiene (Taiwo, Mustapha and Denloye 2012). Findings from this study showed that *Fagara Zanthoxyloides* (*Orin Ata*) from the Rubiaceae plant family demonstrated the highest concentration of fluoride (1.845PPM), a concentration higher than that found in regular toothpaste commonly used. It was therefore concluded that if properly and regularly used, this stick is likely to confer maximum anticaries effects in users if the root or stems can be beaten with a stick or mortar to form a sponge, making it easy to use as oral hygiene promotion tool in rural areas or in children in confinement under close supervision because of its high fluoride content.

Other caries preventive tools include supervised oral hygiene measures using fluoride containing toothpastes daily, reduction in frequency of intake of cariogenic snacks or drinks to less than 3 times per day, feeding on adequate diet and regular dental visits. Oral hygiene measures involve the use of small head soft bristle toothbrush as soon as the first set of primary teeth erupt with a smear/pea-sized fluoridated toothpaste on the brush, done at least twice a day – morning and last thing at night and daily use of dental floss even on children’s teeth.

It is important to note that a child's health-related attitude and behaviour are taught and adopted at home, and modelled on parental and family examples through the primary socialization process (Folayan et al. 2014). Parent's disapproval of risky behaviours contribute to their children's healthy lifestyles. Therefore, parents especially mothers' play critical roles in the success of any oral health behaviour modification efforts for children. It is important for parents and caregivers to promote the development of healthy oral health habits early in life of the child and regard primary dentition as being important to the wellbeing of the child. With this, early childhood caries will be controlled.

Treatment of carious lesions involve use of expensive restorative materials so as to retain primary teeth as space maintainers. Where restoration cannot be done, or where complication such as facial cellulitis have set in (fig. 11), the teeth are then extracted to control spread of infection.



**Fig. 11:** Facial cellulitis secondary to carious maxillary left second primary molar.

### ***Necrotizing Ulcerative Gingivitis (NUG) and Cancrum Oris***

NUG is an anaerobic inflammatory destructive gingival condition which has been found in children and in HIV-infected individuals (Pinborg 1987). Predisposing factors include pre-existing gingivitis, poor oral hygiene, emotional and psychic stress and malfunction (Enwonwu 1977). In Nigeria, the disease is often encountered in underprivileged children who are exposed to stress of malnutrition and numerous endemic transmissible diseases such as measles

(Enwonwu 1977; Osuji 1990; Taiwo 1993). It presents with gingival bleeding and ulceration with characteristic halitosis. When treatment is denied or delayed, it may progress to Cancrum Oris which has a permanent disability or even fatalistic consequences. In recent years, incidence of NUG has drastically diminished and this might not be unconnected with use of various mouth rinses such as hydrogen peroxide and self-medications with antibiotics as stated by participants in a focal group discussion study that examined traditional and emerging oral health practices in parts of Nigeria (Oke, Bankole, Denloye et al. 2011).

Cancrum Oris which may complicate NUG is a devastating infection which destroys oral soft and hard tissues and commonly affects children under 6 years (fig. 12). A drastic decline of incidence has been reported (Denloye et al. 2003) especially in southwest of Nigeria despite the dwindling economic power and increasing poverty. Improved immunization coverage was identified as one of the reason for the decline of the incidence in southwestern part of the country (Denloye et al. 2003). The need for improved nutrition in children as well as good sanitation have also been identified as preventive measures.



**Fig. 12:** Cancrum oris and nasalis in a 4-year old malnourished girl.

## Trauma

Children experience frequent trauma to their orofacial structures and our clinical experience showed that traumatic injuries to teeth is the second reason why many children are brought to the dental clinic after dental caries. Many of the injuries occur during plays, falls and fights in older children; in some cases after road traffic accidents. Teeth and supporting structures frequently sustain injury during such accidents. Some children and adolescent also experience various forms of physical abuses. The head and orofacial region are common sites of trauma from child abuse thus, dentists are in a strategic position to recognize suspected cases (Bankole, Denloye and Adeyemi 2008). Anterior teeth are usually affected, and in Nigeria, prevalence of trauma to anterior teeth in children is between 6.5% and 19.5% (Adekoya-Sofowora 2001). Fall accounted for most injuries, and in recent times, clinical observations show that falls at home are due to the presence of polished tiled floors—especially in houses of children who would rather run than walk even in their homes, and toddlers are not left out of this due to the slippery nature of the tiles. In a review of emergencies seen in children at the Accident and Emergency department of University College Hospital, road traffic accident was identified as a major aetiological factor for most emergency visits in the hospital (Denloye, Fasola and Arotiba 1998) with many of them as pedestrians. The reason for these occurrences is not farfetched—many drivers including *Okada* riders are careless on the road. Many of the children reviewed sustained injuries to their anterior teeth, had jaw fractures, lacerations and other associated injuries including fractures of the base of the skull and brain damage (Denloye, Fasola and Arotiba 1998; Fasola, Denloye and Obiechina et al. 2001). With regards to fractured maxillary teeth, Ajayi, Denloye et al. (2010), found out that 46.5% were enamel fractures, 42.6% were enamel-dentine fractures while 10.9% had pulpal exposures. In this study, as high as 93.1% of the traumatized teeth were never presented for clinical assessment after the

injury and many of the children had sustained injury to their teeth more than 6 years earlier. None of the traumatized teeth received any form of restoration (fig. 13) despite the fact that some of the teeth were badly discoloured. This represents a high unmet need. It is important to note that prompt treatment of such injuries will not only relieve pain, it will also restore aesthetics and prevent infection and other complications which may lead to permanent impairment and loss of function including a good smile from the affected child.

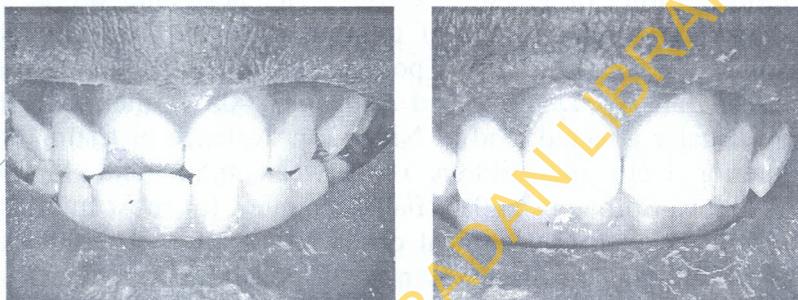


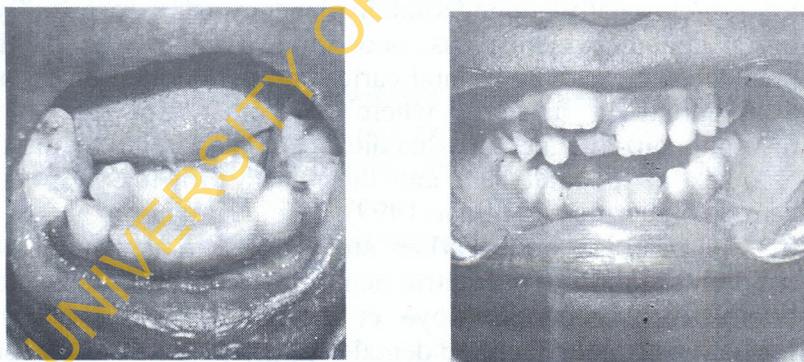
Fig. 13: Before and after restoration of a fractured tooth.

### **Malocclusion and Interceptive Orthodontics**

The development of orthodontic unit of the Department was a great challenge in the early years. In the late 1980's Dr. Adejoke Fatunde, an alumnus of this great University and the only lecturer in orthodontics, left for greener shores about the same time other lecturers in Dentistry left. Since most patients seeking orthodontic care are children, I was saddled with the responsibility of teaching orthodontics and providing services for those needing interceptive orthodontic care including babies with cleft lip and palate who needed feeding plates. This I was able to do for about ten years due to the thorough exposure to orthodontics in my undergraduate years by Professor Isiekwe. In the year 2000, a Consultant/ Lecturer 1 orthodontist was employed and I was also faced with the challenge of getting the unit equipped. I appreciate Professor Ade Malomo and Professor J. Otegbayo, Chairmen, Medical Advisory Committee of University College Hospital

at various times, as they were able to help in presenting my request for seed money from the Hospital Management to run the unit. As at today the unit has trained five orthodontists and there are five senior registrars who will complete their training in the next one year by God's grace.

Orthodontic treatment is expensive both within and outside this country. This statement is collaborated by the finding in one of our studies where it was discovered that utilization of orthodontic services was more by high socioeconomic class (81.5%) than low socioeconomic class (18.5%) (Adeyemi, Aderinokun and Denloye 2008). In an earlier study, it was found that 60.5% of the orthodontic cases that presented for treatment needed one form of preventive and interceptive treatment such as extraction of retained primary teeth (fig. 14) and erupted supernumerary teeth, fabrication of habit breakers among others (Onyiaso, Denloye and Taiwo 2003). The role of parents in identifying such aberrations early and bringing such children for assessment will no doubt prevent the need for expensive full-blown orthodontic treatments.



**Fig. 14:** Children with retained primary teeth with malocclusion.

### **Oral Health of Children with Special Health Care Needs–SHCN**

American Association of Paediatric Dentistry (2016) defined SHCN as any physical, developmental, mental, sensory,

behavioural, cognitive or emotional impairment or limiting condition that requires medical management, health care intervention and/or use of specialized services or programmes. Special care is an approach tailored to the individual needs of people with a variety of medical conditions or limitations that require more than routine delivery of oral care. It encompasses preventive, diagnostic and treatment services. This group of children usually suffer neglect and require unusual management skill and specialized knowledge. Their dental problems are the same as found in their peers but differ in severity, frequency of occurrence and age of onset.

In a study carried out in 1996, I found a higher prevalence of fractured anterior teeth among mentally-handicapped school children and seizures was a significant predisposing factor among the studied children (Denloye 1996). Likewise, when the oral hygiene of 6-15 year old mentally-handicapped school children in Ibadan was studied (Denloye 1996), these children were found to have poor oral hygiene with non-institutionalized group having a poorer oral hygiene than institutionalized group. The study identified the urgent need for professionally-applied oral hygiene measures especially by a dental hygienist, as poor oral hygiene can be a predisposing factor for dental caries and periodontal diseases as reported in a study where 8% of 12-15 year old institutionalized mentally-handicapped children required complex periodontal care and those with Down Syndrome were at higher risk (Denloye 1999).

Contrary to these earlier studies, the oral health of children seen at the paediatric neurology clinic was found to be relatively good (Denloye et al. 2012). Children with special needs poorly utilize dental services and the reason for this include financial constraints on care givers, lack of insurance and incompatible dental clinics for most of the children. The hall mark of management of these children is prevention as their treatment is very challenging, because it includes management of abnormal movements exhibited by some of them, management of their behaviour and then

specific management of their dental problems. The importance of care givers especially mothers as first line of contact against the development of oral diseases in these children has been identified, documented, and education effected.

### **Dental Service Utilization**

Good oral health is an essential part of good general health and wellbeing throughout life. Regular dental visit has been found to provide an opportunity for oral health professionals to diagnose illness early, provide primary preventive care services and treat diseases and other health related problems and this has contributed substantially to healthy mouths for millions of children and adults. In order to introduce children right from their infancy to dental checkup, the concept of dental home that allows children to start visiting the dentist from age one was introduced (AAPD 2015). The concept is derived from the American Academy of Paediatrics definition of medical home. Dental home provides a comprehensive, continuously accessible, family-centered, coordinated, compassionate and culturally effective care for children including those with special needs. The policy of the concept include provision of:

- Individualized preventive dental health programme based upon a caries risk assessment;
- Comprehensive oral health care including acute care and preventive services;
- Comprehensive assessment for oral diseases and conditions;
- Dietary counseling;
- Anticipatory guidance; and
- Appropriate referral.

Dental services in Nigeria today are located in urban areas for political and economic reasons. Despite this, city dwellers often attend clinics only when troubled with symptoms. They may therefore require complex treatments as the disease

process would have advanced past the point of simple restorative or preventive care. Denloye et al. (2004) observed a symptomatic hospital visit in over 88% of children seen in University College Hospital (UCH) over a 3-year period and majority of the children were between ages 6-15 years while 11.2% had asymptomatic visits i.e. they came for routine checkups. This was a poor attendance behaviour exhibited by the children and their care givers. Studies have been conducted on utilization of dental services both within hospital settings and communities, but none has been conducted among young adolescents to know their opinions on the importance of dental visits. A study was therefore, conducted in the year 2010 by our research group to determine factors affecting oral health care service utilization among a group of junior secondary school children in Ibadan (Denloye et al. 2010). Over 85% of the study participants had never visited the dentist and the main reason for their non-attendance was, "I have no problem with my teeth". Other reasons the children gave for non-attendance include, "I don't know any dental clinic" (4.4%), "There is no money for such" (4.4 %) among others. Realizing the importance of regular dental visits even in the absence of disease, members of the department under my headship, started twice-a-year free dental visits of children.

### **Where is the Gap?**

Mr. Vice-Chancellor Sir and my great audience, I have spent the past hour dispelling the misconception that children don't have dental problems. A big gap identified throughout the presentation is majorly lack of knowledge. This was also displayed when in a focal group discussion study carried out in parts of Nigeria, virtually all the discussants believed that "worms" which resemble maggots and reside in the body or derived from dandruff on the head move down to infect teeth, and cause toothache and problems with the teeth (Aderinokun, Bankole, Denloye et al. 2011). Bible in Hosea 4 vs 6 says, "my people perish for lack of knowledge". Knowledge is from God but He has empowered some people

to have some of this knowledge to help others. Tomorrow is 27<sup>th</sup> of May 2016 – Children’s Day, there is therefore no better time to deliver this lecture than today in preparation for tomorrow. In the bid to bridge the gap, members of the Department yearly engage in providing education to school children and their parents. This we achieve by seeking support from colleagues to ensure we have free dental checkup for children on Children’s Day when we invite school children to Dental Centre and give them oral health talk on healthy snacks and habit. They also receive free dental checkup. The invited children are always called “Ambassadors” as they are expected to teach their colleagues and friends what they have learnt. These activities have improved the number of children coming in for checkups, especially during holidays and many parents are asking questions with an increase interest in the oral health of their children. I believe the children are coming and the gap is closing up, but there is still more work to be done.

### **Conclusion and Recommendation**

Goal of paediatric dentistry is to promote positive dental attitudes and improve dental health of children. Children are a vulnerable population that depend entirely on adults both within the family and in policy making for favourable health outcomes. As the importance of child oral health increases, parents must understand the importance of the dentition, irrespective of the age of the child. Parents must also help to modify harmful lifestyle and help their children adopt a healthier one especially as it relates to diet and snacking. The need to integrate oral health into primary health care setting, where education on nutrition and importance of oral health is provided to women of child-bearing age, especially at the antenatal care centres is paramount. Improving oral health of children will guarantee their wellbeing and quality of life. A better foundation for good adult oral health will be laid. All efforts must be geared towards achieving this. Therefore, to bridge the gap, let the children come unto me.

Mr. Vice-Chancellor Sir, the following are my recommendations:

- The mouth is an important part of the body that must be kept healthy, and the responsibility falls on the shoulders of parents to supervise and teach their children good oral health care practices which also include good nutrition and regular dental visits.
- Nursery, primary and children in junior high schools should have days in their curriculum to have regular oral health education and check by professionals.
- At present, there is poor integration of the national oral health programmes. Paediatric dentist must therefore develop multiple strategies that are jointly coordinated and supported with positive national impact.
- Government should include all dental treatments for children in National Health Insurance Scheme (NHIS) as this will enable more children to come early for dental treatments. Government should also make all federal hospitals free for children with special needs, as this will address inequalities in oral health care experienced by this group of children.

### **Acknowledgements**

Mr. Vice-Chancellor Sir, as I end this lecture, I acknowledge the Almighty God, the Alpha and Omega, the merciful God, the one who was, who is and who will always be and the one who makes all things beautiful in His time. To Him be all glory, all honour and majesty for ever and ever, Amen.

My sincere gratitude goes to my loving parents who brought me into this world and gave me the opportunity of education. My father Pa Olubode Akinola Idowu Kuye of blessed memory was a perfect gentleman. It is unfortunate that he didn't live to witness this day. May his soul continue to rest in peace. My mother—Mrs. Olusola Abeke Kuye. Ma, the Lord has granted you life so that your joy will be full. Thank you ma for all your prayers, support and godly background. As your days are so shall your strength be. I

appreciate my siblings and their spouses—Professor and Mrs. Gbolahan Oni, Mr. and Mrs. Kole Kuye, Mr. and Mrs. Muyiwa Kuye, Mr. and Mrs. Olatunde Kuye and Mr. and Mrs. Akintunde Kuye for their love, support and encouragement. Thank you and I love you all. I appreciate my in-laws and their spouses for their respect, love and support especially sister Bisi, sister Eniola, uncle Yinka, sister Joke and uncle Folabi and all extended Denloye Family at home and abroad. May the Lord continue to keep you in the hollow of His hands.

I thank my teachers from primary school up till my secondary school at Reagan Memorial Baptist Girls' School, Lagos. I also thank and appreciate all my undergraduate dental lecturers from University of Lagos—Professor Adenubi (the doyen of paediatric dentistry in Nigeria), Professor M.C. Isikwe, Professor Salako, Dr. Bamgboye, Professor Mosadomi, late Professor Nwoku, Professor Akinosi, Professor Okoizor, Professor Jeboda, late Dr. Roberts, Professor Akpata, Dr. Okpo—for you set the foundation of my professional ladder. I also appreciate my teachers during my postgraduate years—Professor Daramola, Professor Ajagbe, Dr. Moronke Noah, Dr. Abiose, Professor Lawoyin, Dr Falomo, Late Dr. Luthra, and Dr. Kulesekara—you accepted, supported and encouraged me. I am eternally grateful. I single out Professor Gbemisola Oke, a wonderful role model who is worthy of emulation. You are a mentor, a sister and a friend. Thank you ma. I am most grateful to Professor Sote and Professor Jeboda from University of Lagos for also being role models and mentors.

I appreciate the authorities of University of Ibadan and University College Hospital for the opportunity and privilege I received over the years to contribute to training and care. My Dean, Professor J.T. Arotiba and his amiable wife, Mrs. Funmilayo Arotiba, you are truly friends in deed. God bless you and all yours. I thank Ibadan Dental family made up of all academic and non-teaching staff, resident doctors, past and present students, faculty office staff members, dental

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I am grateful for the unity shared by members of NAPD ably led by Professor Adekoya Sofowora and for all the encouragement given by members of NDA, MWAN, MDCAN. I appreciate the efforts of the members of the faculty inaugural organizing committee, led by Dr. Mojirade Ajayi for the organizations and always sending encouraging words. I say thank you to you all. Your days of celebrations will surely come in Jesus name.

I pay special tribute to the Dean, colleagues, non-teaching staff and students of Kwame Nkrumah University of Science and Technology, Kumasi Ghana. Thank you for the warmth I receive from you all always. My gratitude also goes to Dr. Timothy Aladelusi for helping out with the preparations of this presentation. Words are not enough to express my appreciation.

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To my loving husband, a pillar of support, the one whom God used to beautify all things, Dr. Adeyemo Mobolaji Abimbola Denloye. I thank God for all things especially for granting me a stable home and a happy marriage through the Denloye family. Without the love, generosity and constant support of Adeyemo, my brother, my teacher and mentor, I would not have been able to make a career in Paediatric Dentistry. For you taught me patience, love and contentment. I appreciate you and I celebrate you. Thank you.

To God be all glory, all honour and adoration forever and ever. Finally Mr. Vice-Chancellor Sir, I thank you and this wonderful audience for listening and for the opportunity to deliver this lecture.

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## **BIODATA OF PROFESSOR OBAFUNKE OLUFUNLAYO DENLOYE**

Professor Obafunke Olufunlayo Denloye was born on the 2<sup>nd</sup> of May, 1962 in Lagos to the family of Mr. Olubode Akinola Kuye of blessed memory and Mrs. Olusola Abeke Kuye. She hails from Abeokuta in Ogun State.

She started her early education at St. Judes' Primary School, Ebute-Meta in Lagos between 1967 and 1973. Thereafter, she gained admission to Reagan Memorial Baptist Girls School, Yaba, Lagos in 1973 for her secondary education which she completed in 1978. She went to Federal School of Arts and Science, Victoria Island, Lagos for her higher school leaving certificate between 1978 and 1980.

She gained admission to study Dentistry at the University of Lagos in 1980 and she obtained the Bachelor of Dental Surgery degree in 1985. She had her mandatory 12 months Housemanship experience at the Military Hospital Yaba and Bonny Camp Victoria Island Lagos from 1985 to 1986 and her one year National Youth Service was at the General Hospital, Minna in Niger State from 1986-1987. She commenced her residency training in Paediatric Dentistry at the University College Hospital Ibadan in October 1987 and this she completed in April 1993. She was awarded the Fellowship of the West African College of Surgeons (FWACS) in January 1994.

Professor Obafunke Denloye was engaged as a part-time lecturer in the Department of Preventive Dentistry, College of Medicine, University of Ibadan from March 1990-1993. She was appointed Lecturer 1 on the 11<sup>th</sup> of June 1993 and Consultant Paediatric Dentist at the University College Hospital in the same year. She was promoted to the grade of Senior Lecturer in 1998, Reader in 2006 and was elevated to a full Professor of Paediatric Dentistry in October 2012.

Professor Denloye is a seasoned and experienced lecturer and on many occasions she won the best lecturer award of the year (BDS Clinical), while on two occasions, she won the

best Head of Department, Faculty of Dentistry. She is also one of the resource persons for the (MSc) Biomedical Education programme of the Faculty of Clinical Sciences, University of Ibadan, the first online postgraduate programme from the Faculty of Clinical Sciences. She has served as external examiner to the University of Benin, Obafemi Awolowo University, and University of Maiduguri.

She is currently an Adjunct Associate Professor to Kwame Nkrumah University of Science and Technology, Kumasi, Ghana where she was one of the pioneer lecturers in the Dental School of the University. She was a visiting lecturer to Department of Preventive Dentistry University of Benin and a visiting consultant to Aminu Kano Teaching Hospital, Kano from 2003-2010. She is an examiner at the part 1 and part 11 examinations of the West African College of Surgeons and part 11 of the National Postgraduate Medical College of Nigeria. She is also a reviewer of many journals. She was appointed the leader of an accreditation panel of the Medical and Dental Council of Nigeria in 2011 and she also served as a member of West African College of Surgeons accreditation panel.

She has served and is still serving the University community at different levels, and committees, some of which include: Acting Head of Department of Preventive Dentistry between August 2001 and July 2003. At the creation of the Department of Child Oral Health in the year 2005, she was appointed the first Acting Head of the Department, a post she held till the year 2007 and she held again between 2011-2013 and 2015 to January 12, 2016. She has been the substantive Head of the Department from January 13, 2016 till date. She was a member of the University of Ibadan/University College Hospital Ethics Review Committee. She is currently a member of the College of Medicine Academic Board, Chairperson Faculty Lecture Committee, Faculty of Dentistry and member, University of Ibadan Servicom Guild.

Professor Denloye belongs to many professional bodies. She is a member of Nigerian Dental Association, and in 1989, as the treasurer of the Association in Oyo State, she was given a certificate of recognition by the Association for her contribution to the growth of the Association. She is a member of the International Association of Dental Research and was also the treasurer of the Nigerian division of the Association. She was appointed the first vice president, Nigerian Association of Paediatric Dentistry (2007-2009) and she became the president, Nigerian Association of Paediatric Dentistry from 2009 to 2013. By virtue of this position, she became a Council member of the International Association of Paediatric Dentistry from 2009-2013. She is also a member of Medical and Dental Consultants Association of Nigeria (MDCAN) and Medical Women Association of Nigeria, Oyo State branch among other professional bodies. She is also a Sunday school teacher in her church.

She is widely travelled and has attended and delivered several papers and lectures both within and outside the country at conferences and workshops. She has 62 publications published in reputable peer reviewed journals to her credit. Professor Obafunke Denloye is happily married to Dr. Adeyemo Denloye and they are blessed with three god-fearing sons—Adedapo Ebunoluwa Taiwo Denloye, Adedayo Oreoluwa Kehinde Denloye and Olaoluwa Dolapo Idowu Denloye.

## NATIONAL ANTHEM

Arise, O compatriots  
Nigeria's call obey  
To serve our fatherland  
With love and strength and faith  
The labour of our heroes' past  
Shall never be in vain  
To serve with heart and might  
One nation bound in freedom  
Peace and unity

O God of creation  
Direct our noble cause  
Guide thou our leaders right  
Help our youths the truth to know  
In love and honesty to grow  
And living just and true  
Great lofty heights attain  
To build a nation where peace  
And justice shall reign

## UNIVERSITY OF IBADAN ANTHEM

Unibadan, Fountainhead  
Of true learning, deep and sound  
Soothing spring for all who thirst  
Bounds of knowledge to advance  
Pledge to serve our cherished goals!  
Self-reliance, unity  
That our nation may with pride  
Help to build a world that is truly free

Unibadan, first and best  
Raise true minds for a noble cause  
Social justice, equal chance  
Greatness won with honest toil  
Guide our people this to know  
Wisdom's best to service turned  
Help enshrine the right to learn  
For a mind that knows is a mind that's free