



NATIONAL OPEN UNIVERSITY OF NIGERIA

SCHOOL OF HEALTH SCIENCES

COURSE CODE: PHS 312

COURSE TITLE: ORAL HEALTH CARE



**PHS 312
ORAL HEALTH CARE**

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Introduction

Oral Health Care is a two-credit course available to all students offering Bachelor of Science (B.Sc.) in Community Health.

Oral health is increasingly being recognised as an important part of general health especially in developed countries. However, not much priority is given to it in developing countries both in training and in health service provision. There are few higher institutions that offer dentistry as a course at undergraduate level and much less at post graduate training. Even though, the primary health care is the pivot for achieving health-for-all and the first contact into the health system including the oral health, less than a handful of staff at the primary health centre are trained and are competent in managing uncomplicated oral diseases. Furthermore, these staff are not mobilised or motivated to carry out oral health promotion and oral health education programme.

Oral health could be a manifestation of general health because systemic diseases can have oral symptoms and signs and oral diseases can present in other parts of the body system. A competent community health worker should be able to prevent and care for the most common oral health problems and refer appropriately as required and also mobilise the community members to take responsibility for their own oral health by heeding to simple habits and stopping some harmful cultural and personal habit that relate to oral health.

What you will Learn in this Course

This course consists of modules which are broken into units and a course guide. The course guide tells you briefly what the course is about, what course materials you will be using and how you can work on your own with these materials. There will be regular tutorial sessions.

Course Aims

The aim of this course is to provide you with an understanding of basics of oral health. It aims to help you care for people with needs concerning oral conditions.

Course Objectives

Each unit has specific objectives to guide you into the purpose of the study. You should read the objectives before you begin the study and ask yourself whether the objectives have been met after you are through with such unit.

The comprehensive of objects in this course are that you should:

discuss the anatomy and physiology of the oral cavity
 explain how the teeth are developed and associated disorders
 state the classification of common oral diseases
 state the epidemiology and control of common communicable and non-communicable diseases
 state the certain cultural beliefs and practices affecting oral health
 define oral hygiene and how it is practised
 explain the relationship that exists between oral health and HIV
 discuss the provision of health care for the elderly, disabled etc
 outline the processes to be adopted in mobilising the community for oral health promotion and health education
 design an appropriate oral health programme
 explain how oral health survey is carried out.

The Course Materials

The main components of the course are:

1. The Course Guide
2. Study Units
3. References/Further Reading
4. Assignments
5. Presentation Schedule

Study Units

The study units in this course are as follows:

Module 1 Introduction to Oral Cavity and Dental Diseases

Unit 1	The Anatomy and Physiology of the Mouth I
Unit 2	The Anatomy and Physiology of the Mouth II
Unit 3	Development of the Teeth and the Disorders
Unit 4	Classification and Epidemiology of Common Oral Diseases

Module 2 Epidemiology and Control of Oral Diseases

Unit 1	Epidemiology of Dental Caries
Unit 2	Epidemiology of Periodontal Disease
Unit 3	Non-Communicable Diseases of the Mouth and Oral Cavity

Module 3 Oral Hygiene and Oral Health in Special Groups

- Unit 1 Cultural Beliefs and Practices Affecting Oral Health
- Unit 2 Oral Hygiene
- Unit 3 Dental Plaque
- Unit 4 HIV/AIDS and Oral Health
- Unit 5 Oral Health Care for the Elderly and other Special Groups

Module 4 Mobilising the Community for Oral Health Programme

- Unit 1 Oral Health Promotion and Health Education
- Unit 2 Community Oral Health Programmes and Policy
- Unit 3 Oral Health Survey and Research

The first two units deal with the normal structures of the oral cavity and their functions. They describe how the different structures are related to one another in the mouth. The third focuses on how the teeth are developed and different disorders that are associated with the development. Unit four describes the various classifications of oral diseases and the general concept of epidemiology in oral diseases.

Units five, six and seven explain the way some oral common diseases are distributed in human population, factors responsible for the diseases and simple remedies at the community level. Units five and six tell of the epidemiology and control of dental caries, periodontal disease respectively while unit seven deals with the epidemiology and control of non-communicable diseases- oral trauma, oral cancers and cleft lip and palate.

The eighth unit deals with different aspect of cultural beliefs that affect oral health both positive but more especially negative. The ninth and tenth units explain what is meant by good oral hygiene and how it is being practiced including a brief on halitosis. Unit eleven focuses on association between oral conditions and HIV/AIDS. Units thirteen and fourteen describe the importance and practice of oral health promotion, health education and programmes while unit fifteen deal with conduct of oral health surveys and researches.

Each unit consists of one or two weeks' work and include an introduction, objective, main course work, conclusion, summary, tutor-marked assignments (TMAs) and references and materials for further readings.

Presentation Schedule

Your course materials have important dates for the early and timely completion and submission of your TMAs and attending tutorials. You should remember that you are required to submit all your assignments by the stipulated time and date. You should guard against falling behind in your work.

Assessment

There are three aspects to the assessment of the course. The first is made up of self-assessment exercises, the second consists of the tutor-marked assignment and the third is the written examination/end of course examination.

You are advised to do the exercises. In tackling the assignments, you are expected to apply information, knowledge and techniques you gathered during the course. The assignments must be submitted to your facilitator for formal assessment in accordance with the deadlines stated in the presentation schedule and the assignment file. The work you submit to your tutor will count for 30 % of your total course work. At the end of the course, you will need to sit for a final or end of course examination of about three hour duration. This examination will count for 70 % of your total course mark.

Tutor-Marked Assignment

The TMA is a continuous assessment component of your course. It accounts for 30 % of the total score. You will be given 4 TMAs to answer. Three of these must be answered before you are allowed to sit for the end of course examination. The TMAs would be given to you by your facilitator and returned after you have done the assignment. Assignment questions for the units in this course are contained in the assignment file. You will be able to complete your assignment from the information and material contained in your reading, references and study units. However, it is desirable in all degree level of education to demonstrate that you have read and researched more into your references, which will give you a wider view point and may provide you with a deeper understanding of the subject.

Make sure that each assignment reaches your facilitator on or before the deadline given in the presentation schedule and assignment file. If for any reason you cannot complete your work on time, contact your facilitator before the assignment is due to discuss the possibility of an extension. Extension will not be granted after the due date unless there are exceptional circumstances.

Final Examination and Grading

The end of course examination for Oral Health Care will be for about 3 hours and it has a value of 70 % of the total course work. The examination will consist of questions, which will reflect the type of self-testing, practice exercise and tutor-marked assignment problems you have previously encountered. All areas of the course will be assessed.

You are advised to use the time between finishing the last unit and sitting for the examination to revise the whole course. You might find it useful to review your self-test, TMAs and comments on them before the examination. The end of course examination covers information from all parts of the course.

Course Marking Scheme

Assignment	Marks
Tutor-Marked Assignments 1 – 4	Best three of the four- count at 10% each = 30% of course marks
End of Course Examination	70% of overall course marks
Total	100% of course materials

Facilitators/Tutors and Tutorials

There are 16 hours of tutorials provided in support of this course. You will be notified of the dates, times and location of these tutorials as well as the name and phone number of your facilitator, as soon as you are allocated a tutorial group.

Your facilitator will mark and comment on your assignments, keep a close watch on your progress and any difficulties you might face and provide assistance to you during the course. You are expected to mail your tutor marked assignment to your facilitator before the schedule date (at least two working days are required). They will be marked by your tutor and returned to you as soon as possible. Do not delay to contact your facilitator by telephone or e-mail if you need assistance.

The following might be circumstances in which you would find assistance necessary, hence you would have to contact your facilitator if:

- you do not understand any part of the study or the assigned readings
- you have difficulty with the self-tests
- you have a question or problem with an assignment or with the grading of an assignment.

You should endeavour to attend the tutorials. This is the only chance to have face-to-face contact with your facilitator and to ask questions which are answered instantly. You can raise any problem encountered in the course of your study.

To gain much benefit from course tutorials, prepare a question list before attending them. You will learn a lot from participating actively in discussions.

Summary

Oral Health Care is a course that provides you with the basics of common oral health problems, primary care for common oral diseases and community mobilisation of oral health promotion. After completing this course, you will be equipped with the fundamentals of oral health care. You will have the knowledge of the contents of the oral cavity.

I wish you success in the course and I hope that you will find it both interesting and useful.

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MODULE 1 INTRODUCTION TO ORAL CAVITY AND DENTAL DISEASES

Unit 1	The Anatomy and Physiology of the Mouth I
Unit 2	The Anatomy and Physiology of the Mouth II
Unit 3	Development of the Teeth and the Associated Disorders
Unit 4	Classification and Epidemiology of Common Oral Diseases

UNIT 1 THE ANATOMY AND PHYSIOLOGY OF THE MOUTH I

CONTENTS

1.0	Introduction
2.0	Objectives
3.0	Main Content
	3.1 The Mouth and the Oral Cavity
	3.2 The Anatomy of the Tongue
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Reading

1.0 INTRODUCTION

Oral diseases are common and prevalent in all ages and both sexes; yet it is one of the diseases that people pay least attention to. Oral diseases are preventable and treatable. The understanding of the contents of the mouth and their functions is paramount in understanding the disease processes. However, most oral diseases cause discomfort and pain but are rarely life-threatening.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- discuss the mouth and contents of the oral cavity
- explain the anatomy of the tooth
- outline the structure of the supporting tissues of the oral cavity
- state the functions of the major parts of the oral cavity.

3.0 MAIN CONTENT

3.1 The Mouth and the Oral Cavity

The mouth is an opening on lower part of the human face used for taking in food, making sounds and speech. On the outer part of the mouth are two lips (the upper and the lower). On both sides of the mouth are the cheeks. The inside of the mouth consists of the tongue and the teeth.

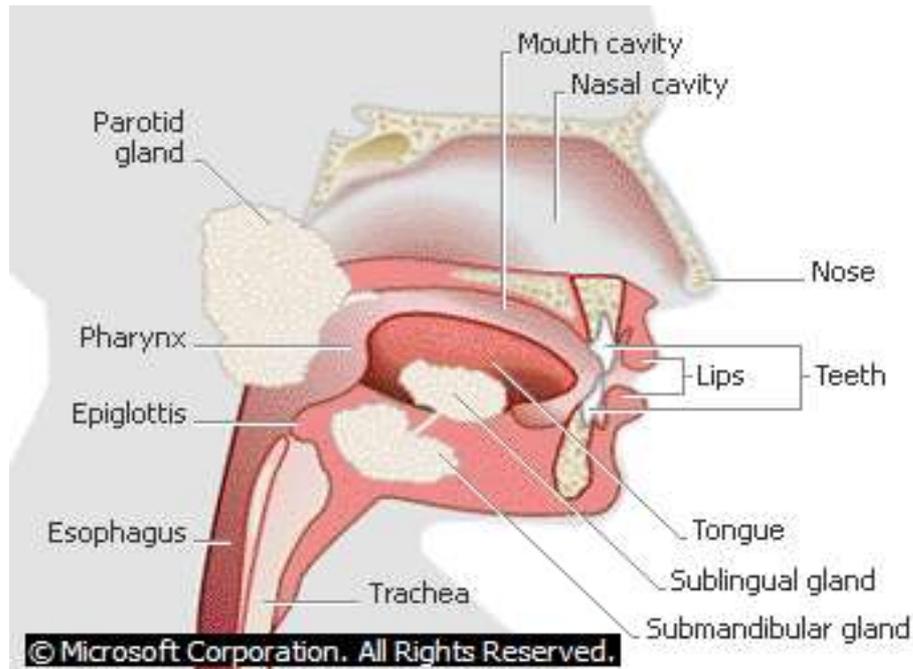


Fig. 1: The Human Oral Cavity

The Lips

The lips form the outer border and opening of the mouth and are used to hold food in the mouth and to form words during speech. They are used to form facial expression (such as smiling, frowning, yawning and whistling).

The Cheeks

The cheeks form the sides of the mouth. They also assist in holding food in the mouth, chewing and making speech.

The Palate

The roof of the mouth is called the palate. It separates the mouth from the nasal passage. The front part of the palate is called the hard palate

while the back part is called the soft palate. The palate prevents food from getting to the nasal passage.

The Tongue

It is a muscular tissue, flexible, used for eating/chewing, swallowing and talking/making speech and other sounds. The tongue also contains taste buds responsible for the sense of taste.

The Teeth

They are found in front of the roof and the floor of the mouth and are used for biting and chewing food. They also give the mouth its shape.

The Floor

The tongue is attached to the floor of the mouth except at the front where it is freely mobile.

The Gum

The gum is also referred to as the gingiva. It covers the jaw bones and supports the teeth in the sockets. It is pink in colour in health state but may be brown in dark-skinned healthy individuals. The part of the gum in-between the tooth is called the gingival papilla.

The Salivary Glands

There are three pairs of salivary glands - the sublingual, sub-mandibular and parotid glands which open into the oral cavity. These glands secrete watery fluid called saliva which lubricates the food and contains enzymes which help in food digestion. It also contains minerals and proteins that protect the teeth.

Blood Supply and Venous Drainage

The mouth and its contents are supplied with oxygenated blood via the lingual, facial, palatine arteries. The venous drainage is also along corresponding veins.

Nerve Supply

These are the lingual nerve, facial nerve, inferior alveolar nerve and their branches.

3.2 The Tongue

The tongue is a muscular organ in the mouth. Its uses have already been discussed above. It is attached to the floor of the mouth extending from the bone at the back of the mouth upwards and forwards. The upper surface, borders and the front part of the lower surface are free. The upper surface is covered with tiny projections called papillae that give the tongue its rough texture. The colour is usually pinkish-red but gets discoloured by various diseases.

4.0 CONCLUSION

A good understanding of the structure and anatomy of the oral cavity is important towards maintaining a healthy lifestyle. Without knowing what the healthy looks like, it will be difficult to comprehend the diseased stage.

5.0 SUMMARY

In this unit, you have learnt that the mouth consists of the lips on the outside and the structures in the oral cavity. The oral cavity contains the teeth, the tongue, the roof or the palate. We also described the tongue as a strong muscular tissue used for different functions and normally pinkish in colour.

6.0 TUTOR-MARKED ASSIGNMENT

1. List the structures that make up the mouth and the oral cavity.
2. Describe the functions of the cheeks, lips, palate, and tongue.

7.0 REFERENCES/FURTHER READING

Encarta (2008). "Anatomy of the Mouth".

Elaine, N. Marieb (2008). *Essentials of Human Anatomy and Physiology*. 7th Edition.

UNIT 2 THE ANATOMY AND PHYSIOLOGY OF THE MOUTH II

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Positioning
 - 3.2 Types of Teeth
 - 3.3 Structure of the Teeth
 - 3.4 Types of Dentition
 - 3.5 Arrangement of the Teeth
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In the last unit, we discussed the oral cavity and contents (tongue, floor, palate). In this unit we shall have a look at the teeth. The teeth are very important to man as in other animals. Though the teeth in other mammals are adapted to function as fighting and defensive tools, they are hardly used for this purpose in man. The late eruption of teeth in children is not taken with levity and the loss of teeth in the elderly can be frustrating as they are not able to eat as they would have loved to. The teeth are arranged to aid their functions.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- describe the structure of the human teeth
- list the types of teeth
- state the types of dentition that exist among people
- explain the arrangement of the teeth in the mouth.

3.0 MAIN CONTENT

3.1 The Teeth

The teeth are located in the gum and jaw in the floor; and the roof of the mouth through their roots.

3.2 Types of Teeth

Incisors

They are located in the front part of the mouth. They are fan-shaped and majorly used for cutting food. The upper ones are bigger than the lower ones.

Canines

They are pointed teeth at the corner of the lips, strong and used for tearing food.

Premolars

They resemble the molars except that they are smaller. They have a narrow table surface with two projections.

Molars

They are large and at the back of the mouth. They have a wide table surface and three projections. They are used in grinding food.

3.3 Structure of the Teeth

Teeth are hard and bony structures in the mouths. They are the hardest and most durable organ. Teeth have been found to be preserved long after the flesh and bones have decayed. They are invaluable in phoresy. The tooth consists of several layers of tissue. The outermost part which is the hardest part is called the **enamel**. The enamel, about 16mm thick is the visible part of the teeth seen above the gum. It protects the other inner layers from bacteria and changes in the temperature from hot and cold food. Directly under the enamel is another bone-like layer called the **dentin**. It is also harder than the bone.

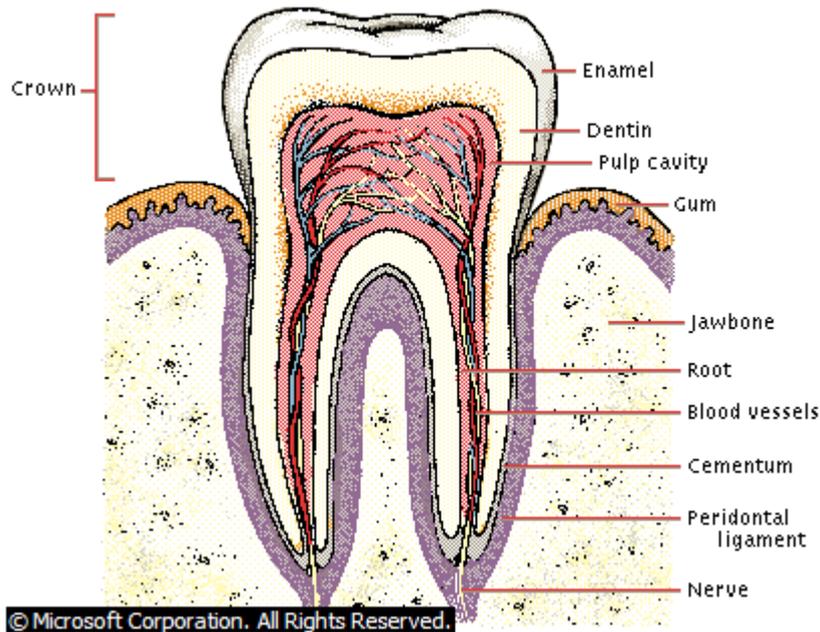


Fig. 2: The Human Tooth

The core of the tooth is known as the **pulp** which is in turn protected by the dentin. The pulp contains the blood vessels which carry oxygen and nutrients to the tooth and also contain the nerves which transmit pain and temperature sensation to the brain. The part of the tooth that is visible is the **crown** while the portion that lies beneath the gum is the **root**. There is a hard tissue known as the **cementum** surrounding the tooth root made up of a thin layer of bony tissue that covers the dentin from the root to the neck of the tooth. There are tough tissues that help to hold the tooth root in place and cushion the tooth against the gum and the jaw called the **periodontal ligament**.

3.4 Types of Dentition

Two sets of teeth erupt during a man's life time: These are:

3.4.1 Primary Dentition or Milk Dentition

They develop from between 6 months and 2½ years of age. The complete set is made up of about 20 teeth (5 in each quadrant - 2 incisors, 1 canine and 2 molars). They are usually smaller, whiter, more rounded than the permanent teeth.

3.4.2 Secondary Dentition or Permanent Dentition

As described in arrangement below.

3.5 Arrangement of the Teeth

There are 32 permanent teeth in human (adult) equally distributed on the 4 dental arches (upper left; lower left; upper right and lower right). Eight teeth are found on each of the dental arches. There are 4 different types of teeth with different shape and functions. These are the incisors (2), canine (1), premolars (2) and molars (3).

<u>3. 2. 1. 2.</u>	<u>2. 1. 2. 3</u>
3. 2. 1. 2.	2. 1. 2. 3

4.0 CONCLUSION

When there is an anomaly with the arrangement and number of teeth, there is bound to be problem with mastication, speech and even the shape of the face. An ill-arranged set of teeth especially in a female is by itself a social disadvantage that can result in low self esteem and depression.

5.0 SUMMARY

You have learnt that the teeth have the following parts: the crown, neck and the root and are fitted into the gum. Each tooth is made up of the enamel, dentin, and pulp. Human beings have 32 teeth equally distributed into 4 dental arches. Each set of a type of teeth have specific function of cutting, tearing and speech making.

6.0 TUTOR-MARKED ASSIGNMENT

1. Draw and label the human tooth.
2. Describe the different types of teeth and their functions.

7.0 REFERENCES/FURTHER READING

Encarta (2008). "Anatomy of the Mouth."

Elaine, N. Marieb, (2008). *Essentials of Human Anatomy and Physiology*, 7th Edition.

UNIT 3 DEVELOPMENT OF THE TEETH AND THE ASSOCIATED DISORDERS

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Development of the Teeth
 - 3.2 Abnormalities of Development
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/Further Reading

1.0 INTRODUCTION

We have looked at the structure of the mouth. Now we want to see the development of the teeth and the associated disorders. Disorders of the tooth development may be prenatal or postnatal in origin. It may also be inherited or acquired. A good recognition and correct evaluation of the abnormalities of the tooth development depends on the understanding of the normal chronology of the human dentition and of the normal development of the teeth and the supporting structures.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- describe the normal process of tooth formation and eruption
- distinguish between primary and secondary dentition
- state the common disorders of the development of the tooth.

3.0 MAIN CONTENT

3.1 Development of the Teeth

Humans are diphyodont—that is, they develop two sets of teeth during their lives.

The first set of teeth is the deciduous teeth, these are 20 small teeth also known as baby teeth or milk teeth. Deciduous teeth start developing about two months after conception and typically begin to erupt above the gum-line when a baby is between 5 and 7 months old. Occasionally

a baby may be born with one or more deciduous teeth at birth, known as natal teeth.

By the time a child is six years old, a second set of 32 larger teeth, called permanent teeth, start to erupt, or push out of the gums, eventually replacing the deciduous teeth.

Human tooth development occurs in stages. The hard tissue of the deciduous teeth, or the dentin, forms while the fetus is in the womb. After the child is born, tooth enamel develops in stages. Front tooth enamel, for example, is usually complete around one month after birth, while the enamel on the second molars is not completely developed until a child is about a year and a half old. When the enamel is fully developed the tooth erupts. Front teeth usually erupt when a child is between 6 and 12 months of age, second molars at about 15 months old, and canines usually erupt at 18 months. The final stage of tooth development is root completion, a slow process that continues until the child is more than 3 years old.

Around the age of 6 years, the roots of deciduous teeth slowly resorb as the developing permanent teeth start to push them out. Deciduous teeth eventually fall out and are replaced by the erupting permanent teeth. This begins a transitional phase of tooth development that takes place over the next 15 years. As baby teeth are pushed out by permanent teeth, the entire mouth and jaw transform from their childhood shape to a more pronounced, adult-like structure. From age 6 to age 10, a child's permanent incisors, canines, and first molars erupt. The third molars also called the wisdom teeth usually erupt between the age of 18 and 21 years.

3.2 Abnormalities of the Development of the Teeth

3.2.1 Congenital Absence of Teeth. This includes:

Total anodontia in which case there is complete absence of the teeth. It is very rare and is often associated with other diseases or congenital defects of other organs of the body.

Partial anodontia which is more common. It may be symmetrical when a particular teeth or groups of teeth are involved or it may be haphazard when there is no particular pattern.

There are racial differences in the prevalence of missing teeth.

3.2.2 Supernumerary Teeth

Just as there can be absence of some teeth, there can also be additional teeth above the normal set of teeth. These usually develop along any tooth bearing area. They also usually occur with other abnormalities such as cleft palate. They are usually single and unusual in the deciduous dentition.

3.2.3 Disturbances of the Size of the Teeth

This is usually the size of the teeth in proportion to that of the jaw both of which are determined by genetic factors. It is known that large variations occur in the ratio of the tooth size to the jaw size in people. The terms macrodontia and microdontia are used to describe situation when the teeth are larger or smaller than normal respectively. It may involve the entire dentition or selective teeth. It may also be associated with other defects such as Down's syndrome or congenital heart disease.

3.2.4 Other Disturbances

There are also disturbances in the form, structure or arrangement of the teeth. Furthermore, there may be problems with premature eruption, retarded eruption, premature loss, persistence of milk teeth, discolouration of the teeth, etc.

4.0 CONCLUSION

Most of the abnormalities of the tooth development are genetic and are associated with other congenital problems. Disturbances in teeth structure, arrangement, etc. are also associated with increased risk to certain dental diseases.

5.0 SUMMARY

Human beings have two sets of teeth - the 20 deciduous which start at about 6 months and 32 permanent teeth which erupt from about 6 years. Abnormality could be with total or partial absence, size, structure, arrangement or eruption of the teeth.

6.0 TUTOR-MARKED ASSIGNMENT

1. Describe the development of the human teeth.
2. Discuss two forms of disorders associated with the teeth development.

7.0 REFERENCE/FURTHER READING

Southan, J.C. & Soames, J.V. (1985). "Disorders of the Development of Teeth". *In: Oral Pathology*. United Kingdom: Oxford University Press.

UNIT 4 CLASSIFICATION AND EPIDEMIOLOGY OF COMMON ORAL DISEASES

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- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Classification of Oral Diseases
 - 3.2 Epidemiology of Common Oral Diseases
 - 3.3 Levels of Prevention of Oral Diseases
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

The mouth contains a number of different tissues which we have already discussed in earlier units. Different diseases and malformations can occur in any of these structures of the oral cavity. Certain diseases are more common among younger age group while others are more common at older age group. Similarly some are more common in developing countries with low socio-economic groups and certain habits.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- state the various ways through which the different tissues of the mouth are affected by diseases
- describe the different categories of diseases or conditions identify the oral diseases that are of public health importance describe the distribution of some oral diseases among different populations.

3.0 MAIN CONTENT

3.1 Classification of Oral Diseases

3.1.1 Infection

There are millions of bacteria that live in the mouth. Most of these bacteria are harmless and are referred to as normal flora; and in fact,

they are necessary for normal functioning of the body for example those that assist in digestion. However, they may become harmful when the individual's body immunity is lowered due to illness or other factors. The infection may affect the alveolar bone, teeth, the gum or other supporting structures of the mouth called the periodontal structures.

3.1.2 Trauma

The lips, cheeks, teeth, tongue, periodontal tissues, bony structures can suffer from different injuries. These can result from fall; fight, road traffic accidents which may result into fracture, tear, and crush of the tissues concerned in addition to bleeding that may accompany the injury.

3.1.3 Decay

This is commonly referred to as dental caries.

3.1.4 Degeneration

These are diseases that arise as a result of old age such as natural tooth loss. Also, decreased salivary flow could predisposed to dry mouth which results in dental caries.

3.1.5 Developmental/Deformities

There may be deformities in the developmental process which may predispose to other diseases. These include naturally missing and supernumerary teeth in which cases one or two teeth never erupt at all or an individual may have an extra teeth.

3.1.6 Neoplasm

Tumor or new abnormal growth can also affect the mouth and contents. These may or may not be malignant (cancerous). Causes are not known but risk factors have been determined by epidemiological associations. Common risk factors or habits are cigarette smoking or tobacco chewing, excessive alcohol consumption, etc.

3.2 Epidemiology of Common Oral Diseases

Epidemiology refers to the study of the distribution, determinants and deterrents of diseases or health related events and the application of the knowledge to solve health problems or proffer solutions. It is concerned with the pattern of the diseases and their distribution which answers the questions - what, distribution (who, where, when), determinants (why and how) and then deterrents (what is the way forward?).

What: This refers to the diseases being discussed. Appropriate and correct oral diagnosis must be made through history taken, careful general and specific examination (not only of the oral cavity but of other systems too) and applicable laboratory and radiological investigations.

Who: In terms of age, dental caries is found in all age groups but more common among children and adolescents but there are both early onset (<35 years) and adult periodontitis (>35years), NOMA developed in under 5 children and oral cancers are found in the older adults and young elderly. Apart from age; distribution can also be in terms of sex, socio-economic status, immune status, occupation, other disease conditions (e.g. diabetic, hypertensive, HIV patients) and habits (e.g. smokers).

Where: This refers to geographical distribution, e.g. home/resident, place of employment or school (occupational exposure to possible risks); developing or developed countries; rural or urban areas, etc.

When: Some oral diseases are more likely at a period of day or a season of the year. In dental caries for example, it is known to develop more during the night period.

Why: This involves the causative agents, risk or associated factors in the environment and the host factors. Most oral diseases as in other diseases also require multi-factorial determinants for establishment of such diseases. This also explains why some individuals with certain habits develop some diseases why others may not. The mere presence of the disease agent without a conducive environment and susceptible/vulnerable host may not result in a disease condition.

How: This refers to the mode of transmission in case of infection or the mode of pathology (disease formation) and how the structures are affected. It refers to how the damages have occurred.

What Next/What Way Forward: This is concerned with what can be done to bring relief, restore normal health, reverse further damage, and support the sufferer.

3.3 Levels of Prevention of Oral Disease

Before we describe some specific diseases that are of public health importance, we shall describe some general levels at which oral diseases could be prevented. There are three basic levels - primary, secondary and tertiary levels.

3.3.1 Primary Prevention

This is aimed at controlling the interaction between the agent, disease and the host, i.e. prevention of the disease in an individual before it happens at all. This is through:

General health promotion, health education, health maintaining habits, good nutrition, oral hygiene.

Specific Protection such as chemoprophylaxis, food/water fortification, protection from hazards, stopping/quitting certain habits.

3.3.2 Secondary Prevention

This is aimed at halting the progress of disease at its early stage before serious or irreversible damage occurs. This is done through early diagnosis and prompt treatment. This is also made possible through regular check up when a disease state can be detected early and treated either by drugs or surgery.

3.3.3 Tertiary Prevention

Sometimes bad damage would have occurred and what could be done are:

Limitation of the disability - e.g. counselling to quit tobacco or smoking or to desist from frequent sugary consumption; fabrication of dentures.

Rehabilitation: e.g. vocational, speech therapy.

4.0 CONCLUSION

You must have understood how oral diseases are classified and also the general epidemiology and control of oral diseases. The understanding of the distribution, determinants and deterrents of the diseases is very important in their effective control.

5.0 SUMMARY

Oral diseases are many but some are of public health importance due to their mortality, morbidity and economic impact. Oral diseases can be due to infection, trauma, developmental, degenerative or neoplasm. Epidemiology of oral diseases refers to the distribution in place, person and time. It answers the questions what, where, when, who and how. The prevention is at different levels - primary, secondary and tertiary.

6.0 TUTOR-MARKED ASSIGNMENT

1. Classify oral diseases.
2. What do you understand by the epidemiology and control of oral diseases?

7.0 REFERENCES/FURTHER READING

John, Novak (Undated). *Classification of Diseases and Conditions Affecting the Periodontium*.

Encarta (2008). "Teeth Development and Associated Disorders".

MODULE 2 EPIDEMIOLOGY AND CONTROL OF ORAL DISEASES

Unit 1	Epidemiology of Dental Caries
Unit 2	Epidemiology of Periodontal Disease
Unit 3	Non-Communicable Diseases of the Mouth and Oral Cavity

UNIT 1 EPIDEMIOLOGY OF DENTAL CARIES

CONTENTS

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Development of Dental Caries
3.2	Epidemiology of Dental Caries
3.3	Presentation of Dental Caries
3.4	Factors Responsible for Dental Caries
3.5	Prevention of Dental Caries
3.6	Primary Care of Dental Caries
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Reading

1.0 INTRODUCTION

The last module took you through the mouth and its contents as well as tooth development and general classification of oral disorders. This unit will provide you with a detailed account of one of the most common forms of oral diseases. This is called tooth decay otherwise referred to as dental caries. The disease is not usually a danger to life in terms of mortality or death but can cause the patient much discomfort, pain and premature tooth loss.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- explain what dental caries is, the cause and the presentation
- describe the distribution of dental caries in person, place and time
- discuss the preventive measures against dental caries
- describe the immediate care for someone with dental caries.

3.0 MAIN CONTENT

3.1 Development of Dental Caries

It is a slow process defined as a localised destruction of the teeth often resulting into a hole or cavitation in the affected tooth/teeth. The process involves continuous demineralisation of the tooth due to the by-product of microorganism on fermentable carbohydrate in the person's diet. Some bacteria in the dental plaque are able to turn the sugar (especially sucrose and glucose and less commonly fructose and lactose) we eat into acid. As the acid is slowly released, it dissolves the tooth - first from the enamel within 3 min in which case the tooth surface looks whitish. Later, the dentine is affected which leads to the formation of a hole and pain especially after a cold food or drink. Finally, the pulp is affected which will result into more severe pain. The hole usually appears as a dark spot when the mouth is opened.

3.2 Epidemiology of Dental Caries

Place: It occurs worldwide, i.e. pandemic. Between 90-95 per cent of a population is affected by dental caries in both developing and developed countries although it is more in the developed than in the developing countries; and more in the urban than in the rural areas.

Person: It was initially commoner among the people with high socio-economic status but now it is more among the low socio-economic status in industrialised nations because sweets are cheap and victims have no money for early treatment. Similarly, the prevalence was high among whites than the blacks but presently, the reverse is the case. Dental caries begins at early age and increases with age – the older the person, the more the caries experienced. There is high activity rate in the first 20 years of life.

3.3 Presentation of Dental Caries

The symptoms or presenting complaints are teeth not as white as others; wearing away of the teeth; pains at an advanced stage; dark spots on the teeth. If there are complications, it may also come with fever (if infection spreads to other parts of body - i.e. becomes systemic); swelling (if there is collection of pus – abscess); hole or complete loss of teeth; bad odour from the mouth.

3.4 Factors Affecting the Development of Dental Caries

Dental caries can only be formed in the presence of these three factors – food (sweet/sugary - the frequency and quality is more important than the quantity), bacteria (in plaque) and tooth type (strong or weak).

Salivary Secretion. Factors that reduce salivary flow will lead to increased formation of dental caries. For example, people with high bow-shaped upper lip which does not cover the upper incisors will have increased evaporation of saliva; similarly, the night time favours development of dental caries due to reduced secretion and also drugs that cause dry mouth.

Past caries experience have strong association with new caries.

Presence of pits and fissures in teeth show a high risk to development of caries.

Poor exposure to fluoride in water or other forms also has a strong association to development of caries.

Teeth malocclusion and genetic difference have weak association.

3.5 Primary Prevention of Dental Caries

Good Oral Hygiene - This involves regular brushing of teeth - last thing at night and after breakfast or every meal and also early in the morning. It also involves school and day care centre visits.

Good Eating Habits - This involves avoidance of sugar foods especially “syrups” such as sweet. Rinsing the mouth with water after sweet food, drinks or snacks including sweet drugs.

Fluoridation - Municipal water should ideally be fluoridated. Topical fluoride in toothpaste and in fortified food (salt, milk, table water) is another mean.

Use of Fissure Sealant - This involves the use of thin plastic like coatings applied to chewing surfaces of the teeth with grooves, e.g. molars.

Regular Dental Check-Up - This may be for professional cleaning of hidden parts.

3.6 Secondary Prevention/Treatment of Dental Caries

Early diagnosis and prompt treatment - This can occur during the routine check-ups. There may be filling of carious teeth or restoration of lost teeth by artificial ones. Analgesics may be given for pains.

4.0 CONCLUSION

Dental caries is one of the two most common oral health problems (the other is periodontal disease). Dental caries is preventable by simple behavioural change especially concerning sugary diet.

5.0 SUMMARY

Dental caries is tooth decay which occurs through a slow process of demineralisation. It occurs worldwide and initially painless until complications set in. Preventive measures include oral hygiene, good eating habits, fluoridation, regular oral check up and early treatment.

6.0 TUTOR-MARKED ASSIGNMENT

1. Describe the presentation and factors affecting the development of dental caries.
2. How can you prevent and control dental caries?

7.0 REFERENCES/FURTHER READING

Millett, Declan & Welbury, Richard (2005). "Pain Control and Carious Teeth." *In: Clinical Problem Solving in Orthodontics and Pediatric Dentistry*. London: Elsevier.

Gbemi, Aderinokun (Undated). *An Introduction to Oral Health Care for Community Health Workers*.

UNIT 2 EPIDEMIOLOGY OF PERIODONTAL DISEASE

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Development of Periodontal Disease
 - 3.2 Epidemiology of Periodontal Disease
 - 3.3 Presentation of Periodontal Disease
 - 3.4 Factors Responsible for Periodontal Disease
 - 3.5 Prevention of Periodontal Disease
 - 3.6 Primary Care of Periodontal Disease
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Dental caries refer to tooth decay as discussed in the last unit. Periodontal refers to tissues around the tooth, it relates to the gum and other surrounding structures. The early stage is called gingivitis (soft tissue only) while the more advanced stage is known as periodontitis (when bone is involved).

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- define periodontal disease
- explain how periodontal disease develops and presents
- state the factors affecting development of the disease
- discuss epidemiology and the prevention of periodontal disease.

3.0 MAIN CONTENT

3.1 Development of Periodontal Disease

When plaque is allowed to settle in the mouth for up to 7 – 12 days, some bacteria in tooth plaque multiply close to the gums and produce certain toxic substances which irritate the gums. This leads to inflammation of the gum which makes the gum look deep red, swollen and bleed easily from gentle touch or pressure. If not treated on time, the

disease progresses to involve the deeper structures such as the bones and ligament around the tooth.

3.2 Epidemiology of Periodontal Disease

Between 10 and 40 % of the world's population are highly susceptible to some form of destructive periodontal disease. These vary from the early and milder form to the late severe form. The prevalence also tends to increase with age which is mainly due to accumulation of untreated cases rather than new cases occurring at older age.

3.3 Presentation of Periodontal Disease

The early form known as gingivitis is characterised by superficial swelling, redness and pain around the gum. It is usually progressive. There may also be easy bleeding from the site, itching, bad breathe and bad taste. The tooth may eventually become loose and fall out when the disease involve the bone. Ulcers may be found on the gum papillae and there may be fever and general weakness in acute cases. Complications may include stomatitis, periodontal abscess, cancrum oris (noma).

3.4 Factors Responsible for Periodontal Disease and its Complications

Presence of calculus (hardened plaque): When plaque is not removed, damage to the gums progresses until a pocket is formed. Plaque and calculus collect in the pockets and worsen the condition which subsequently dissolves the jawbone and causes the tooth to become loose and fall out known as periodontitis. This process takes a long time and ordinarily, people do not start losing their teeth until their middle age. In unusual circumstances, the loss of teeth may begin early (< 30 years) especially in puberty in which case it is called juvenile periodontitis.

Tooth fillings which are not well placed – overhanging amalgam fillings.

Sugary and empty calorie foods

Poor oral hygiene

Diminished immunity due to malnutrition in children

3.5 Prevention of Periodontal Disease

The most important method is oral hygiene by regular cleaning (brushing or use of chewing stick) to remove the dental plaque. Occasional use of antiseptic lotion as mouth-wash is also encouraged. Periodic cleaning (twice a year) in a dental clinic will help to remove plaque from hidden places. This is known as scaling and polishing (S & P).

3.6 Primary Care of Periodontal Disease

Applicable investigations and appropriate antibiotic will be provided by health personnel.

4.0 CONCLUSION

Periodontal disease, if not controlled on time, can cause a very devastating condition of health. Complication in children is associated with malnutrition.

5.0 SUMMARY

Periodontal disease is a disease of the gum and surrounding tissues. Early inflammation leads to gingivitis but late complication leads to cancrum oris (noma). Prevention and primary care largely emphasise on proper oral hygiene. Antibiotic are recommended as applicable.

6.0 TUTOR-MARKED ASSIGNMENT

What is periodontal disease and what factors are responsible for its development.

7.0 REFERENCES/FURTHER READING

- Gbemi, Aderinokun (Undated). *An Introduction to Oral Health Care for Community Health Workers*.
- Walmsley, A. Damien (2002). Burke, F. J. Trevor *et al.* "Inflammatory Periodontal Diseases" *In: Restorative Dentistry*. London: Elsevier.
- Burke, F.J. & Trevor *et al.* (2002). "Management of Inflammatory Periodontal Diseases" *In: Restorative Dentistry*. London: Elsevier.

UNIT 3 NON-COMMUNICABLE DISEASES OF THE MOUTH AND ORAL CAVITY

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Epidemiology and Control of Dental Trauma
 - 3.2 Epidemiology and Control of Dental Cancers
 - 3.3 Epidemiology and Control of Cleft Lip and Palate
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Non-communicable diseases refer to those diseases which cannot be transmitted from person to person directly or indirectly. However, some person to person activities can serve as risk factors for its development. These diseases are usually multi-factorial, i.e. due to several events all at the same time. The most common non-communicable diseases are oral trauma and oral cancer.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- explain what is meant by non-communicable oral diseases
- describe the epidemiology and control of dental trauma
- describe the epidemiology and control of oral cancers
- identify other NCD such as cleft lip and palate.

3.0 MAIN CONTENT

3.1 Epidemiology and Control of Dental Trauma

Dental trauma is a pathological condition caused by injury to the tooth, its supporting tissues and the skeletal bone.

3.1.1 Types of Injuries

Injury could be physical arising from:

vigorous tooth brushing
vigorous mastication (chewing)
accidents from falls, punch/blows, RTA

It could also be chemical injury arising from:
corrosive agents, e.g. battery water, certain paints
acidic fruits - oranges, lime
medicines - mouth wash, Vitamin C, herbs (garlic)

3.1.2 Effects of the Injuries

Abrasion

This is a post-eruptive wearing away of the supporting tissue of the tooth due to abnormal mechanical process such as over-zealous tooth brushing, washing the tooth with coal, white sand, ashes or chewing stick. It usually affects the gingival.

Attrition

This is a post-eruptive wearing away of the tooth due to tooth-tooth contact. It is usually caused by quality of diet, mastication especially the coarse kind of meals.

Erosion

This is a chemical process of removal of hard tissue by acid due to repeated gastric regurgitation, prolonged contact with acidic fruits like oranges, acidic drinks (coke).

3.1.3 Complications of the Injuries

Complications could lead to hypersensitivity of the dentine, obliteration (destruction), necrosis (death), and calcification of the pulp.

3.1.4 Prevention of the Injuries

Health education on diet, nutrition, proper technique in brushing.
Restriction to the minimum of coarse foods.
Stopping of habits such as teeth grinding, chewing pins.
Avoidance of physical clashes and punches on the mouth.
Control of RTA.
Appropriate Treatment.

3.2 Epidemiology and Control of Dental Cancers

Oral cancer is one of the 10 most common diseases in the world. Like other cancers, the causes are unknown but have established risk factors which are preventable. Oral cancers also have early detection signals (pre-cancerous lesions) for early treatment intervention.

Types of Oral Cancers: most oral cancers are squamous cell carcinoma.

Common Sites of Oral Cancers

The lower lip is the most frequent site.
The tongue.
The cheek.

Common Signs

Abnormal hardness of a lesion when pressed with a finger.
Ulceration of mucous membrane with yellowish centre.
Whitish raised areas on the surface of lesion - cauliflower appearance.
Part of lesion raised above surrounding mucus membrane.
Tissues that are abnormally freely mobile become fixed to underlying structures.
Loosening of teeth without apparent cause.

Common Risk Factors

Age

Most cancers occur between 60 and 65 years; 98 % occur in people over 40 years old.

Sex

Commoner in male than female at the ratio of 2:1.

Ancestry

The incidence and mortality is higher in blacks than in whites.

Lifestyle

Chewing or smoking of tobacco (especially pipe or cigar) including heavy alcohol intake.

Occupation

Chemical industries with risk of exposure to coal tar derivatives.

Environment

Sunlight on fair skin can cause lip cancers.

Prevention

Primary Prevention

Health education that people should abstain from tobacco or quit if already commenced should be promoted. Those who cannot quit should reduce quantity and frequency of tobacco use. They can also use nicotine substitutes.

National Prevention Programmes

Legislation to prohibit sales of tobacco to minors; and smoking in public places by adults.

Increased tariffs on alcohol and products.

Use of warning signs on tobacco.

Prohibit advertising of tobacco products.

Increased taxes on tobacco.

Regulate contents of tobacco products to decrease tars, nicotine and other carcinogenic agents.

Secondary Prevention

Early detection of pre-cancerous lesions through population screening of high risk group.

Individuals to report early in hospital for any strange lesion.

Routine examination of mouth of patients.

Regular checkups - oral and dental.

Treatment and radiotherapy as appropriate.

3.3 Epidemiology and Control of Cleft Lip and Palate

This is a congenital malformation that affects about 1 in 750 live births. Cleft lip and palate together constitute about 50 per cent of all clefts while cleft lip with affecting the palate is present in only about 3 per cent of all clefts. The lesion occurs as a result of failure of fusion of the median and lateral nasal processes and the maxillary process during the intra-uterine life. Patient has his front teeth crooked with poor spacing. Correction is achieved by closure through surgery.

4.0 CONCLUSION

Non-Communicable Diseases (NCD) of the oral cavity are not as uncommon as they seem. In fact oral cancers are increasing in incidence in developing countries. Diet and tobacco chewing which are implicated in cancers are behavioural attitude. The causes of cleft lip and palate are multi-factorial but they are congenital.

5.0 SUMMARY

Dental trauma and cancers are the most common forms of NCD of the oral cavity. Trauma results from physical or chemical injuries and the effects include abrasion, attrition and erosion. Prevention is by health education and treatment. Cancers of the lower lip is the most prevalent. Modifiable is tobacco chewing and smoking and the non-modifiable factors are age, sex and race. Both primary and secondary prevention including legislation are important in the control.

6.0 TUTOR-MARKED ASSIGNMENT

1. Describe the epidemiology and control of oral trauma.
2. Describe the epidemiology and control of oral cancers.

7.0 REFERENCES/FURTHER READING

Rozier, R. Gary (Undated). "Trauma in Dentistry". *In: Dental Public Health.*

Rozier, R. Gary (Undated). "Oral Cancers." *In: Dental Public Health.*

Burke, F.J. Trevor *et al.* (Undated). "Cleft Lip and Palate." *In: Restorative Dentistry.* London: Elsevier.

MODULE 3 ORAL HYGIENE AND ORAL HEALTH IN SPECIAL GROUPS

Unit 1	Cultural Beliefs and Practices Affecting Oral Health
Unit 2	Oral Hygiene
Unit 3	Dental Plaque
Unit 4	HIV/Aids and Oral Health
Unit 5	Oral Health Care for the Elderly and other Special Groups

UNIT 1 CULTURAL BELIEFS AND PRACTICES AFFECTING ORAL HEALTH

CONTENTS

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Teeth Cleaning
3.2	Tooth Eruption
3.3	Teething
3.4	Nylon Tooth
3.5	Cosmetics
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	Reference/Further Reading

1.0 INTRODUCTION

There are various traditional and cultural beliefs and practices in the African society, as it relates to oral health, which is held on strongly to without any scientific bases. Some of these are beneficial while some are harmful directly or indirectly and others yet are neither beneficial nor harmful.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

list and explain the various cultural practices affecting oral health
identify the positive and negative aspects of culture on oral health.

3.0 MAIN CONTENT

3.1 Teeth Cleaning

Teething is taken very seriously among the Yoruba communities. The moment a child is born and the teeth begin to erupt, the care of the teeth and oral cavities begin. Some even have preventive measures against possible associated problems with teething. Items used traditionally to clean the mouth are stems of bitter leaf tree, neem tree (*dogon yaro*), and table salt in place of toothpaste.

3.1.1 Positive Aspect

School age children usually take over the cleaning of their own teeth. Use of chewing stick (*orin* or *pako*) is common in rural communities not only because of the cleansing properties but also due to the perceived antibacterial actions. Cleaning the mouth every morning before breakfast is a must.

3.1.2 Negative Aspect

Some agents used may be corrosive and astringent e.g. unripe lime, charcoal, white sand, and ash and these may cause traumatic injury. Some of the substances may actually introduce germs due to the unhygienic method of collection and use. Some of the substances also may make the mouth to feel fresh and tart but may not be able to remove plaque and stains. Furthermore, the fluoride content in toothpaste is missed out.

Table 1: Some Cultural Oral Practices and Reasons

Materials used	Purpose and time of use
Fresh tomato fruit + alum applied with cotton wool or foam.	To clean gums and mucosa of babies before the eruption of teeth.
Alum applied with foam. Alum mixed with <i>lapalapa</i> sap. Hydrogen peroxide applied with cotton wool.	When bleeding from the gum is observed.
Alum mixed with <i>atare</i> and <i>iyere</i> and citrus lime.	Regular use in infancy and childhood.
Toothpaste on a piece of foam or cotton wool.	Regular use in infancy and childhood.
Chewing sticks.	Time of school enrollment.

There is also the belief that the teeth should not be cleaned at night otherwise, the person will lose his mother prematurely. This has a negative effect on oral hygiene and constitutes a major public health problem.

3.2 Tooth Eruption

Teeth are believed to erupt between 5 and 6 months. Children born with teeth or whose teeth erupt too early in life are believed to be evil and may be killed or a ritual made in which case the tooth is forcefully extracted. This can endanger the life of the child; profuse bleeding and infection are consequences. Similarly, when the upper incisors erupt before the lower, it is a bad sign in some communities and the child with his family may be ostracised. In order to prevent this embarrassment, the parents quickly seek to have the tooth extracted.

3.3 Teething

Different health effects have been attributed to teething in many parts of the world and especially in Africa. Such health problems are fever, diarrhoea, cough and catarrh, skin rashes. These are actually symptoms of other diseases and instead of seeking help from health facilities, the children are left alone with the belief that the symptoms are normal or at best give some herbal concoction or teething mixture. This practice cut across all educational status. Sometimes the herbal mixtures for teething are given as prophylaxis.

3.4 Nylon Tooth

In some East African countries, traditional practitioners deceive people that children have some false teeth (nylon teeth) which need to be removed. This can have grave effect on the child.

3.5 Cosmetics

Trimming or Sharpening Front Teeth

In some cultures, the front teeth are trimmed into a pointed shape at adolescence as cosmetic. In this process, the enamel is removed exposing the dentine causing pains and sensations to pressure, temperature (hot or cold). The teeth will likely get decay (cariou) and the pulp easily gets infected forming an abscess.

Removal of Certain Teeth

In some cultures, the lower front teeth are removed, in others, the front teeth of new brides are removed forcefully. This procedure leaves a gap which can result into periodontal disease and can also affect speech.

Making a Hole in the Upper Lip and Inserting an Ornamental Stick

This process destroys the upper front teeth, the surrounding gums and the jaw bone.

4.0 CONCLUSION

Cultural practices affect the general health and the oral health of a community. The positive aspect should be encouraged and promoted while the negative ones should be abolished through health education, advocacy and legislation as appropriate.

5.0 SUMMARY

Cultural aspect of oral health includes tooth cleaning, tooth eruption, teething, cosmetics, etc. Positive aspects are the values of oral hygiene while negative aspects are wrong methods and substances being used, unwholesome so-called cosmetic procedures.

6.0 TUTOR-MARKED ASSIGNMENT

List and describe the positive aspects of culture on oral health.

7.0 REFERENCE/FURTHER READING

Gbemi, Aderinokun (Undated). *An Introduction to Oral Health Care for Community Health Workers*.

UNIT 2 ORAL HYGIENE

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Good Oral Hygiene
 - 3.2 Practice of Good Oral Hygiene
 - 3.3 How to Brush
 - 3.4 Halitosis
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Maintaining good oral hygiene is one of the most important things someone can do for his/her teeth and gums. Healthy teeth do not only enable the person to look and feel good, they make it possible to eat and speak properly. Good oral health is important to the person's overall well-being.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- explain what constitutes good oral hygiene
- describe the procedure of good oral hygiene
- describe the causes and control of halitosis.

3.0 MAIN CONTENT

3.1 Good Oral Hygiene

This results in a mouth that looks and smells healthy. This means that the teeth are clean and free of debris; the gums are pink and do not hurt or bleed when you brush or floss and bad breath is not a constant problem. Most oral hygiene process are done personally but every six months, the dentist or dental hygienist can help with special oral hygiene techniques and can help point out areas that may require extra attention during brushing and flossing.

3.2 Practice of Good Oral Hygiene

Daily preventive care, including proper brushing and flossing, will help stop problems before they develop and are much less painful, less expensive and worrisome than treating conditions that have been allowed to progress.

These include:

- brushing thoroughly twice a day and flossing daily.
- eating a balanced diet and limiting snacks between meals.
- using dental products that contain fluoride, including toothpaste.
- rinsing with a fluoride mouthwash if your dentist tells you to.
- making sure that your children less than 12 drink fluoridated water or take a fluoride supplement if they live in a non-fluoridated area.

3.3 How to Brush

An important part of good oral health is knowing how to brush and floss correctly. Thorough brushing each day removes plaque. Gently brush the teeth on all sides with a soft bristle brush using fluoride toothpaste. Circular and short back-and-forth strokes work best. Take the time to brush carefully along the gum line. Lightly brushing your tongue also helps to remove plaque and food debris and makes your mouth feel fresh.

In addition to brushing, using dental floss is necessary to keep the gums healthy. Proper flossing is important because it removes plaque and leftover food that a toothbrush cannot reach. If brushing or flossing results in bleeding gums, pain, or irritation, there is the need to see a dentist at once.

The mouth is normally teeming with bacteria and once it can be kept under control with good oral health care, such as daily brushing and flossing, ill health can be avoided. Saliva is also a key defense against bacteria and viruses. It contains enzymes that destroy bacteria in different ways. But harmful bacteria can sometimes grow out of control and lead to periodontitis, a serious gum infection.

When the gums are healthy, bacteria in the mouth usually don't enter the bloodstream. However, gum disease may provide bacteria a port of entry into your bloodstream. Sometimes, invasive dental treatments can also allow bacteria to enter your bloodstream. Medications or treatments that reduce saliva flow or disrupt the normal balance of bacteria in your mouth may also lead to oral changes, making it easier for bacteria to

enter your bloodstream. Some researchers believe that these bacteria and inflammation from your mouth are linked to other health problems in the rest of your body.

3.4 Halitosis

This is also known as bad breath and it is a condition in which there is a foul smelling of the oral cavity more pronounced when the person talks or breaths. It constitutes a problem to many people. The origin of the foul odour may be

the oral cavity itself
other related organs or tissues
other systemic disorders.

The most common cause of bad breath is poor oral hygiene, untreated decayed tooth, long standing periodontal disease, ulcers or wound in the mouth. Other conditions include Acute Ulcerative Gingivitis (ANUG), noma, herpes, oral thrush, ulcers from cancers. Other systemic and organ diseases that can give rise to bad smell in the mouth are diabetes mellitus, diseases of the nose, ear and throat, infections of the respiratory tract. Lastly, some people have a feeling of halitosis without any of the stated conditions (psychogenic halitosis).

4.0 CONCLUSION

The place of oral hygiene in the promotion of oral health and prevention of oral diseases cannot be overemphasised. Good oral hygiene is a reflection of general hygiene. It does not only promote oral hygiene but also the general well-being of the individual.

5.0 SUMMARY

Oral hygiene is a mouth that looks and smells good. It involves proper brushing and flossing, appropriate diet and fluoridation. Halitosis may originate from the mouth cavity, related tissue or it may be a systemic problem. Halitosis may to a large extent be controlled by proper oral hygiene otherwise there will be a need to treat specific illness if it is not psychogenic.

6.0 TUTOR-MARKED ASSIGNMENT

1. Explain the procedure for a good oral hygiene.
2. What is halitosis, the causes and the control?

7.0 REFERENCES/FURTHER READING

Gbemi, Aderinokun (Undated). *An Introduction to Oral Health Care for Community Health Workers*. Colgate. "Oral Hygiene Basics". Available on www.oralhealthbasics.com

UNIT 3 DENTAL PLAQUE

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 What Plaque is
 - 3.2 How Plaque is Formed
 - 3.3 How to Recognise Dental Plaque
 - 3.4 Steps in Removing Dental Plaque
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Everyone develops plaque because bacteria are constantly forming in our mouths. These bacteria use ingredients found in our diet and saliva to grow. Dental plaque is the singular most important factor in the development of dental caries and periodontal diseases.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- define dental plaque
- explain what constitutes dental plaque and how it is formed
- describe how to recognise dental plaque
- outline the steps in removing dental plaque.

3.0 MAIN CONTENT

3.1 What Plaque Is

Plaque is made up of invisible masses of soft, white or yellow harmful layer of germs that live in the mouth and stick to the surfaces of the teeth. Plaques are bacteria and not food particles. Plaque grows in areas that cannot be easily reached by the tongue, lips or the cheeks such as the necks of teeth; cracks/grooves on teeth and in-between two teeth. Some types of plaque cause tooth decay while others cause gum disease. Red, puffy or bleeding gums can be the first signs of gum disease. If the gum disease is not treated, the tissues holding the teeth in place are

destroyed and the teeth are eventually lost. Plaque is found in every mouth but it accumulates faster in some individuals.

3.2 How Plaque is Formed

Plaques begin to grow on tooth surfaces soon after the tooth has been cleaned. Bacteria which initially settle in the thin layer of saliva on the tooth with time multiply and grow in size and type. When sugary food is eaten, bacteria in plaque convert this to acid which eventually begins to destroy the teeth and the gum. When the plaque is not removed on time, minerals settle on it and it becomes hardened. This hardened deposit is called **calculus or tartar**.

3.3 How to Recognise Dental Plaque

Dental plaque is difficult to see because it may be the same colour with the teeth but at times it may be coloured by the food which will make it visible. Otherwise, it is stained by chewing red “disclosing tablets,” found at grocery stores and drug stores, or by using a cotton swab to smear green food coloring on the teeth. The red or green color left on the teeth will show where there is plaque.

3.4 Steps in Removing Dental Plaque

Step One: Floss

Use floss to remove germs and food particles between teeth and then rinse.

Step Two: Brush Teeth

Use any tooth brushing method that is comfortable, but do not scrub hard back and forth. Small circular motions and short back and forth motions work well. To prevent decay, it's what's on the toothbrush that counts. Use fluoride toothpaste. Fluoride is what protects teeth from decay.

Step Three: Brush the tongue for a fresh feeling! Rinse again.

Remember: Food residues, especially sweets, provide nutrients for the germs that cause tooth decay, as well as those that cause gum disease. That's why it is important to remove all food residues, as well as plaque, from teeth. Remove plaque at least once a day - twice a day is better; i.e. last thing at night and after breakfast. If you brush and floss once daily, do it before going to bed.

Another way of removing plaque between teeth is to use a dental pick - a thin plastic or wooden stick.

4.0 CONCLUSION

Dental plaque is the singular most important factor in dental caries and periodontal diseases. Dental plaques are not sticky food substances but are mass of bacteria that must be removed frequently to prevent diseases.

5.0 SUMMARY

Plaques are invisible masses of white or yellow layer of germ substance but can be revealed with certain dyes. It begins to form soon after the tooth is cleaned. It is formed in every person. It can be removed by flossing, brushing, fluoride use and use of special dental pick.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is dental plaque and how is it formed and recognised?
2. How can dental plaque be removed?

7.0 REFERENCES/FURTHER READING

Gbemi, Aderinokun (Undated). *An Introduction to Oral Health Care for Community Health Workers*. Colgate. "Dental Plaque". Available on www.oralhealthbasics.com

UNIT 4 HIV/AIDS AND ORAL HEALTH

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Magnitude of the HIV Problem
 - 3.2 Oral Symptoms of HIV/AIDS
 - 3.3 Combating the Menace
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Acquired Immunodeficiency Syndrome (AIDS) is a chronic infectious disease caused by a virus known as the Human Immunodeficiency Virus (HIV). It is a multi-systemic disease complex. It takes several years for someone with HIV to develop AIDS and when this occurs, the manifestations include the oral involvement. Apart from the transmission through sexual means and blood transfusion, dental surgery or procedure is a common means of transmitting HIV infection via unsterilised instruments.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- explain the magnitude of the HIV problem
- describe how HIV is transmitted through the oral cavity
- list the oral symptoms of HIV/AIDS and how to combat it.

3.0 MAIN CONTENT

3.1 Magnitude of the Problem

The HIV/AIDS epidemic is one of the most serious to affect humanity. By the end of 2007, some 33 million people worldwide were living with HIV, and millions had died of AIDS. Many more people are affected because their parents, other family members, friends and co-workers have died from AIDS or are infected with HIV. HIV/AIDS is the fastest growing threat to development today and the epidemic is particularly severe in sub-Saharan Africa and Asia. As the epidemic has progressed, realisation of its complex causes and effects has increased. The greatest

challenge in responding to HIV/AIDS at present is to ensure that proven; gender sensitive strategies for prevention and care are widely implemented to a level where there will be significant impact on the epidemic. The WHO Oral Health Programme can make important contributions to the early diagnosis, prevention and treatment of this disease. A number of studies have demonstrated that about 40-50 % of HIV positive persons have oral fungal, bacterial or viral infections often occurring early in the course of the disease.

3.2 Transmission of HIV

HIV can be transmitted through instruments used in dental surgery or procedure such as tooth extraction, repair of cleft lip/palate, restorative surgery, and surgery involving mandibular and maxillary bones. Also, sharing of tooth brush and toothpick with a person infected with the virus is reported especially if the person has ulcer in the mouth. People who practice oral sex are also at risk of the infection through the oral route. In all these ways, there is blood contact between the two. Although, HIV virus has been found in all body fluid including the saliva, the transmission is not passed through the saliva and so ordinary kissing does not pass the virus except deep kissing involving lip and tongue biting. HIV is also transmitted from mother to child through childbirth.

3.3 Oral Symptoms of HIV/AIDS

Most of the oral lesions associated with HIV/AIDS are due to fungi because the body immune response is damaged. Oral lesions strongly associated with HIV infection are pseudo-membranous oral candidiasis otherwise known as oral thrush, oral hairy leukoplakia, HIV gingivitis and periodontitis, kaposi sarcoma, non-Hodgkin lymphoma, and dry mouth due to a decreased salivary flow. Oral candidiasis is whitish creamy coating substance on the tongue or mucosa surface. When scrapped, it usually reveals a bleeding or sore surface. There may be reddish spots, blisters or irregular areas.

3.4 Combating the Menace

The WHO Oral Health Programme has prepared a guide to provide a systematic approach to the implementation of epidemiological studies of oral conditions associated with HIV infection; to provide guidelines for the collection, analysis, reporting and dissemination of data from such studies, and to facilitate comparison of findings from different studies. The programme consists of sound health education on safe sexual practices, distribution of condom to high risk groups, universal precaution in handling sharps, safe surgical procedures, and prevention

of mother-to-child transmission. It also aims to encourage oral health personnel and public health practitioners to make oral health status an integral part of optimum case management and of surveillance activities of the diseases associated with HIV infection.

4.0 CONCLUSION

It is an established fact that HIV is transmitted via the oral route and AIDS also manifests through the oral cavity. Prevention of HIV/AIDS is the same as with other systems, i.e. abstinence from sex until marriage, being faithful to a partner that is not infected, condom use and use of drugs as required.

5.0 SUMMARY

AIDS is a multi-systemic disease caused by HIV and can be transmitted through oral sex, dental surgeries, sharing of tooth brushes, etc. Millions of people have died and are still living with the disease. Oral presentations are candidiasis (oral thrush), gingivitis, leukoplakia, etc. Control of the infection is mainly through the ABCD of prevention.

6.0 TUTOR-MARKED ASSIGNMENT

Describe the relationship between HIV/AIDS and oral health.

7.0 REFERENCES/FURTHER READING

World Health Organisation (Undated). *HIV/AIDS and Oral Health*.
Gbemi, Aderinokun (Undated). *An Introduction to Oral Health Care for Community Health Workers*.

UNIT 5 ORAL HEALTH CARE FOR THE ELDERLY AND OTHER SPECIAL GROUPS

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The Need for Special Oral Health Care among the Elderly
 - 3.2 Deficit Oral Hygiene
 - 3.3 Steps to Improve Oral Health
 - 3.4 Common Oral Health Problems of the Elderly
 - 3.5 Potential Problems with Oral Healthcare
 - 3.6 Basic Oral Care Guidelines for the Elderly
 - 3.7 Oral Care among the Disable
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

With the numbers of elderly people (65 years of age and older) on the increase in Nigeria and developing countries, their health will pose a great challenge. Among the many problems of the aged are oral and dental degeneration related to years of chewing, smoking, trauma, and dysfunctional oral habits. Many people believe that as people get older, they will naturally lose their teeth. It is now known that this belief is not true. By following easy steps for keeping your teeth and gums healthy – plus seeing your dentist regularly — you can have your teeth for a lifetime!

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- identify the need for proper oral care in the elderly patient
- explain how cognitive impairment may lead to oral hygiene problems
- outline the steps to improve oral health among the elderly
- identify potential problems associated with poor oral care.

3.0 MAIN CONTENT

3.1 The Need for Special Oral Care among the Elderly

The need for oral care ranges from nearly none to extreme, depending on the many individual factors influencing oral disease and the specific oral health experiences that have occurred during the person's life, and the aging process specific to the person. Poor oral care in the elderly can have serious health consequences including increased risk of stroke, heart disease, and pneumonia. Preventing the development of these diseases through appropriate oral care, and maintenance of oral and general health is very important.

3.2 Deficit Oral Hygiene

Dementia in the elderly may cause oral hygiene problems and such people need specialised dental care to maintain proper oral hygiene, optimal periodontal health, and control of the development of carious lesions. Patients who have poor periodontal health and a high incidence of dental caries upon diagnosis of dementia require a comprehensive dental exam and a specialised treatment plan. These patients may have a decrease in digital abilities (use of fingers or hands), lack of personal motivation and memory loss which often leads to inadequate oral hygiene. Oral dysfunction can be painful, and have an acute impact on quality of life, affecting chewing, speaking, and social interactions.

3.3 Steps to Improve Oral Health and Oral Health Care

Education of primary healthcare workers and geriatricians about oral disease and dysfunction.

Provision of regular screening and preventive education for dental disease.

Provision of oral health care education and training to daily caretakers (nurses, nursing assistants).

Assisting the dental community in recognising the management of oral disease in the elderly.

Generation of new options for providing improved oral health care to the elderly.

3.4 Common Oral Problems of the Elderly Patient

These include an increase of difficulty to restore dental caries; decreased salivary flow; loss of natural teeth; ongoing, unrecognised periodontal disease; excessive tooth wear; a desire to look better and younger;

impaired oral hygiene due to medical problems; loss of bone in the jaw and impaired use of dentures.

3.5 Potential Problems Associated with Poor Oral Care

These include dry, cracked, bleeding or chapped lips; cold sores on the lips; raised areas; swollen, irritated, red, bleeding or whitish gums; loose, cracked, chipped, broken or decayed teeth; yellow filled or red sores, such as canker sores inside the mouth; white spots inside the mouth; pus; coated or swollen tongue; bad breath or fruity smelling breath; change in the ability to eat or drink; gagging or choking; report of mouth pain.

3.6 Basic Oral Care Guidelines for the Elderly

Provide oral care (care for the mouth, teeth and gums) at least twice a day or more often if needed.

- brush teeth with a soft bristled toothbrush for at least five minutes
- brush gums and the roof of the mouth
- brush all sides and eating surfaces of the tongue for 30 seconds
- floss gently the space between each tooth and gum
- clean dentures at least once a day
- monitor for signs of potential problems.

When administering oral care to an elderly, move slowly and explain what you are doing. Encourage independence. Adaptive devices may be necessary to maintain ones independence. Always wear gloves when giving oral care. Follow standard precautions and wash hands when you are finished assisting with oral care. While providing oral care, nursing assistants should monitor the elderly patient for the above potential problems and report these sign/symptoms to the nurse immediately.

3.7 Oral Care among the Disable

Similarly, the physically and mentally challenged also require special assistance in oral hygiene due to the limitations they may experience.

4.0 CONCLUSION

Proper oral care will help reduce diseases in the elderly as well as reduce and prevent diseases of the oral cavity such as periodontal disease. Comprehensive oral care is an essential feature of quality of life. Nurses and nursing assistants play a key role in the prevention of disease directly related to poor oral care. Daily care of the teeth and mouth is

important for a healthy life and will lead to improved quality of life for elderly people.

5.0 SUMMARY

The elderly people have peculiar oral health problem and needs. They have problems with personal oral hygiene and most of them need assistance. Helps needed include oral health education and programme especially the use of community nursing assistants. Guidelines for oral care are as with others except for being gentler.

6.0 TUTOR-MARKED ASSIGNMENT

1. Justify the need for special oral health programme for the elderly in Nigeria.
2. Explain the steps for oral care for the elderly.

7.0 REFERENCES/FURTHER READING

Lori, A. Tetreault (Undated). *Oral Health Care for the Elderly: More than Just Dentures*.

Coleman, P. (2002). "Improving Oral Health Care for the Frail Elderly: A Review of Widespread Problems and Best Practices." *In: Geriatric Nursing; Public Health and Aging: Retention of Natural Teeth among Older Adults - United States, 2002*.

MODULE 4 MOBILISING THE COMMUNITY FOR ORAL HEALTH PROGRAMME

Unit 1	Oral Health Promotion and Health Education
Unit 2	Community Oral Health Programmes and Policy
Unit 3	Oral Health Survey and Research

CONTENTS

UNIT 1 ORAL HEALTH PROMOTION AND HEALTH EDUCATION

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Health Education Pathway
3.2	Objective of Health Education
3.3	Giving Correct Information in Oral Health
3.4	Challenges Encountered in Oral Health Promotion
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Reading

1.0 INTRODUCTION

Early prevention strategies in the control of oral diseases involve health promotion and specific protection. While it is pertinent to note that the healthcare providers and government are main stakeholders in healthcare of the populace, the individual has a major role/responsibility to his/her health. However, information needed by the individuals and community members must be provided by the health workers while also providing the encouragement, motivation, mobilisation and enabling environment for the actualisation and practice of such health information. Health education is the major channel through which such information is communicated to community members.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- define oral health
- state the prevention strategies in the control of oral diseases

discuss the various challenges encountered in oral health promotion.

3.0 MAIN CONTENT

3.1 Health Education Pathway

Informed decision making is a necessary principle in improved healthcare. Huchbauch principle of acquiring habit and behavioural change is by an acronym “AKUBAH”.



Adequate awareness concerning certain health condition will give rise to increased knowledge and better understanding which in turn will influence the person’s belief and result in an attitude change and finally habit/behavioural change.

3.2 Objective of Health Education

The objective of health education is to make individuals and community members to take responsibility of their own health. Health education should make people to be committed and actively involved towards improving their health condition and status. From the above pathway, it is seen that the people’s belief (culture, religion, interest, etc) is important in behavioural change and not only the information.

3.3 Giving Correct Information on Oral Health

All health personnel (not only dentists or general practitioners) should receive additional training to support the concept of primary oral healthcare. It should be known that new information should build on existing one, i.e. one goes from the known to the unknown. Therefore, the health educator has a need to have some idea of what the people knew before and build on that. He/she also need to have acquired adequate, correct and up-to-date information concerning the aspect of oral healthcare concerned per time. Being knowledgeable is more than mere awareness, so a step by step fashion in a language that is acceptable to the audience is imperative. Also, an appropriate method and channel of health education must be utilised (health talk, drama, demonstration, action song) in order to make the message interesting and understandable.

The oral health educator must respect the people’s culture and religion even when the people have wrong information (based on cultural/religious beliefs) detrimental to their oral health; the

manner and technique of communication is important whether or not the information will be accepted. This will determine whether they will believe, accept and change their attitude toward the concerned issue or not.

Print and Audio-Visual Media's role cannot be over-emphasised. The health educator can also make use of the media in promoting oral health. Similarly, journalists should play their own role in educating the public.

Diet and Nutrition: The effects of diet and nutrition on oral health have already been discussed in previous units. Sugars are not only detrimental to oral health; they also have a negative impact on other systems and general health. Thus, reduction of sugar consumption for dental health can also benefit general health, e.g. reduced incidence of obesity, coronary heart disease, diabetes.

Oral Hygiene: Obtaining good toothbrush and fluoridated toothpaste should be emphasised. Appropriate technique in tooth brushing should be practically demonstrated. Advantages of tooth brush over the chewing stick should be explained.

Environment: There should be education also to the government and other stakeholders on policies and regulations through oral health promotion. For example, apart from fluoridated toothpaste, municipal water can also be fluoridated.

Dental Services: Dental health facilities and services (promotive, preventive, curative and rehabilitative) should be available. This is especially important in primary and secondary schools.

Health Seeking and Keeping Habits: Community members should be encouraged to adapt positive attitude to seeking healthcare early before complication sets in. Some oral diseases are not painful until there is severity. Smoking should be discouraged or stopped.

3.4 Challenges Encountered in Oral Health Promotion and Education

Poor Communication Skills: The objective may not be clear enough, the language may not be appropriate, the chosen method may not be suitable, the planning may not be enough and the community may not be carried along (community participation of all concerned groups and leaders).

Negative attitude of the community members: This may be due to long standing beliefs, cultural practices; illiteracy, wrong priority. Appropriate policy and environment for the effectiveness of the health education may not be provided.

4.0 CONCLUSION

Health promotion and specific disease prevention are primary level of prevention of disease. Information is power. Health education is one of the most important tools for achieving health promotion and disease prevention apart from providing the enabling environment. Though, attitude and beliefs are difficult to change, through well planned and delivered health education and behavioural change communication, it is realisable.

5.0 SUMMARY

Effective health education follows the acronym AKUBAH. The objective of health education is for people to take responsibility for their own health. Acquiring correct and adequate information and delivering it through appropriate medium and method is imperative for its acceptance by the people.

6.0 TUTOR-MARKED ASSIGNMENT

1. Explain the principles of effective oral health education.
2. What are the challenges to effective health education and how can they be overcome?

7.0 REFERENCES/FURTHER READING

J. Fiske, *et al.* (2000). *Guidelines for Oral Health Care for Long Stay Patients and Residents.*

Gbemi, Aderinokun (Undated). *An Introduction to Oral Health Care for Community Health Workers.*

UNIT 2 COMMUNITY ORAL HEALTH PROGRAMMES AND POLICY

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 What are Oral Health Programmes?
 - 3.2 Planning Oral Health Programmes
 - 3.3 Implementation of Oral Health Programmes
 - 3.4 Evaluation of Oral Health Programmes
 - 3.5 Oral Health Policy
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

The success of control of diseases or other health-related events that are of public health importance depends largely on deliberate effective interventional programmes. The programme may be at different levels (family and community, state, national and international); in stages and at varied financial involvement. Without deliberate programme, various health workers will be giving uncoordinated activities which will result in duplication of activities, wastage of resources, ineffectiveness, non-prioritising of problems/needs, difficulty in measuring achievement etc.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- state what oral health programmes are
- describe the planning process of oral health programme.

3.0 MAIN CONTENT

3.1 What are Oral Health Programmes?

They are specifically designed set of planned activities based on community needs and targeted toward appropriate population in order to reduce oral health problems and improve oral health status of the people. The programme may be initiated by the national, state or local government through the ministry of health or other government

parastatals, non-governmental and faith-based organisations, women groups, health workers in hospitals or other institutions, etc. Oral health programmes follow the same principle of planning, implementation and evaluation. Oral health programme may be:

Population Based Programme: Organised for a geographical region such as a community, state or country.

Institution/Organisation Based Programme: Organised for a school, camp, religious houses, etc.

Specific Project Programme: organised for special cases e.g. correction of cleft lips and palate, oral cancers, dental caries.

3.2 Planning Oral Health Programme

In organising for the planning, project/programme assistants will be recruited and trained as regards the proposed programme.

Needs Assessment and Prioritising: In planning, the current oral health status and problems are assessed through a survey (use of questionnaire, focus group discussion) or from records or observation/examination. By this, the programme officer is able to identify specific needs and then make priorities of which to focus on based on available resources and what constitute major threats to healthy living.

Setting of Goals and Objectives: Broad goals are set which are the aims on the final analysis. Also, distinctive objectives which should be specific, measurable, achievable and time-bound. Objectives should not be vague and naked. For example, the goal may be to improve the oral health status of community XYZ. The objectives may then be – to reduce tooth decay among teenagers by half in the next 2 years; to increase by 60% the proportion of people using fluoridated toothpaste by 2015; to improve the knowledge of teachers and pupils concerning oral hygiene in 1 year.

Interventional Strategies and Activities Should be Specified: Having defined the specific objectives, activities/strategies should then be directed to tackling them one after the other. Resources needed for such activities should also be identified and allocated.

Such activities may include things like:

health education/talk

film show/drama
group discussion
advocacy to government and other stakeholders
service provision - preventive, curative, restorative.

A detailed plan of activities including the timetable to be followed will then be laid down.

3.3 Implementation of Oral Health Programme

In order to have a successful programme, it is important to follow the outlined programme as planned except when occasion really demands a slight modification or adjustment. Everyone to be involved in any activity must know well ahead of time and be well prepared for it. The community involved also must be well mobilised. The programme officer must be able to lead well and supervise others.

3.4 Evaluation of Oral Health Programme

This is the process of measuring the actual performance of the programme whether the stated objectives were achieved or not. It measures what things are done right and which ones are not so as to assist in future planning.

3.5 Oral Health Policy

There is no specific oral health policy in most developing countries. The Ministry of Health and Family Welfare, Govt. of India accepted in principle National Oral Health Policy in the year 1995 to be included in National Health Policy. In pursuance to National Oral Health Policy, 'National Oral Health Care Programme' was launched as "Pilot Project". The policy is supposed to state the role of the government, dentists, dental health nurses, other health professionals, teachers in elementary schools and community members.

4.0 CONCLUSION

Health programmes are major interventional strategies to bring about an improved health condition for any population. Without specific health programmes, various strategies will be haphazard and uncoordinated and difficult if not impossible to evaluate.

5.0 SUMMARY

Oral health programmes whether population based, institutional based or special programmes consist of planning, implementation and evaluation. Planning requires needs assessment, prioritising, setting of specific objectives, specification of intervention strategies, and proper allocation of resources. There is a need for a national oral policy in Nigeria.

6.0 TUTOR-MARKED ASSIGNMENT

1. Explain the rationale for oral health programme in control of oral diseases.
2. Describe the steps in planning, implementation and evaluation of oral health programme.

7.0 REFERENCES/FURTHER READING

Editorial. National Oral Health Care Programme (NOHCP India). Implementation Strategies. *Indian Journal of Community Medicine*, 2004; 29(1).

Ogunmodede, E.O. & Sheiham, A. (1992). *Oral Health Promotion and Health Education Programmes for Nigeria - Policy Guidelines*.

UNIT 3 ORAL HEALTH SURVEY AND RESEARCH

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 What are Oral Health Surveys
 - 3.2 Uses of Oral Health Surveys
 - 3.3 Features of Oral Health Diseases to Note in Research
 - 3.4 Methods Used in Oral Health Surveys
 - 3.5 Ethical Consideration
 - 3.6 Emergency Care and Referral
 - 3.7 Reporting
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Basic oral health surveys are used to collect information about the oral health status and treatment needs of a population and subsequently to monitor changes in levels and pattern of diseases. By this, one can assess the appropriateness and effectiveness of the services being provided and plan to modify oral health services and training programmes as required.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- state what oral health surveys are and their uses
- explain the methods expended in oral health surveys.

3.0 MAIN CONTENT

3.1 What are Oral Health Surveys

Oral health surveys are processes involved in collection, collation, analysis, interpretation and dissemination of data related to the oral health of a defined population.

3.2 Uses

Oral health surveys are used to determine:

The extent to which existing oral health services are coping with the current need for care - i.e. adequacy of the services.

The nature and extent of the services - promotive, preventive, curative and restorative - i.e. comprehensiveness.

The extent to which resources needed to establish, maintain or expand oral health programme are available and accessible.

3.3 Features of Oral Diseases to Note in Research

Oral diseases exist in all populations - sex, age, socio-economic status, rural/urban, etc.

Oral diseases are strongly age-related, as there is often an increase in severity and prevalence with increasing age.

A disease such as dental caries is irreversible and thus information obtained provides data not only on the prevalence but also on previous experience.

There exists variation of profiles of dental caries for different population groups.

Many observations are made in standard measurements for each subject (i.e. for each tooth in the case of caries).

3.4 Methods Used in Oral Health Surveys

The commonly method used is the **Pathfinder surveys**: here, most important population sub-groups (e.g. age-group) likely to have different disease levels are included. Appropriate numbers of subjects in specific index age groups in one location will be used so as to have reliable and clinically relevant information for planning. With this method, one can obtain the overall prevalence of the common oral diseases and conditions including their demographic profiles and also the variations in disease level, severity and need for treatment in different sub-groups. This helps to identify the sub-groups in special need. There are different ways –

Pilot Survey: This includes only the most important sub-groups in the population and only one or two index ages (12 years and one other age group).

A National Survey: All important sub-groups of the population that may have differing disease level and treatment needs are included (3 or more age groups). It is suitable for data collection for planning and monitoring of services in all countries irrespective of level of diseases or availability of resources or complexity of services.

Subgroups: These are population that are likely to have different levels of diseases - e.g. geopolitical zones, state or local government; urban or rural areas, ethnic groups (due to cultural practices that may exist).

Index Ages and Age Groups: The following age groups are recommended - 5 years for primary teeth and 12, 15, 35-44 and 65-74 years for permanent teeth.

3.5 Ethical Consideration

Permission to examine population groups must be obtained from appropriate authorities, community leaders and individuals (or parents/guardian in case of a minor) before survey is carried out.

3.6 Emergency Care and Referral

In life-threatening conditions that require immediate attention, the researcher or team leader of the survey must ensure prompt referral to an appropriate care facility.

3.7 Reporting

It is appropriate to report survey/research findings to policy makers and other stakeholders for proper action and policy implication.

4.0 CONCLUSION

Data, information and researches are very important instruments in delivering appropriate, effective and efficient health care. It helps in making evidence-based decision and policy; and also in allocation of scarce resources.

5.0 SUMMARY

Oral health surveys consist of data collection, analysis and reporting for planning purposes. The pathfinder method is a popular method which include pilot, national and subgroup surveys. Appropriate care and referral of concerned patients should be taken care of. Summary and detailed reporting of findings to the appropriate authority should be done timely.

6.0 TUTOR-MARKED ASSIGNMENT

1. What are oral health surveys and their uses?
2. Describe the various pathfinder method utilised in oral health surveys.

7.0 REFERENCES/FURTHER READING

Christopher, Okunsemi *et al.* (Undated) *Design of a Basic Oral Health Survey.*

BMC Oral Health (2005). *Pilot Survey of Oral Health-Related Quality of Life: A Cross Sectional Study of Adults in Benin City, Edo State, Nigeria.*