NATIONAL OPEN UNIVERSITY OF NIGERIA

SCHOOL OF HEALTH SCIENCES

COURSE CODE: PHS 509

COURSE TITLE: Geriatric and Gerontology

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Introduction

Geriatrics and Gerontology is a -------- **semester course**. It is a two credit unit degree course available to all students offering the bachelor of Science (BSc) in Community Health.

Geriatric and Gerontology is a subspecialty of Medicine that is concerned with caring for the health of the elderly and study of the ageing process. The aim is to ensure health promotion, disease prevention, and provision of adequate treatment of diseases affecting the elderly as well as limiting disabilities among them..

As a health care provider at the community level, a good understanding of the ageing process will make the caring process effective and efficient for the elderly. This knowledge will provide adequate scientific rationale for the problems and form the basis for intervention.

What you will learn in this course

The course consists of 15 units and a course guide. This course guide tells you briefly what the course is about, what course materials you will be using and how you can work with these materials. In addition, it advocates some general guidelines for the amount of time you are likely to spend on each unit of the course in order to complete it successfully.

It gives you guidance in respect of your tutor- marked assignment which will be made available in the assignment file. There will be regular tutorial classes that are related to the course and an educational visit to a home for the elderly. It is advisable that you attend tutorial sessions and at least visit a home for the elderly. The course will prepare you for the challenges you will meet while working either in the clinic or community setting. You will acquire adequate knowledge about the reasons for the problems and challenges confronting the aged. Also you will be able to establish a relationship between the physiological changes and the common problems of the elderly.

The course provides you with home management of the common problems and the various preventive health care and maintenance strategies for the elderly.

Course aims

The aim of the course is to prepare you to be able to deal competently with the issues concerning the elderly. It will help you to gain an understanding of the problems of the aged which are due to the physiological changes that occur in the body systems as one grows old. It also aims to provide you with the simple preventive, promotive, curative and rehabilitative health care interventions for the elderly..

Course objectives

To achieve the aims set out, the course has a set of objectives. Each unit has specific objectives which are included at the beginning of the unit. You should read these objectives before you study the unit. You may wish to refer to them during your study to determine your level of achievement in terms of coverage of the study objectives. You should always go through at the unit objectives again after completion of each unit.

Below are the comprehensive objectives the course aims to achieve. By meeting these objectives, you should be able to :

Explain the concept and classification of ageing.

Identify the clinical characteristics of the elderly.

Explain the psychosocial and biological theories of ageing

Discuss the genetic factors and life style related factors affecting ageing

Explain the physiological changes in the various body systems associated with ageing.

Identify common psychosocial changes associated with growing old.

Identify the common medical problems of the elderly.

Discuss the socio cultural factors that influence the care of the elderly.

Discuss the care of the elderly.

Explain preventive & health maintenance for the aged.

Discuss the qualities of a good geriatric care giver**.**

Explain home management of accidents for the elderly

Discuss the resources & facilities available for the elderly in both developed & developing countries.

List available services to keep the elderly happy in the communities.

Enumerate the issues confronting the dying person.

Working through this course

To complete this course you are required to read each study unit, the textbook and other materials which may be provided by the National Open University of Nigeria. Each unit contains self assessment exercises and at certain points in the course you would be required to submit assignments for assessment purposes. You will also undertake an educational visit to **a** home for the elderly and submit a detailed report of the facility you visited There will be an end of course final examination. The course should take you about a total of 15 weeks to complete. Below, you will find listed all the components of the course, what you have to do and how you should allocate your time to each unit in order to complete the course on time and successfully.

The Course Materials

The main components of the course are:

1. The course guide
2. Study units
3. Reference / further readings
4. Assignments + Educational Visit to Home of the Elderly.
5. Presentation schedule

Study Units

The study units in this course are as follow:

Module 1 **Definition of Terms & Theories of Ageing**

Unit 1 Definitions of terms and concept of ageing

Unit 2 Psychosocial Theory of ageing

Unit 3 Biological theories of Ageing.

Unit 4 Factor affecting Ageing.

Module 2 The Physiological Body System Changes in Old Age.

Unit 1 Physiological body changes associated with cardiovascular and respiratory systems.

UNIT 2 Changes in the Gastro –intestinal system (GIT) Changes
UNIT 3 Physiological changes (Endocrine, Nervous and Reproductive Systems).
UNIT 4 Sensory organ changes.
UNIT 5 Common psychosocial changes in the elderly.

Module 3 Preventive Care and Care of the Elderly.
UNIT 1 Problem of the Elderly
UNIT 2 Care of the Elderly
UNIT 3 Preventive Cares for the Elderly.
UNIT 4 Accident Prevention among the Elderly.
UNIT 5 Resources and Facilities Available for the Elderly.
UNIT 6 Death and Dying.

The first module, consists of 4 units. Unit 1 focuses on the definitions of terms, classification and clinical characteristic of the elderly. The second and third units are concerned with psychosocial and biological theories of ageing. The fourth unit discusses the factors that affect ageing.

Module 2 comprises 5 units. It describes the various physiological changes of the body systems resulting from ageing. It also explains how the body system changes are linked with the various medical problems associated with growing old.
Unit 1 focuses on the cardiovascular and respiratory system. Unit 2 on GIT and renal system changes, Unit 3 on the endocrine, nervous, and reproductive system changes, and Unit 4 is concerned with the psychosocial changes associated with old age.
Module 3 consists of 6 study units. Module 3 generally deals with the aspect of health prevention, promotion and rehabilitation and care of the elderly.

Unit 1 is concerned with empowering you to identify the medical and psychosocial problems of old age. Units 2, 3,4, focus on the care and preventive measures in management of the elderly. The home management of common conditions and the

preventive measures for various accidents that the elderly are prone to. Unit 5 explains the various resources and facilities available for the elderly in the developed and developing countries (for example, Nigeria and America)

Finally Unit 6 discusses the issues related to death and dying, different views about the definition of death, fears of the dying patient, the stages of dying, acceptable ways of expressing concern for the disease's family, the tips for caring for the dying person, and hospice services and personnel as seen in the developed countries.

Each unit consists of one or two weeks work and includes an introduction, objectives, reading materials, exercise, conclusion, summary, tutor marked assignments (TMA) references and other resources. The unit directs you to work on exercises related to the required reading. In general, these exercises test you on the materials you have just covered or require you to apply them in some way and thereby assist you to evaluate your progress and reinforce your comprehension of the material. Together with TMAs, these exercises will help you in achieving the stated learning objectives of individuals units and consequently of the course as a whole.

Presentation schedule

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

Assessment

There are three aspects to the assessment of the course. The first aspect is a self assessment exercise, the second consists of the tutor marked assignments, including an educational visit to Old Peoples' Home with a detailed report and the third is the written examination, that is, the end of course examination.

You are advised to do the exercise. In tacking the assignments, you are expected to apply information, knowledge and techniques you gather 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 assignment file. The work you submit to your tutor for assessment 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 a 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 four (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 materials, contained in your reading, references and study units. However, it is desirable in all degree levels of education to demonstrate that you have read and researched more by checking the references. This should give you a wider view point and 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 Geriatric and Gerontology 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. The assessment will cover all the areas of the course work.

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 will cover information from all parts of the course

Course marking scheme

Assignment (TMAs)	Mark
Assignments 1 – 4 (TMA)	Four assignments, **best three** marks out of the four count at 10% each totaling 30% of course marks
End of course examination	70% of overall course marks.
Total	100% of course materials

Facilitators/ Tutors and Tutorials

There are 15 hours of tutorials provided in support of this course.(**3 hours contact for 5 times**) you will be notified of the dates, times and locations 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 assignment 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 endeavor to attend the tutorials. This is the only chance to have face to face contact with your course facilitator and to ask questions which are answered instantly. You can raise any problem encountered during your study.

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

Summary

Geriatrics and Gerontology is a course that intends to provide you with understanding of the concept, theories, and physiological changes that are associated with ageing. It explains the common medical and psychosocial problems of the elderly, as well as the various preventive and curative interventions for dealing with the problems especially at the facility and community levels.

Upon completion of the course you will be able to design appropriate health care plan to respond to the needs, concerns and problems of the elderly in a culturally acceptable manner. Also the knowledge of the various resources and facilities available to the elderly can help you provide quality care to the elderly in the community . Upon completing this course, you will be equipped with the capacity to provide family centered care which is acceptable in most settings including Nigeria.

Above all, you will be able to answer simple questions about the elderly eg:

Define ageing.

Differentiate the meaning of the terms geriatric and gerontology.

State what physiological ageing means

Mention 2 major classifications of the theories of ageing as presented in the course.

Enumerate 4 medical characteristics to identify an elderly person.

List the factors affecting ageing

Enumerate 3 physiological changes that occur in the following systems of the body due to old age:

i) Cardiovascular system.
ii) Respiration system.
iii) Gastro intestinal &
iv) Renal systems.
v) Endocrine, nervous and reproductive system.
vi) Sensory organs of the body.

Outline the different areas of care for the elderly.

Discuss the accident prevention strategies for the elderly.

Enumerate the resources and facilities are available for the elderly in a developing country like Nigeria.

Mention 4 resources and facilities available for the elderly in a developed country like America.

Define death and dying?

explain what kind of expression would be adequate for the family of a diseased person.

The list of questions that you can answer is not limited to the above list. To gain optimally from this course, you should endeavor to apply the principles you have learnt to provide health care services for the elderly especially in the community and clinic settings. You should refer to the Standing Orders (a treatment guideline for health care providers) for the effective management of the common medical conditions of the elderly.

I wish you success in the course and I hope that you will find it both interesting and useful to practice as a community health care provider.

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Module 1

UNIT 1: DEFINITION & CONCEPT OF AGEING.

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UNIT 1: DEFINITION AND CONCEPT OF AGEING.

1.0 INTRODUCTION

In the course guide an overview of the unit work was provided. You now have a clear understanding of the aim of the unit as well as various aspects of study units concerning the care of the elderly. This unit explains the concept of ageing, the recognition of an elderly person as well as the common terms used in describing the elderly.

2.0 OBJECTIVES:

At the completion of this unit you should be able to :

- Define the terms geriatric and gerontology.
- Explain the concept of ageing
- Discuss the types / classification of Ageing.
- List the clinical characteristic of the elderly.

3.0 MAIN CONTENT

3.1 DEFINITION OF TERMS.

To have better understanding of the course, you need to have a clear definition of certain words and terms used in care of the elderly. These are stated below:

Aged: The state of being old. A person can be defined as being aged on the basis of having reached a specific age for example 65 years of age, often used for social or legislative policies etc.

Aging: The changes that occur normally in plants and animals as they grow old. The changes can begin from at birth till death or from maturity to death.

Geriatrics: According to the free encyclopedia, Geriatrics is a subspecialty of Medicine that focuses on health care of the elderly. It is a branch of Medicine that deals with the structural changes, physiology, diseases, and other medical aspects of old age. It is therefore concerned with the study of medical problems of the elderly

Gerontology: Is the scientific study of the ageing process. The term is derived from the Greek *word* 'geron' meaning "old man" Gerontology is therefore different as it is focused on determining answers about the normal aging process rather than the diseases of old age. Gerontologists examine not only the chemical & biological aspects of aging but also the physiological, economical & historical conditions.

Gerontologist: A person who specialized in the care of the elderly.

Chronological age describes a person's actual age in years.

Mental age: Describes the age of a person with regards to his / her mental development. Mental age is usually determined by a series of test

Physiological or Biological Age:

Is age as assessed from the physiological/biological changes that occurs in the body system, for instance, appearance e.g. graying of hair and wrinkling of the faces etc, Some people are old at 50 while others are young at 60. When age is based on physiological factors like attainment of menopause, or andropause, it is referred to as physiological/biological ageing..

3.2 DEFINITION AND CONCEPT OF AGEING

Ageing does not begin at 65 years: it is a gradual and on-going process which is recognized relatively early in life through graying of hair, or wrinkles on the face. Ageing is a process that is genetically determined and environmentally modulated.

According to Advanced learners' Dictionary of English, age is the length of time a person has lived, or a thing has existed, however, the World Health Organization (WHO) has designated as elderly those aged 65 years and above.
Ageing can be said to be the process of growing old, the changes that occur in man as a result of the passing of time.

Most developed countries of the world have accepted the chronological age of 65 years as a definition of 'elderly', but like many westernized concepts, this does not adapt well to the situation in Africa. While this definition is somewhat arbitrary, it is many times associated with the age at which one can begin to receive pension benefits.

Although there are commonly used definitions of old age, there is no general agreement on the age at which a person becomes old. The use of the length of time an individual has existed to mark the threshold of old age assumes equivalence with biological age.

The Friendly Societies Act of 1875 in Britain, defined old age as "any age after 50", yet pension schemes mostly used age 60 or 65 years for eligibility. (Roebuck, 1979).

Realistically, the more traditional African definitions of an elder or 'elderly' person correlate with the chronological ages of 50 to 65 years, depending on the setting, the region and the country. The use of the number of years a person existed as criterion is compounded by the fact that actual birthdates are quite often unknown because some individuals in may not have official records of their birth dates.

In addition, chronological or "official" definitions of ageing can differ widely from traditional or community definitions of when a person is old. In Nigeria the pensionable age limit often used by governments to set a standard for the definition of old age is 60 years.

"The ageing process is of course a biological reality which has its own dynamic, largely beyond human control. However, it is also subject to the constructions by which each society makes sense of old age. In the developed world, chronological time plays a paramount role. The age of 60 or 65, roughly equivalent to retirement ages in most developed countries is said to be the beginning of old age. In many parts of the developing world, chronological time has little or no importance in the meaning of old age. Other socially constructed meanings of age are more significant such as the roles assigned to older people; in some cases it is the loss of roles accompanying physical decline which is significant in defining old age. Thus, in contrast to the chronological milestones which mark life stages in the developed world, old age in many developing countries is seen to begin at the point when active contribution is no longer possible." (Gorman, 2000).

3.3 Types of ageing/ Classification of Ageing.

A person's age might depend upon who measures it and how it was defined. While demographers might define age according to the chronological years, clinicians will define ageing by stages in the physiological developments, and psychologist define by developmental stage of a person. Ageing can be said to be a relative concept.

Therefore, ageing can be classified using such criteria as chronological, physiological, and developmental parameters as described below:

1) Biological Ageing or Senescence:

This refers to the change in the biology of an organism as it ages after its maturity. Such changes range from those affecting its cells and their function to that of the whole organism. There are a number of theories why senescence occurs including those that it is programmed by gene expression changes and that it is the accumulative damage of biological processes. for instance, the graying of hair, the wrinkling of skin, the decline in the eye focus and the loss of hearing. Combinations of factors affect the biological age, (such factors as genetic inheritance, finances, and good health etc). Biological ageing often leads to change in capabilities and invalid status, senility and change in physical characteristics.

2) Psychological Ageing.

Psychological ageing, refers to the role which an individuals assigns to him or herself as he or she reaches certain chronological age. For instance, some individuals at 50 years play a passive role in their families or might even retire from active service if they were employed. In psychological ageing, there is usually deterioration of self-concept, which leads to loss of self-esteem, and this can increase the individual's vulnerability.

3) Sociological Ageing

Certain roles are imposed on people as they reach certain chronological age. It is because such aged people are looked at as having outlived their usefulness. Thus they are regarded by the society as physically, sexually, economically, and intellectually infirm. That is why people get retired from jobs when employers feel this type of ageing has taken place.

3.3.2 Classification of Ageing.

1) **Medical Classification of the elderly:**

a). Elderly fit: Those that are able to manage their own life.

b) Elderly infirm: Those with some physical defects preventing them managing their own life.

c) Elderly Sick: Those needing hospitalization for their ailments preventing them from managing their own life.

d). Elderly Psychiatric: Those with mental problem and cannot manage their life.

e). Special Group: This refers to elderly with some disabilities including the blind, deaf etc.

2). Chronological classification of old age

How long an individual had lived can be used as criteria for classification. For example Dr. Bob Bailey August 2002 came up with the classification below:

Older Age :- 51- 65 Years
Middle age: 40- 50 years of age.
Young 20- 30 years of age.

Timothy Nichols, Wendy Rogers, Arthur Fisk and Lacy West at the Georgia Institute of Technology reviewed the age classifications. They came up with the following grouping:

Old-old	**75 and older**
Older	**60-74**
Middle-aged	**40-59**
Young	**18-39**

However, the researchers in the United States and other developed countries have subdivided old age as shown below:

Young Old 65- 74 years.

The middle Old 75- 84

The old old 85 and above.

Ageing is indeed a relative term.

3.4 Clinical Characteristics of the elderly:

Ageing is accompanied by marked loss of body functions. It is the manifestation of biological events that occur over a span of time which is often referred to as clinical characterization of the elderly. These are:
Skin: Wrinkles of the face and skin
Hair: Gray hair, brittle and loss of hair for the men,(balding). and women as well.

Eye: failing sight. By mid forty, there is presbyopia (A gradual decline in the ability to focus on objects close by.

Ear: Loss of hearing. The ability to hear high- pitched sounds declines.

Height: There is a decrease of height. About 1 to 4 inches are lost after young adulthood. This is due to loss of bone mass

Taste and smell: Sensation of taste and smell diminishes with age.

Bone, muscle and teeth: Bones maintain themselves through remodeling in which old bones are absorbed and new bones develop. There is loss of bone mass and osteoporosis in women especially after menopause.

Heart: the heart get weaker and pumps less blood with each heart beat at old age.

Digestive system & kidney: with age the stomach, will secrete less acid, and the kidneys filter waste more slowly.

Sexual and Reproductive system: A slow response to sexual stimuli for both men and women. men experience andropause and women Menopause.

3.0 **Conclusion.**

Thus change in numbers of years of a person, social role, physiological development (i.e. change in work pattern and change in social role is one of the predominant means of defining old age)

In this unit, you have learned the meaning of ageing, geriatric, gerontology, the various concepts and definitions of ageing and the classification of ageing which are biological, physiological, and sociological ageing. The clinical characteristics of the elderly were also highlighted.

5.0 Summary

In this unit you have learned that age can be described as how long an object/ person has existed. It can be classified using such criteria as chronological, social, cultural, functional and physiological markers. You should at this point be able to recognize an elderly person, or identify an elderly person through their characteristics and give a medical classification such as the elderly fit, elderly infirm, elderly sick, elderly psychiatric and special groups as described in this unit. The next unit will discuss the theories of ageing.

6.0 Tutor Marked Assignment.

Using your own words:
1. Define the term ageing?
2. List 3 signs of ageing in a person.
3 Mention three kinds of ageing.
4 List the medical classification of an elderly person.

7.0 References and further reading.

1. Roebuck J. When does old age begin?: the evolution of the English definition. Journal of Social History. 1979;12(3):416-28.
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UNIT 2. PSYCHOSOCIAL THEORIES OF AGEING.

TABLE OF CONTENT

1.0 Introduction.
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5.0 Summary.
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1.0 INTRODUCTION.

There are several theories attempting to explain the reason for ageing. They are two main categories namely the psychosocial theories and the biological theories of ageing. The theoretical explanation of these theories attempts to provide the basis for better understanding of the ageing process and the rationale for the various interventions used in the care of the elderly. Unit 2 will focus on the psychosocial theories of ageing.

2.0 OBJECTIVES:

At the end of this unit you should be able to;

Explain the concept of theory
Mention 2 major classifications of the theories of ageing.
Discuss 4 psychosocial theories of ageing.

3.0 MAIN CONTENT.

3.1 Concept of Theory

Theory may be defined as a cluster of conclusions in search of a premise. The justification for using theory is that it provides anchors for thinking and guidelines for

examining data. There are two major classifications of theories of ageing namely: the Psychosocial and the biological theories of ageing.

3.2 Psychosocial Theory of Ageing

The four psychosocial theory which will be discussed here are: disengagement theory. activity theory. life-course theory and the continuity theory of ageing.

3.2.1 Disengagement theory.

This was developed by Cummings and Henry in late 1950. He postulated that "aging is an inevitable, mutual withdrawal or disengagement; resulting in decreased interaction between the aging person and others in the social system that he /she belongs to."

He further explained that disengagement theory is an inevitable process in which many of the relationships between a person and other members of society are severed and those remaining are altered in quality. This period is characterized by "withdrawal". The withdrawal may be initiated by the aging person or by society, and may be partial or total. It was observed that older people are less involved with life than they were as younger adults. As people age they experience greater distance from society they develop new types of relationships with society. In America, there is evidence that society forces withdrawal on older people whether or not they want it. Some suggest that this theory does not consider the large number of older people who do not withdraw from society.

However this theory is recognized as the first formal theory that attempted to explain the process of growing older.

3.2.2 Activity Theory:

This was developed by Robert Havighurst in the 1960s. He supports the maintenance of regular activities, roles, and social pursuits. Persons who achieve optimal age are those who stay active even as their roles change, the individual finds substitute activities for these roles.

Activity Theory can be summarized thus;

Another theory that describes the psychosocial aging process.
Activity theory emphasizes the importance of ongoing social activity.
This theory suggests that a person's self-concept is related to the roles held by that person i.e. retiring may not be so harmful if the person actively maintains other roles, such as familial roles, recreational roles, volunteer and community roles.
To maintain a positive sense of self, the person must substitute new roles for those that are lost because of age. Studies show that the type of activity does matter, just as it does with younger people.

The Activity theory makes the following basic assumptions:

There is an abrupt beginning of old age.
The process of aging leaves people alone and cut-off.
People should be encouraged to remain active and develop own-age friends.
Standards and expectations of middle age should be projected to older age.
Aging persons should be encouraged to expand and be involved.

3.2.3 Life-Course Theories

One theory we are all very familiar with is Erikson's developmental stages, which here approaches maturity as a process. Within each stage the person faces a crisis or dilemma that the person must resolve to move forward to the next stage, or not resolve which results in incomplete development.

Hanighurst stated that for older people to progress they must meet the following tasks:

Adjust to declining health and physical strength.
Adjust to retirement and reduced income.
Adjust to the death of a spouse or family members.
Adjust to living arrangements different from what they are accustomed.
Adjust to pleasures of aging i.e. increased leisure and playing with grandchildren.

3. 2. 4. Continuity Theory.

This theory was proposed by Havighurst and co-workers in reaction to the disengagement theory. The "basic personality, attitudes, and behaviours remain constant throughout the life span" Continuity Theory:

States that older adults try to preserve and maintain internal and external structures by using strategies that maintain continuity.
In later life, adults tend to use continuity as an adaptive strategy to deal with changes that occur during normal aging. Continuity theory has excellent potential for explaining how people adapt to their own aging.
Changes come about as a result of the aging person's reflecting upon past experience and setting goals for the future.

4.0 CONCLUSION

In this unit, you have learned some of the psychosocial theory of learning which are the disengagement theory, activity theory, life-course theories and the Continuity theory of ageing.

The disengagement theory is based on mutual withdrawal or disengagement of a person from the society. Activity Theory stresses the relevance of ongoing social activity in the ageing process.

The Life-Course theories is based on a person's capacity to face the crisis associated with development which has a great impact on ageing. Whereas the continuity theory focuses on the adaptive process used by the elderly to deal with changes that occur during normal aging. Continuity theory has excellent potential for explaining how people adapt to their own aging.

5.0 SUMMARY

The major psychosocial theories of ageing discussed in this unit are:

Disengagement theory
Activity theory.
Life-course theory and
The continuity theory of ageing.
The basic assumption for various psychosocial theories of ageing.

6.0 TUTOR MARKED ASSIGNMENT.

Mention 2 major classifications of the theories of ageing.
Discuss 3 psychosocial theories of ageing, providing the basic assumption for the theory.

7.0 REFERENCES AND FURTHER READING.

1. Cumming, E and Henry W.E. & Dimianopoulos. initial (1961) A formal statement of disengagement theory. In E Cumming & W.E Henry (Eds), Growing old: The process of disengagement. New York Basic Books.

2. Disengagement theory : "http//en.wikipedia.org/wiki/Disengagement theory"

UNIT 3. BIOLOGICAL THEORIES OF AGEING

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3.0 Main content.

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3.1.1 Genetic Theories:

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3.1.3. Somatic Mutation Theory:

3.1.4 Glycation Theory:

3.1.5. Theories of the Organ System:

3.1.5a Autoimmune Theory:

3.1.5b Neuro-endocrine Control Theory:

3.2 Non-genetic Theories

3.2.1 Effects-of-Temperature Theory:

3.2.2 Nutrient Deprivation Theory:

3.2.3 Lipofuscin Theory:

3.2.4 Current Thinking and Old Ideas:

3.3. Developmental Task:

2.0 Conclusion:
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1.0 **INTRODUCTION.**

In Unit 2, you would have identified the two main classifications of theories of ageing: namely the Psychosocial and biological theories. Also in Unit 2 you would have acquired good knowledge of the psychosocial theories. Unit 3 will focus on Biological Theory.

2.0 OBJECTIVES.

At the end of this unit, you should be able to;

Classify the 2 main types of biological ageing.
Explain the biological theories of ageing.
Discuss the non- genetic theories of ageing.
Discuss the developmental tasks

3.0 MAIN CONTENT.

3.1. Biological Theories:

This addresses the anatomic and physiologic changes occurring with age.

Biologic theories classify aging into two, mainly: as genetic (heredity) and non-genetic (wear and tear).

3.1.1 Genetic Theories

The genetic theories are the most promising in relation to finding answers about aging. The genetic theories include the following:

3.1.2 Error and Fidelity Theory

It is a known fact that an 'Error' is a mistake and 'Fidelity' refers to being faithful. With this awareness, we can discuss this theory. Also remember that this occurs over a lifetime.

How does this theory apply to aging? Normally, we constantly or faithfully produce cells throughout our bodies using our same correct DNA map (or proteins) to do so time & time again. What this theory is saying is that over time an error or mistake occurs in our DNA map (or proteins) and it begins to produce cells that are not correct. It is like going from producing a high quality product to producing a lesser quality product. This deterioration results in ageing and eventually over a lifetime lead to death.

3.1.3. Somatic Mutation Theory

This theory holds that mutations are those inheritable changes that occur in the cellular DNA. If there is extensive damage to DNA and it is not repaired, then there will probably be an alteration in a genetic sequence. There has been some suggestion related to background radiation of various types.

3.1.4 Glycation Theory

This theory is based on the assumption that:

Suggests that glucose acts a mediator of aging.
Glycation is the non-enzymic reaction between glucose and tissue protein.
Studies conclude that glycation may have profound cumulative effect during a person's life. The negative effects of this process on proteins may be a major contributor to age changes.
The effects of this process may be similar to elevated glucose levels and shorter life spans of diabetics.

3.1.5 Theories of the Organ System

3.1.5a Autoimmune Theory:

This theory postulates that:

As the body ages, the immune system is less able to deal with foreign organisms and increasingly makes mistakes by identifying own tissues as foreign, thus attacking them.
These altered abilities result in increased susceptibility to disease and to abnormalities that result from autoimmune responses.

3.1.5b Neuro-endocrine Control Theory:

This theory explains that:

The neurologic and endocrine systems are major controllers of body activity.
During the human life span, there is a 10% decrease in the weight of the brain due to both loss of cells and fluids in the cerebrum.
It is suggested the age related changes in response to hormones may be the result of changes in the receptors for hormones rather than changes in the activity of the endocrine hormones themselves.

3.2 NON-GENETIC THEORIES

3.2.1 Effects of Temperature Theory

This theory suggests that humans might live longer if their body temperatures were just 5 degrees lower than the usual 98.6 degrees centigrade, because there is a relationship between high metabolism (which increases temperature) and shorter-lived species.
It also suggests that if humans could attain the lower temperature they would live 20% longer.

3.2.2 Nutrient Deprivation Theory

Purposes that oxygen deprivation leads to senescence of deprived cells.

3.2.3 Lipofuscin Theory

Also referred to as the 'wear and tear' theory.

This theory suggests that as people age they produce age spots that are an accumulation of 'biochemical debris' or waste products. It is believed that these waste products accumulate until they interfere with cellular functioning.

3.3 Developmental Task Theory.

This is an activity or event that arises at a certain period in the life of an individual if it is successful achievement- leads to happiness, growth, and success with later tasks, where as failure leads to unhappiness, disapproval by society, and difficulty with later tasks. (Havighurst, 1972). Different scholars proposed different development tasks. According to Erickson, the developmental stages are:

Young adulthood (20-30) there is the task of achieving – Intimacy with future life partner otherwise failure will lead to Isolation.

Middle adulthood is between the age bracket of (30-60) years of age. This is the stage of Generativity versus Stagnation. Older Adulthood that is at (60+) of age , the development

tasks are – Integrity versus Despair. Area of Resolution and Behaviour:. There are the intimacy that is capacity for relationships versus Isolation - impersonal relations

Havighurst's Developmental Tasks of Aging. This is based on capacity of the elderly to:

Adjust to decreasing physical strength and health
Adjust to retirement and reduced income
Establish an affiliation with one's age group
Meet civic and social obligations.
Establish satisfactory living arrangements.
Adjust to death of spouse.

However some factors influence a person's success at achieving developmental tasks which are:Providing appropriate health care interventions, including:

- Assisting the elderly to accomplish his/her developmental tasks.
- Encouraging clients to maintain and establish roles and relationships.
- Offering maximum opportunities for decision making.
- Learning to build on client's unique interests and skills.
- Listening to client's concerns.

4.0 CONCLUSION.

In this unit you have studied about the two major types of biological ageing theories. These are the genetic (heredity) and the non genetic (biological) theories. The common points in these theories are that the genetic composition of man plays a major role in the ageing process. Whereas the non genetic has to do with effects of factors like temperature, nutrient deprivation and achievement of developmental tasks on the ageing process.

The relevance of the biological and psychosocial theories of aging to health care providers is that apart from improving understanding the various theories, it provides basis for planning adequate medical, psychosocial support and interventions for the elderly.

5.0 SUMMARY

This unit has focused on the two major types of biological ageing theories, namely the genetic (heredity) and the non genetic (biological) theories. Some of the genetic theories of ageing you have studies include;

"Error and Fidelity Theory" which is based on error or mistakes occurring in the DNA map.

Somatic mutation theory resulting from extensive damage to DNA and resulting in an alteration in a genetic sequence.

Glycation theory that is based on the role of glucose as mediator in the body system.
Theories of cellular aging which is based on cellular impairments.

The non genetic theories explained in this unit are the "Effects-of-Temperature Theory," nutrient deprivation theory and Lipofuscin theory.

6.0 TUTOR MARKED ASSIGNMENT

1. Classify the biological theory of ageing.
2. Explain the basic assumptions to 3 genetic theories of ageing.

7.0 REFERENCES AND FURTHER READING.

1. Cumming, E and Henry W.E. and Damianopoulos (1961) A formal statement of disengagement theory. In .E. Cumming and Henry (Eds) growing old: *The process of disengagement* . New York: Basic Books.

2. Disengagement Theory http://en.wikipedia.or/wiki/disengagement_theory

UNIT 4. FACTORS AFFECTING AGEING.

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3.2.1 Life style factors and the effects on the body systems

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1.0 INTRODUCTION

In units 2 and 3 you learned about the various theories and attempts to explain the process of ageing. They were two main broad categories of the theories of ageing discussed which are the psychosocial and the biological theories of ageing. This unit will assist you to identify specific factors that can affect the rate at which an individual will age. The factors are classified into genetic and lifestyle related factors.

The learning objectives for this unit are stated below:

2.0 OBJECTIVES:

At the end of the unit you should be able to:

Identify "genetics" as a factor that affects ageing.
Mention 3 of the Life style related factors effecting ageing.
Discuss the effect of lifestyles on the body systems.

3.0 MAIN CONTENT

The factors which affect ageing in man can be grouped into:

3.1 Genetic factors:

Genetic factors : This refers to the ageing due to the genetic make up of an individual for example some individuals begin to grow gray hair at a much younger age while others even at 60 years of age do not have any. The difference can be due to the genetic composition of a person.
Again, the amount of natural pigmentation in ones skin is an indicator of how the skin will age (a genetic composition). Mature skin of people with light colored eyes and fair skin will tend to show more signs of aging than those with darker colored eyes and more pigmentation.

3.2 Lifestyle related factors.

This refers to factors such as:
Behaviours,
Nutrition,

Exercise,
Smoking,
Stress,
Cultivating, satisfying relationships.

The entire factor identified above affects the health of an individual. Both the mental and physical status also affects the ageing process.
According to the National Institute on Aging, NIA, Center for Disease Control, CDC, Association for Advancement of Retired Persons, AARP, factors such as behaviour, exercise, nutrition, smoking, alcohol, stress, mind and brain, activity, were identified as lifestyle factors which affects the quality of life of the elderly.
The Center for Disease Control (CDC) also states that healthy lifestyles are more influential than genetics to avoid the deterioration associated with aging (CDC, 2002). The CDC recommends that people be "physically active, eat a healthy diet, do not use tobacco, and practice other healthy behaviours" to reduce the risk of chronic diseases. They emphasize that "physical activity is the key to healthy aging.

Several similar studies have shown that lifestyle factors have more influence on the quality of life than genetics. Lifestyle factors account for about one third of the problems associated with aging (Johns Hopkins, 1998). Eleanor Metzkier Kurtus (22 June 2002). Healthy lifestyle therefore increases longevity, prevents or delays disabling illness, and improves the quality of life. Living a healthy long life, cannot be taken for granted, but must be achieved with deliberate actions.

3.2.1 Lifestyle factors and their effect on the body systems:

1. **Exercise.** This by itself is the most important factor. Physical activity aids cardiovascular and respiratory functions, slows the loss of muscular strength, increases bone mass, aids digestion and bowel functions, promotes sound sleep, and prevents depression.
2. **Nutrition.** This area encompasses a healthy diet, use of supplements, and drinking plenty of water. The experts recommended a low fat diet with a minimum of 5 servings of fruits and vegetables, and 2 to 4 servings of low-fat dairy products each day. A multivitamin is recommended to fill in gaps from the diet, as well as 6 to 8 glasses of water or clear fluids to promote optimal organ function.
3. **Not smoking**. Cessation of smoking reduces the risk of heart disease, stroke, some cancers, bronchitis, and emphysema in the elderly.
4. **Avoidance of excessive alcohol** intake. Limiting alcohol to one glass of wine or spirits per day reduces the risk of liver disease and certain cancers. However, it is advocated that the older one gets, the more cautious one should be, even about drinking small amounts.
5. **Stress reduction.** Reduction of stress and anxiety helps to strengthen the immune system and decreases susceptibility to disease. Unfortunately given the current

economic meltdown, palpable hardship / poverty the elderly in the developing countries including Nigeria are vulnerable and mostly affected.

6. **Cultivating satisfying relationships.** Social interaction and support have been found to reduce stress, help cognitive functioning, and prevent depression.
7. **Challenging the mind.** Learning new skills and regular mental activity promote healthy mental functioning.
8. **Environment** - External factors such as sun exposure plays a major role in the way aging skin appears. Increased sun exposure can accelerate the aging process due to ultra-violet light which is damaging to skin. Thus contributing to increased wrinkles and skin damage.

Exercise. 1.1

a) Identify 2 examples of the effect of genetic related factors on ageing.
b) Mention 2 other lifestyle related factors not mentioned in the unit that can affect ageing. eg inadequate rest, inadequate sleep, illness etc.

4,0 CONCLUSION

In this unit, you have studied the factors which can affect ageing. These factors were classified into (a) Genetic factors, which refers to ageing due to the genetic composition of a person.(b) lifestyle related factors, e.g exercise, nutrition, smoking habits, alcohol intake etc.

You should be able to identify genetic related factor in your experience which could affect ageing, as well as discuss life style related factors that impact on ageing

This unit has explained the fact that lifestyle related factors have more influence on the quality of life than genetic factors. Also the Lifestyle related factors account for about one third of the problems associated with aging (Johns Hopkins, 1998). Eleanor Metzkier kurtus (22 June 2002)

5.0 SUMMARY.

This unit has addressed some of the factors that can affect the ageing process. These factors were identified as genetic and lifestyle related factors. The unit also focused on the effect of different lifestyles on the body system. Several research findings affirm that, life style factors have greater impact on ageing then genetic factors..

6.0 Tutor Marked Assignment

1. Discuss 2 major factors that can influence ageing.
2. Explain in your own words how lifestyle practices of an elderly can improve the quality of life by preventing or delaying disabling illness.

7.0 References and Further reading

http://www.schoolforchampions.com/lifestyle_elderly
http//www.look-younger-new.com/index.htm.

MODULE 2

UNIT 1. PHYSIOLOGICAL CHANGES ASSOCIATED WITH OLD AGE (CARDIOVASCULAR AND RESPIRATORY SYSTEMS)

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3.1 Basic facts concerning normal ageing.

3.2 Changes in the cardiovascular system.

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5.0 Summary.

6.0 Tutor Marked Assignment.

7.0 References and further readings.

1.0 Introduction

Several physiological changes occur with age. In your basic anatomy and physiology lectures, you have studied the normal physiological functioning of the body systems. In this unit we will discuss some of the major changes that occur with normal aging. We will review these changes as they occur in the various systems of the body. Before we start, it may be nice to review some basic facts concerning normal aging. The key issues you will learn in this unit are stated below:

2.0 Objectives:

At the end of the unit you should be able to;

Identify some basic facts concerning normal ageing.
Discuss cardiovascular changes in old age.
Discuss the respiratory changes associated with ageing.

3.0 Main Content

3.1 Basic facts concerning normal ageing.

It may not always be possible to differentiate normal aging from disease. In almost all 90 year old brains there are a few plaques and tangles. If these plaques and tangles were seen in a young brain they would represent Alzheimer's disease. However, in an older adult these changes are not necessarily a sign of disease since they may occur normally with aging.

It is diseases that make old age miserable, not the normal changes of aging. Although we have more wrinkles, more grey hair, and stiffer arteries the normal changes of ageing are unlikely to kill us. It is often reported that no one had ever died from old age, even Jeanne Calment in France who died at age 122!. People die from infections or other diseases, some of which might not have caused problems when if one was young.

The normal changes with aging reduce one's reserve capacity. Therefore, injuries or infections that only slowed you down when you were young can cause disability and dependency when you are old. An acute illness can cause a "cascade of health problems" that can lead to rapid declines in health and function.

Aging results in a diminished ability to maintain homeostasis and regulate body systems. For example, the elderly are more vulnerable to hypothermia when it is very cold or hyperthermia (heat stroke) when it is very hot outside because they are unable to compensate as effectively by regulating their body temperature.

Aging is accompanied by heterogeneity. Everyone ages differently and the rate of change in the function of organ systems can vary markedly in individuals. Thus, age-related changes in one system are \not predictive of changes in other systems. You may have cataracts in your eyes that severely affect your vision and yet have excellent cardiovascular function.

The rate of physiologic decline can be modified. An older person does not age faster than someone who is younger. However, biological age is different from chronological age. Thus, there is tremendous diversity among individuals of similar chronological age. A physically fit 50 year old can have the functional capacity of a thirty year old while someone who smokes and is sedentary may function as if they were several decades older.

3.2 Changes in the cardiovascular system.

The cardiovascular system includes the heart which pumps the blood throughout the body and the network of blood vessels through which the blood is transported. In healthy people, the changes that normally occur in the cardiovascular system with aging do not significantly limit the normal work capacity of the heart. Most of the changes that cause clinically significant declines in cardiovascular function are the result of disease.

As one ages, the heart muscle becomes **slightly stiffer** and may **increase slightly in size**. Despite this slight increase in heart size, the amount of blood the chamber can hold may actually **decrease** because the heart walls are thicker with age. The maximum heart rate (the highest rate at which ones heart can pump) decreases even among the fittest athlete. However, there is no significant change in the cardiac output (amount of blood pumped over a period of time) and resting heart rate.

Concerning response to stress or exertion, older adults compensate for their lower maximum heart rate by increasing their stroke volume (i.e., amount of blood pumped with each contraction of the heart) to maintain cardiac output. Also among older adults, it takes longer for the heart rate and blood pressure to return to normal resting levels following stress.

The blood vessels, including the aorta and other arteries also become stiffer and are less responsive to hormones that relax the blood vessel walls. The stiffening of blood vessels contributes to the increasing systolic blood pressure with aging observed in most cultures. In western countries, systolic blood pressure tends to increase throughout a persons life span, while diastolic blood pressure rises until age 60 and then levels off. Nearly 50% of older adults have chronic hypertension. Increases in systolic blood pressure do not occur in many non industrialized societies which suggest that risk for hypertension is affected by environmental factors such as diet and lifestyle as well as heredity. An elevated blood pressure increases risk for stroke, heart attack and kidney failure. These facts are well documented in medicine and explain the common cardio- vascular health problems of the elderly.

A person's heart rate may be slightly slower as one grows older due to a loss in the number of pacemaker cells. Shifts in the circulation of blood to various organs can also change for example the blood flow to the kidneys may decrease by 50 percent and to the brain by 15 to 20 percent. Finally, heart murmurs are more common with age because the heart valves become **less flexible** as **calcium deposits** build up.

The baroreceptors functions (which monitor the blood pressure and adjust one's blood pressure when one changes position), become less sensitive with aging. This can cause orthostatic hypotension (a condition where the blood pressure falls when you go from lying or sitting to standing positions) and cause dizziness. Therefore if the aged experiences dizziness when getting out of bed, they are advised to change position more slowly for example, sitting for a few minutes before standing up and moving etc.

3.2.1 Major Cardiovascular Changes with Aging

The major changes with the cardiovascular systems associated with ageing are summarized below:

The maximum heart rate decreases and it takes longer for heart rate and blood pressure to return to normal resting levels after exertion.

The aorta and other arteries become thicker and stiffer which may bring a moderate increase in systolic blood pressure with aging. This is often responsible for hypertension in the elderly.
The valves between the chambers of the heart thicken and become stiffer. This results in heart murmurs commonly seen among the elderly.
The pacemaker of the heart loses cells and develops fibrous tissue and fat deposits. These changes may cause a slightly slower heart rate and even heart block.
The baroreceptors which monitor blood pressure become less sensitive. A sudden change in position may cause dizziness resulting from orthostatic hypotension.

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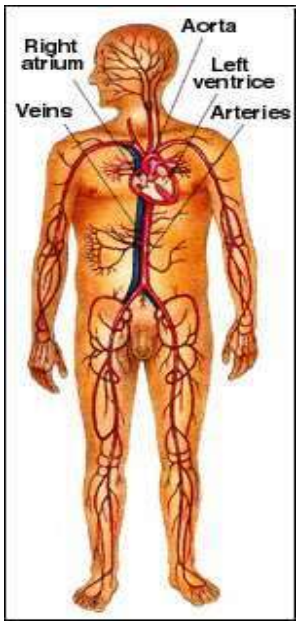

Fig 1. The Cardiovascular system.
source:http//sin2.f.edu/biosci/preview/heart/preview.html.)

3.3. Respiratory System Changes.

The respiratory system reflects changes that occur in many other body systems, like the cardiovascular, nervous and musculoskeletal systems. Most of the normal respiratory changes with age are of little functional significance in healthy older adults. However, these changes do reduce reserve capacity and increase vulnerability to respiratory disease among the elderly.

As one grows older, the lungs become stiffer, the respiratory muscle strength and endurance diminishes, while the chest wall becomes more rigid. The implication of this is that the vital capacity that is (the volume of air that can be forcibly exhaled) decreases

because the residual volume increases (the amount of air remaining in the lungs after maximum expiration). At age twenty, about twenty percent of our total lung capacity is residual air; at age sixty the residual air volume increases to about 35 percent (Williams, 1998).

Also in a normal aging lung, the alveolar surface area decreases by up to 20 percent this reduces our maximal oxygen uptake (the volume of air that can be moved in and out by forced voluntary breathing). This decreases by as much as 55% by age 85. Thus, over time the capacity for exercise in the elderly declines because they have less "reserve". In addition, the alveoli of the elderly tend to collapse sooner on expiration than in younger peoples. This tendency increases the risk for respiratory diseases including collapse of the lungs (atelectasis).

In addition, the amount of cilia decline in number as one grows older. The major function of cilia in the respiratory system is to protect against infection by clearing irritants and obstruction. Also the number of mucus producing cells increases resulting in mucus clogging the airways. These changes therefore make the elderly vulnerable and prone to respiratory infections.

Consequently, these respiratory changes make older adults less efficient in monitoring and controlling breathing. They are less sensitive to hypoxia and are to able to recognize acute bronchoconstriction timely. All of these factors put the elderly at risk of death from respiratory related problems because they tend to seek medical care late.

3.3.1 **Summary of age related changes in respiratory system**.

The lungs become stiffer, muscle strength and endurance diminish, and the chest wall becomes more rigid.
Total lung capacity remains constant but vital capacity decreases and residual volume increases.
The alveolar surface area decreases by up to 20 percent. Alveoli tend to collapse sooner on expiration.
There is an increase in mucus production and a decrease in the activity and number of cilia.

4.0 Conclusion

Physiological changes occur with ageing in all organ systems. A number of physiological changes occur as one grows older. In this unit we have identified and described the most important changes that occur in the cardiovascular system such as decreased heart rate. The aorta and other arteries becoming thicker and stiffer which is responsible for hypertension and other cardiovascular diseases that are common among the elderly. Also the cardiac output decreases, blood pressure increases and arteriosclerosis develops.

The respiratory system in old age experiences rigid stiffer lungs, the vital capacity decreases, while residual volume increases, The lungs show impaired gas exchange, a decrease in vital capacity and slower expiratory flow rates. There is also an increase in mucus production and a decrease in the activity and number of cilia. As a result the elderly will be less efficient in monitoring and controlling breathing. They are less sensitive to hypoxia and less able to recognize acute broncho-constriction.

5.0 Summary

In this unit we have studied the physiological changes associated with ageing of the cardiovascular and respiratory systems. It is vital to note these changes with age as they have important practical implications for the clinical management of elderly patients: The major changes of the cardiovascular system include:

Decrease in heart rate, thicker and stiffer arteries especially the aorta and other arteries, results in elevated blood pressure.
We also discussed how the valves between the chambers of the heart thicken and become stiffer. This results in heart murmurs commonly seen among the elderly.

We realized that the baroreceptors which monitor blood pressure become less sensitive; as a result any sudden change in position may cause dizziness resulting from orthostatic hypotension

The implications of the above are that the elderly may be at greater risk for mortality from acute respiratory and cardiovascular problems.

6.0 Tutor Marked Assignment

Mention 3 age related changes in the cardiovascular system
Discuss 2 age related changes of the respiratory system.

7.0 References & Further Reading.

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UNIT 2. PHYSIOLOGICAL CHANGES IN ELDERLY: GASTROINTESTINAL TRACK & RENAL SYSTEM.

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3.0 Main content.

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3.2 Urinary System physiological changes associated with old age..

3.2.1 Urinary System Changes with Ageing

4.0 Conclusion.

5.0 Summary.

6.0 Tutor Marked Assignments.

7.0 References and further readings.

1.0 Introduction.

The gastrointestinal tract (G.I.) system consists of the following organs as you studied in you basic anatomy and physiology class. They are: the esophagus, the stomach, the small intestine, the large intestine or colon, the liver, gallbladder, and the pancreas. Generally, the physiological changes of an aging digestive system are minor. The focus of this unit is the review of common changes in the gastrointestinal tract with age and its effect on the elderly persons.

2.0 Objectives.

At the end of the unit you should be able to:

List the organs of the gastrointestinal tract system.
State the changes that occur in the GIT system due to age.
Discuss the major changes of renal system due to growing old.

3.0 Main content.

3.1 Major Organs of gastrointestinal Track(GIT) systems.

The gastrointestinal system consists of the following organs:

The lips, mouth or buccal cavity: (play a role in swallowing and speech.)
The tongue: (a very mobile organ that plays a part in mastication and speech, and swallowing,
The teeth are effective in mastication,
The pharynx-(conducts food from the mouth to the esophagus.
The stomach secretes gastric juice (The gastric juice plays role in protein digestion. It has antiseptic property as it kills bacteria ingested with food.) ,
The small intestine and large intestine: (completes the digestion of food), ensures absorption of the digested food and move the chyme along from one end to the other, to the colon.
The liver: - which performs a wide range of functions like, metabolism of protein, fats, storage of glycogen, fat, iron and vitamin A, D. B. The liver secretes bile and enables the body to detoxify harmful substances like drugs etc.
The gallbladder stores bile which is necessary for digestion and absorption of fats.
The pancreas- secretes insulin which is essential for proper metabolism of carbohydrate and glucagons, while the pancreatic juice contains enzymes for the digestion of proteins, carbohydrates and fats in the small intestine.

3.1.2 GIT systems changes due to old age.

Stomach.

Atrophic gastritis is a stomach disorder that is unique to the elderly. It involves a shrinking and inflammation of the inner lining of the stomach. While it may not cause any symptoms, it can increase the risk for stomach cancer. While this was once thought to be a normal process of aging, more recent evidence indicates that it is caused by a prolonged infestation with helicobacter pylori (H. pylori) or campylobacter pylori (C. Pylori), which is common in older adults.

Achlorhydria refers to an insufficient production of stomach acid. It may be caused by atrophic gastritis. The National Academy of Sciences estimates that up to 30% of people over age 50 have achlorhydria. Achlorhydria is the most common cause of B12 deficiency. The stomach must secrete adequate amounts of gastric acid and a protein known as "intrinsic factor" as well as produce the digestive enzyme pepsin for vitamin B12 to be absorbed. Changes in the GIT can affect absorption of vitamin B12. Since the liver is able to store large amounts of B12 it can take up to 5 years before symptoms of deficiency appear. However, it is important to recognize symptoms early since any neurological damage may be irreversible. Symptoms of B12 deficiency can be misdiagnosed since they can look like Alzheimer's or other chronic conditions.

Symptoms include extreme fatigue, dementia, confusion, and tingling and weakness in the arms and legs.

Ulcers. About 20 million Americans suffer from an ulcer during their lifetime. An ulcer is an area of the stomach that has been eroded by digestive juices and stomach acid. Normally, the lining of the stomach and duodenum (small bowel) are protected from the digestive juices of the stomach. The most common symptom of an ulcer is a burning pain in the upper abdomen. The pain can last minutes to hours and often occurs between meals. The pain may be relieved by eating food or taking antacids.

Gastric ulcers (ulcers in the stomach) are more common after the age of 60 and can be benign or malignant. Duodenal ulcers are more common between the ages of 30 and 50 and are twice as common among men. Duodenal ulcers are always benign.

There are two major causes of ulcers. Most ulcers are caused by an infestation of H. pylori. This bacterium can also reduce absorption of vitamin B12. Another cause of ulcers is regular use of pain medications called non-steroidal anti-inflammatory drugs such as aspirin or ibuprofen, which irritate the stomach. Antibiotics can permanently cure 80 to 90 percent of peptic ulcers. The healing of an ulcer usually requires medication.

Liver

The liver plays an important role in processing the body's waste products of metabolism, as well as affecting the uptake of medications, and serum cholesterol. The major functional changes with age include reduced blood flow, altered clearance of some drugs, and a diminished capacity to regenerate damaged liver cells. Among older adults, the half life of certain drugs such as benzodiazepines, diazepam, and aminopyrine may be doubled due to decreased metabolism by the liver.

Intestines

In general, aging does not affect the transport of food through the intestines. The intestines do not change significantly in their ability to absorb foods as well as drugs, although there are a few exceptions. For example, changes in the metabolism and absorption of lactose, calcium and iron can occur. As we age the small intestines absorb less calcium. Therefore, we need more calcium to prevent bone mineral loss and osteoporosis in later life. Some enzymes, such as lactase which aids the digestion of lactose (a sugar found in diary products) decline with age.

The prevalence of diverticulosis increases with age. Almost all of us, if we live long enough, will have diverticula—(small pouches in the colon). This condition is caused by increased pressure in the colon as a result of impaired intestinal muscle function and weakness in the intestinal wall. Diverticula can be uncomplicated or they can become inflamed (called diverticulitis) and result in great pain. Diverticulitis can be prevented by maintaining a high intake of fiber.

Studies of motility in older adults show reduced peristalsis (intestinal muscle contractions) of the large intestine (colon). This slower rate of food transport can contribute to constipation. However, constipation is aggravated by a low intake of fiber and water, inactivity, medications, and overuse of laxatives.

Major changes in GIT can be summarized as followings:

Increased prevalence of atrophic gastritis and achlorhydria.
The liver is less efficient in metabolizing drugs and repairing damaged liver cells.
Reduced peristalsis of the colon can increase risk of constipation

3.2 Urinary System physiological changes associated with old age.

The urinary system consists of organs like the kidneys, ureters, urethra and bladder. The principal function of the kidneys are to excrete (eliminate) unwanted substances from the body and maintain homeostasis in the in the body by excreting unwanted substances and conserving others. This helps to regulate water content of the body, They vary the kinds and amounts of electrolytes excreted in the urine. and they maintain the acid-base balance of the plasma and of the tissue fluid.

In the elderly, renal changes are substantial. In both men and women, urinary changes are often associated with changes in the reproductive system.

There are several important changes that occur in kidney function as we grow older. The kidneys filter the blood and dispose of wastes and excess fluid as urine. The kidneys also play a vital role in the "acid-base" balance of the body. Beginning in our mid-40s, most of us experience a decline in kidney function, although they continue to function more than adequately under ordinary circumstances.

Most of the clinically important changes in renal function with age are probably due to changes in the intrarenal vasculature. Blood flow to the kidneys decreases by as much as 10 percent per decade and can be decreased by nearly half that of younger people (600 ml/min) in those who are age 80 or older (300ml/min). As we age, the kidneys lose one quarter to one third their mass as both the number and size of nephrons (filtering units) decrease. By age 80, the total number of glomeruli falls by 30 to 40 percent and another 30% may become sclerotic and nonfunctional. These changes reduce the rate at which the blood is filtered by the kidneys.

In addition, the regulation of hormones that respond to dehydration (i.e., vasopressin) and the ability to conserve salt may decline. These renal changes make older adults particularly vulnerable to dehydration. As a result of physiologic changes, the kidneys are less efficient in concentrating urine and eliminate solutes from the blood stream.

For the most part, kidney function is well preserved although it may be slower. Most changes do not cause clinically significant disease or disability, but they do leave the kidney vulnerable to illness or medications that can depress renal function and lead to

acute or chronic renal failure. Medication dosages often need to be reduced in the elderly because the reduction in kidney function can affect clearance of some drugs and lead to toxicity or adverse effects. Drugs that are renal toxic should be used cautiously in older adults.

Bladder

The aging bladder is characterized by a decrease in capacity and urinary flow, and an increase in urgency and amount of residual urine. The changes contribute to an increase in nocturia (frequent urination at night) as well as a higher rate of urinary tract infections among the elderly.

3.2.1 Urinary system changes associated with Ageing

Kidney mass decreases by 25-30 percent and the number of glomeruli decrease by 30 to 40 percent. These changes reduce the ability to filter and concentrate urine and to clear drugs.

With aging, there is a reduced hormonal response (vasopressin) and an impaired ability to conserve salt which may increase the risk of dehydration.

Bladder capacity decreases and there is an increase in residual urine and frequency. These changes increase the chances of urinary infections, incontinence, and urinary obstruction.

4.0 **Conclusion.**

Physiological changes occur with aging in all organ systems. Functional changes, largely related to altered motility patterns, occur in the gastrointestinal system with senescence, atrophic gastritis and altered hepatic drug metabolism (common in the elderly). Also the kidney mass decreases by 25-30 percent and. these changes reduce the ability of the kidney to filter and concentrate urine and to clear drugs. .

Bladder capacity decreases and there is an increase in residual urine and frequency. These changes increase the chances of urinary infections,The practical implication of the knowledge of these changes is that it is useful for the clinical management of elderly patients. There is need for rational preventive programmes on diet and exercise as an effort to delay or reverse some of these changes.

5.0 **Summary**.

In this unit you have studied the various physiological changes that occur in the gastro intestinal tract as well as the urinary systems. The major changes in the GIT are :

Increased prevalence of atrophic gastritis and achlorhydria.
The liver is less efficient in metabolizing drugs and repairing damaged liver cells.
Reduced peristalsis of the colon can increase risk for constipation

For the renal system:

Bladder capacity decreases and there is an increase in residual urine and frequency. These changes increase the chances of urinary infections.

6.0 Tutor Marked Assignments.

Answer the following questions:

1. List the organs of the GIT system.

2. Describe the physiological changes that occur in the GIT. What is the implication for care among the elderly?

3 What major physiological renal changes take place among the aged.

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http//www.ageworks.com.

UNIT **3: ENDOCRINE, NERVOUS, REPRODUCTIVE, AND MUSCULOSKELETAL SYSTEM CHANGES ASSOCIATED WITH AGEING**.

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3.3 Reproductive changes Associated with Ageing.
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1.0 **Introduction**

The primary health concerns in later life are the diseases and associated disabilities that often results in dependency during old age. Most of the illnesses are mainly due to the physiological changes that occur as a result of ageing. The changes that occur in the endocrine, nervous, reproductive and musculoskeletal systems will be discussed in this.

2.0 objectives:

At the end of this unit you will be able to:

Discuss the physiological changes associated with the endocrine system in old age.

list the changes in the nervous system during old age

Identify the reproductive changes associated with old age.

Discuss the musculoskeletal changes in old age

3.0 Main content

3.1 Endocrine system changes associated with ageing

The endocrine system is a complex network of glandular tissues that secrete hormones directly into the blood which are used by "target" organs that is endocrine system secretes hormones that has effects on specific target organs. The endocrine system controls a variety of important functions in the human body such as energy metabolism, reproduction, and stress response.

3.1.2 The pituitary gland

It is a major endocrine gland which is often referred to as the master gland, essentially due to the fact that it controls the hormones used by the target organs such as the thyroid, adrenal cortex, ovaries, testes, and the breasts (in women). The pituitary is located in the brain below the hypothalamus. It is peaks in size in middle age and then gradually shrinks with age.

3.1.3 Pancreas and Insulin Response

The pancreas secretes insulin, a hormone which is critical to the metabolism of glucose (blood sugar). Insulin continues to be produced in sufficient quantities in older adults but their muscle cells may become less sensitive to the effects of insulin (probably due to a loss in the number of insulin receptor sites in the cell wall). After age 50, the "normal" fasting glucose level rises, this is the period when adult onset of diabetes occurs. It is a period when the body develops resistance to insulin. This type of diabetes is usually managed with dietary modifications, exercise, and oral hypoglycemic medications. Sometimes people stop producing insulin with age and for such situations, insulin injections are needed. It is useful to mention that adult onset diabetes can also be related

to obesity and inactivity.

3.1.4) Adrenal Glands

The adrenals are located just above the kidney and secrete several hormones mainly aldosterone and cortisol. Aldosterone is essential for the regulation of body fluid and electrolyte balance. On the average, aldosterone levels are 30% lower in adults aged 70 to 80 years old than in younger adults. Lower aldosterone levels may cause orthostatic hypotension (this condition characterized by a drop in blood pressure with changes in position). Cortisol is a stress response hormone that also has anti-inflammatory and anti-allergy effects. It has been documented that the secretion of cortisol diminishes by 25% with age although the significance of this remains unclear.

Evidence abounds to show that a decrease in aldosterone and cortisol may affect immune and cardiovascular function. The age related changes in the endocrine system can be summarized thus:

Insulin resistance may prevent efficient conversion of glucose into energy.

A decrease in aldosterone and cortisol may affect immune and cardiovascular function

Lower aldosterone levels at old age may cause orthostatic hypotension a condition characterized by a drop in the blood pressure when positions changes.

All of these have implications for care of the elderly.

3.2. Nervous System changes

The aging of the central nervous system is often portrayed as an irreversible loss of functions and decline in abilities. In the past, scientists reported that we "lose a million neurons every day". Fortunately, that's not correct. The adult brain retains a remarkable plasticity in its ability to compensate functionally for those losses that do occur. Further, some cognitive abilities, such as wisdom and life experience, are stable or may increase with age this will compensate any loss that has occurred as a result of ageing.

The weight of a person’s brain peaks around age 20 and then a modest decline occurs with age that is limited to the gray matter (outer surface of the brain) in healthy older people. Older nerve cells may have fewer dendrites (branches) and some may lose its coating. This change can slow the speed of message transmission. Most of these changes do not appear to affect ordinary activities of living.

People often fear cognitive decline in later life more than any other disabling condition. Cognitive ability is crucial to the capacity to live independently. Most of us do not want to be dependent on others as we age. Impairment in cognitive capacity can threaten autonomy and the ability to manage our daily activities.

Most neurological declines occur after age 60 and are not that severe. For instance at age 65, less than 2% of older Americans have cognitive impairment. The incidence of cognitive impairment increases with age so that by age 85, up to 1/3 of older persons have some degree of cognitive impairment.

The cognitive abilities of older adults vary tremendously both within individuals and across age groups. Within individuals some functions may change while others do not. For example, the verbal I.Q. of an individual may be stable while his performance I.Q. declines. Across age groups the average scores may decline with age, however, we can find many older adults who continue to perform at the level of a younger adult.

3..2.1 Attention

The concept of attention involves both sustained attention (i.e., ability to focus) and selective attention (the ability to distinguish relevant from irrelevant information). Older adults appear to perform tasks requiring sustained attention or selective attention extremely well into old age.

3.2.2 Memory.

Memory has been more widely studied than almost any other aspect of cognitive function, other than intelligence. After arthritis, memory problems are the second most frequent complaint among older adults. From age 45, the overall frequency of complaints of memory problems increases steadily. The efficiency of memory may differ considerably depending on the situation or context. For example, reliable recall of visual images such as paintings may be accompanied by a relatively poor recall of
verbal words.

Older adults perform less well on tasks involving encoding, retention, and retrieval of information. Currently we know very little about when competence first begins to decline, how rapidly these declines progress, and how decline in memory efficiency compares with other cognitive functioning. Although there is a general progressive trend in poorer memory performance with age, the magnitude of changes in memory competence are small and marked changes in ability do not generally occur until late in life.

As people grow older, the rate at which they process information declines. Information processing has three phases: encoding: getting information into the system storage: retaining information and retrieving that is recalling information. Encoding is particularly vulnerable to age . As we age it takes more time to encode information than when we are younger. This slower rate of encoding may be due to the changes in our vision, hearing, and other senses the reduce the efficiency of memory. The slower rate of encoding is most likely the reason for age- related declines in short memory.

Two types of memory tasks are the recall (retrieving information) and recognition matching information). Regardless of age, recognition is better than recall. Recognition does not decline as we age, but recall does. Long- term memory may decline as we age depending on the extent of difficulty with encoding information. Very long term memory which spans months or years is relatively stable until well after age 70.

3.2.3 Conceptualization

Mental flexibility and the capacity for abstraction do appear to decline with age , however, the greatest age differences appear among those who are seventy or older.

3.2.4 General Intelligence

In measures of intelligence, older adults display what is called the “classic ageing pattern” Performance score which measures problem solving ability tend to decline with age. Verbal scores which measure learning knowledge such as comprehension, arithmetic to age tic, and vocabulary, occurs and the magnitude of the declines. Relative little decline in performance occurs prior to age 50. Substantial decline appear to occur after age 70.

3.3. Reproductive changes associated with ageing :

The most dramatic age related changes in the reproductive system occur with women at menopause when their estrogen production ceases and they lose their capacity to reproduce. Many men also experience declines in testosterone production but they maintain their reproductive ability in extreme old age.

3.3.1 Reproductive changes in women

The menopause is a stage in the life of a woman when her cycle of ovulation ceases. Menopause generally occurs between the ages of 45 and 53 years. The ovaries which are the female reproductive glands which secrete estrogen and produce the reproductive cell (ova) which are located on each side of the uterus in the pelvis. At menopause the production of estrogen decreases by about 95% and there s a rapid decline in ovulation. With menopause the ovaries become fibrotic and atrophy.

The lower estrogen level also causes atrophic changes in the uterus and vagina. The uterine lining becomes thins and the elasticity decreases. Vaginal secretions are reduced.

Most of the signs and symptoms of menopause are the result of a 95% decreased in the levels of circulation estrogen. Common symptoms includes:

Hot flashes,
Palpitations,
Irritability,
Headaches,
Depression,
Fatigue,
Weight gain,
Insomnia,
Night sweats.
Forgetfulness and inability to concentrate.

The vaginal walls become thinner and less elastic and there is a decrease in lubrication. many of these symptoms can be avoided through estrogen replacement therapy (ERT)

The use of ERT is not a common practice in developing countries including Nigeria.

In the years following menopause the circulating follicle stimulating hormone (FSH) and Luteinizing hormone (LH) are greatly increased. Over subsequent years, FHS and LH levels fall slowly before leveling off about 30 years after menopause.Theses hormonal changes cause a relaxation of ligaments and a loss of muscular tone that alter the contour of the breast .

The major changes in the reproductive systems are:

Cessation of ovulation and about 95% drop in the estrogen level in the body.
Loss of elasticity and the thinning out of the vaginal wall.

Most women experience a decrease in the production of vaginal secretions.

3.2.2 Reproductive changes in men.

In men, the decline in reproductive ability is gradual. The male reproductive glands are the testes which are located in the scrotum. They secret testosterone and produce spermatozoa. With ageing, the rate of sperm production slows although there are few changes in sperm number so this does not affect fertility. However, be an increased in chromosomal abnormalities. By the age of 85 there is a 35% decrease in the level of testosterone and a reduction in the size of the testes. The amount of fluid ejaculated remains the same. Decline levels of testosterone ma be partly responsible for losses in muscular strength experienced by the aged males.

With ageing, there is a decreased in the "sex drive" and sexual response may become slower and less intense. These changes may e related to testosterone levels as well as other factors such as diseases, medication, or psychological aspects of ageing. Erectile dysfunction or impotence increases with age: about 15% of men aged 65 cannot achieve or maintain an erection.

3.3.2.1 Age related changes in men include:

A drop of up 35% testosterone hormone levels.

Decreased in the size of testes.

Decline in the rate of sperm production although the extent varies among individuals.

Erectile dysfunction (impotence) in which an erection cannot be achieved (experienced by 15% of men by the age 65 and increase to 50% by age 80)

Decreased "sex drive"

3. 4 Musculoskeletal System

By the time we reach age 80, most of us especially the tall ones will lose an average of about 2 inches of height. The primary factors contributing to this reduction in height include compression of vertebrae, changes in posture, and increased curvature of the hips and knees. In addition, change in the skeletal system is more likely to be the result of reductions in activity and changes in eating rather than ageing .

3.4.1 Bone

Bone loss seems to be a universal and inevitable consequence of aging. The age of onset and rate of bone loss depends on gender and type of bone. Nearly 90 percent of adult skeletal mass is formed by the end of the teenage years. Osteoporosis has been described as a "pediatric disease with geriatric consequences" (Duane Alexander, Director of the National Institute of Child Health and Human Development). Prevention must begin early.

Once peak bone mass is reached by the age of 30, you can work to maintain what you have but you can't build any more. Around middle age, bone mass begins to gradually decline as aging disrupts the balance between the cells that produce bone and the cells that absorb bone. As the growth of bone slows it begins to thin and become more porous. Women have a more rapid rate of bone loss than men, with the most rapid losses occurring in the 5 years following menopause. Osteoporosis affects about 8 million American women. Eventually, the bones have the strength of an egg shell and even minor trauma can cause the bone to collapse and fracture.

3.4.2 Skin changes: Protecting Your Skin

You can prevent most but not all of the "aging" of the skin by avoiding sun exposure. Ultraviolet light causes the pathological effects that produce wrinkles, thin skin, pigmentation changes and benign and malignant tumors. If you compare the sun exposed areas of your skin with those areas that rarely see the sunlight, you will notice increased wrinkling, graying of hair, and other evidence of advanced aging in the sun exposed skin. The following precautions are therefore proposed for the elderly:

Sunscreen with a sun protective factor (SPF) of at least 30.
Broad-rimmed hat to shade your face.
Sunglasses to protect your eyes
Light-colored, long-sleeved clothing and pants.

3.4.3 Muscle

As we age, our muscles generally decrease in strength, endurance, size and weight. Typically, we lose about 23 percent of our muscle mass by age 80 as both the number and size of muscle fibers decrease. These changes may be accelerated as a result of inactivity, poor nutrition, and chronic illness or disease than the result of age per se. Much of this decrease in muscle mass can be prevented by maintaining physical fitness.

Both men and women experience an increase in body fat with age. In women, body fat increases linearly from about 25% at age 25 to about 41% at age 74. In men, the increase in body fat is similar to that of women until age 50 when it slows. Even in those who do not gain weight as they age, the body fat increases as the lean body mass decreases.
Therefore, exercise can reduce but not totally prevent this age-related increase in body fat. The distribution of body fat also differs by gender.
In men, the increase in fat mass occurs primarily around **the abdomen**. **In women**, the increase in fat is more often found in **the thighs.**

3.4.3.1. Age related Skin Changes:

One of the most common physical changes that people associate with aging is the wrinkling, pigment alteration and thinning of the skin. We now know that these changes reflect the amount of exposure to the sun (i.e., ultraviolet light) more than aging per se. Most of the "aging" of the skin is due to the effects of environment and disease. The most common changes in the skin include:

A thinning of the area between the dermis and epidermis by about 20%
elastin and collagen decrease
reduction in size of cells
inability of skin to retain moisture

One factor in the aging of the skin are changes in two important fibrous proteins-elastin and collagen-which determine the elasticity and resiliency of the skin. The skin becomes less able to retain fluids and is more easily dry and cracked. As a result, both the thickness and elasticity of skin decrease. Therefore, sunscreens and the use of moisturizing creams play an important part in protecting aging skin.
In addition to changes in the skin itself, the subcutaneous layers of fatty deposits dwindle with age. This is one of the factors that make the elderly look emaciated in appearance.

3.4.3.2 Age related hair changes

By age 50, the hair of more than half of all Caucasians is 50% gray. Gray hair occurs less frequently in African Americans than in Caucasians. Men tend to gray earlier and to have more "graying". Hair grays because of a gradual decrease in the production of melanin, the pigment cells in the hair bulbs. The graying of hair is also influenced by heredity and hormones.
As you grow older, there are also fewer hair follicles on the scalp and the growth rate of hair decreases in the scalp, armpits, and pubic areas. Men who bald have either one or two genes for baldness but women go bald only when they have both genes. However, hair growth actually accelerates and thickens in places like nostrils, ear and eyebrows, especially in men. Older women often have an increase in facial hair as their estrogen levels decrease.
Age-related Changes in the Musculoskeletal System

Height decreases an average of 2 inches.
Weight increases until about age 60 and then declines.
Body fat mass can double, lean muscle mass is lost
Decline in bone density
Skin becomes thinner and dryer
Hair becomes gray

4.0 Conclusion

Physiological changes occur with aging in all organ systems. Creatinine clearance decreases with age. Functional changes are largely related to altered motility patterns, Progressive elevation of blood glucose occurs with age on a multifactorial basis and osteoporosis is frequently seen due to a linear decline in bone mass after the fourth decade. The epidermis of the skin atrophies with age and due to changes in collagen and the skin loses its tone and elasticity. Lean body mass declines with age and this are primarily due to loss and atrophy of muscle cells. Degenerative changes occur in many joints and this; combined with the loss of muscle mass, inhibit elderly patients' locomotion. These changes with age have important practical implications for the clinical management of elderly patients.

A number of physiological changes occur as we grow older. Some of the common changes that we thought represented ageing can really be as a result of disease conditions. In this unit, we have learned that:

The age related changes in the endocrine system can result in insulin resistance which can prevent efficient conversion of glucose into energy. This often accounts for the high number of elderly persons with diabetic conditions..

Ageing is also associated with a significant decrease in aldosterone and cortisol This decrease may affect immune and cardiovascular functioning of the body system at old age.

In the musculoskeletal system, you realized that **bone changes occur** with a high tendency of osteoporosis and a decline in bone density. There is a height decrease of an average of 2 inches. While weight increases until about age 60 and then declines.

The skin becomes thinner and dryer. There is inability of skin to retain moisture and hair becomes gray

5.0 Summary

In this unit you have learned about some of the physiological changes that occur the body due to old age. They include:

Physiological changes associated with the endocrine system.

Changes in the nervous system.

The reproductive system changes. in males and female and.

Musculoskeletal system changes in old age

6.0 Tutor Marked Assignment.

Answer the following questions,

1) Identify 3 physiological changes that occur in the endocrine system as a result of growing old.

3) Mention 3 reproductive system changes in male and 3 in females.

4) Mention 3 musculoskeletal system changes associated with old age.

7.0 References & further reading.

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Sailer, A., Dichgans J, and Gerloff, C. (2000). The influence of normal aging on the cortical processing of a simple motor task. Neurology 55:979-985.

Boss GR; Seegmiller JE Age**-related physiological changes and their clinical significance.** *The Western journal of medicine* 01-DEC-1981; 135(6): 434-40 MEDLINE® 7336713 (PubMed ID)

UNIT 4: PHYSIOLOGICAL CHANGES IN SENSORY ORGANS OF THE ELDERLY.

TABLE OF CONTENT

1.0 Introduction
2.0 Objectives.
3.0 Main content.

3.1 The sensory organs

3.1.2 The Vision.

3.2. The Hearing Sensory Organs

3.3.2.1. Age Related Changes in hearing.

3.3.2.2. Diagnosis of Hearing impairment

3.3.2.3 Treatment.

3.3. The Sense of Smell.

3.4 The sense of Taste

3.5 The sense of Touch.

4.0 Conclusion
4.0 Summary.
5.0 Tutor marked assignments.
6.0 References. and further Readings.

1.0 **Introduction**

In the previous units, you learned about the physiological changes that occur in the endocrine, nervous, reproductive and musculoskeletal skeletal systems. The focus of this unit is the physiological changes related to the sensory organs of the elderly person. The specific objectives of the unit are stated below:

2.0 Objectives.
At the end of this session you should be able to;

List the sensory organs of the body.
State the age related changes in each of the sensory organs

3.0 Main content:

3.1 The Sensory Organ

There are five senses in the human body system; these are sense of sight, smell, taste, touch, and hearing. Each of the senses consists of specialized cells that have receptors for specific stimuli. These cells have links to the nervous system and thus to the brain.

As one ages, the five senses: sight, smell, taste, touch, and hearing, each consisting of specialized cells may become less accurate. The most dramatic sensory changes with age affect vision and hearing but all the senses can be affected by aging. Fortunately, many of the changes can be compensated for with assistive devices (e.g., glasses, hearing aids, etc.) or by changes in lifestyle. Sight is probably the most developed sense in humans, followed closely by hearing

3.1.2 The Vision

The eye is the organ of vision. Visual impairment is the most common sensory problem of older adults. About 95% of individuals age 65 and older report wearing glasses or needing glasses to improve their vision. However, the effectiveness of glasses decreases with age. Among those over age 85, only 45% report that their glasses corrected all their visual problems and 12% are legally blind. Older adults should have vision checkups every two years if they wear glasses, every five years if they do not. Those with a family history of eye disorders, diabetes or a diagnosed vision disorder such as glaucoma or cataracts should get more frequent checkups.

Beginning in your 30s there is a decrease in the ability of your eyes to produce tears. Dry eyes can be made more comfortable by using "artificial tears" solutions. As you age, the pupil decreases in size, by age 60 it is about 1/3 the size it was when you were 20. The pupil may respond to darkness or bright lights by changing in size more slowly. The lens of the eye becomes yellowed, more rigid, and slightly cloudy. The iris--colored part of the eye- becomes more rigid over time.

Some of the major normal aging changes in the eye that affect vision include the following:

Corneal Flattening. In the aging eye the corneal surface flattens, admitting less light into the eyeball. This change reduces transmitted light into the elderly eye by one third.

Lens Transparency. The transparency of the lens actually diminishes with aging which weakens available light to receive colors with short wavelengths such as blue and violet. When new lens fibers naturally multiply at the edge of the lens, older fibers move to the center to create a dense center of the lens. Over time, the lens accumulates yellow substances which filter out the blue part of the color spectrum. Blue actually appears more green. Warmer colors like reds and orange, seem stronger in comparison.

Less Efficient Retina. The most sensitive part of the retina gradually functions less well with age due to decreased blood supply and the cumulative effects of radiation damage. The result is decreased spatial discrimination, black and white contrast, and flicker sensitivity. At this stage the elderly become less able to tolerate glare and have more trouble adapting to darkness or bright light.

Reduced Lens Elasticity (Presbyopia): As one ages, the lens of the eye becomes less elastic which diminishes the focusing power of the eye and causes a decline in visual acuity. This change is usually first noticed around age 40 and is called Presbyopia. As Presbyopia becomes more pronounced, people hold reading materials further away from their eyes. Some get headaches or "tired eyes" while reading or doing other close work. By age 55, most people require glasses for reading at least part of the time. Those who already wear glasses may need bifocals. Fortunately, only 5% become unable to read and about 20% have enough visual impairment to prevent driving.

Many of these changes in vision can be minimized by using proper lighting. The importance of good lighting for the elderly cannot be overemphasized.

3.2. Hearing

The ear is the organ of hearing. Hearing loss is very common with aging and is one of the most correctable yet often unrecognized problems. It contributes significantly to social isolation. Studies abound to show that about 25% of people between 65 and 74 years of age and 50% of people aged 75 or older report difficulty hearing. Unfortunately, majority of the elderly experience hearing difficulties but only few (8%) use a hearing aid or other assistive listening device. After age 60, there appears to be a 10 dB reduction in hearing sensitivity each decade.

3.2.1 Age-related Changes in the Ear

A number of age-related changes occur in the ear. Membranes in the middle ear, including the eardrum, become less flexible with age. In addition, the small bones in the middle ear, the ossicles, become stiffer. Both these factors somewhat decrease hearing sensitivity but are not thought to cause significant impairment. Changes also occur in the inner ear but it is unclear whether it is aging or exposure to environmental noise that causes these problems that result in hearing loss.

Changes in the middle ear with advancing age also contribute to a weakening sense of balance. The vestibular system is responsible for our sense of balance. The vestibular apparatus begins to degenerate with age in a similar way to the hearing apparatus. Equilibrium becomes compromised and older individuals may complain of dizziness and find it difficult to move quickly without losing their balance.

Presbycusis

Presbycusis literally means "old man's hearing". It is the most common form of hearing loss with aging. It is characterized by a decrease in perception of higher frequency tones and a decrease in speech discrimination. The magnitude of Presbycusis varies widely and it is hard to determine how much of the hearing loss is due to aging and how much is due to exposure to environmental noise, toxic drugs, or chronic age-related conditions such as hypertension and diabetes.

Beginning around age 55, experience a loss in threshold sensitivity to pitch as the very high frequencies are lost. The higher frequency consonants, such as t, p, k, f, s and ch, are no longer heard due to the sensitivity loss in the high frequencies. In addition, elders have more difficulty in understanding speech, especially when there are competing sounds such as background noise like music.

Tinnitus

Tinnitus refers to a chronic ringing, buzzing, tinkling, humming or other noise in the ears that only the individual can hear. Nearly 36 million Americans have tinnitus. Tinnitus is more common among older adults because it may represent a lifetime of exposure to loud noise.

Treatable causes of tinnitus include high blood pressure, wax in the ear canal, or some medications (e.g., aspirin, antibiotics, antidepressants). Tinnitus may also be a symptom of ear infection, allergy or thyroid problems. If a cause can be identified then tinnitus may be curable. More often though the cause of tinnitus is unclear. Although there are no effective drug therapies, you can do several things which may help the elderly with this problem::

use a masking devices that produces a noise to distract them from the tinnitus
They should avoid stimulants such as caffeine or nicotine which can increase tinnitus
They should limit stress and use relaxation techniques
The can join a support group.

3.2.2. Diagnosis of Hearing Impairment

Unfortunately, older adults are not routinely screened for hearing loss by health care providers especially in the developing countries like Nigeria.. It is relatively quick and easy to administer a hearing test using an audiometer This test assesses the magnitude and pattern of the hearing impairment as well as the type of hearing loss (e.g., conductive, sensory, or central).Hearing impairment can be identified when:

There is difficulty in understanding other people especially children.
A background hissing or ringing is heard.
Social events like parties, concerts or watching television are less enjoyable because you cannot hear as well.

3.2.3 Treatment of hearing impairment

About one in three older adults have their hearing reduced by up to 35% because of the accumulation of ear wax which blocks the sound. This is one of the most treatable causes of hearing loss; health care professionals can remove excess ear wax. Patient education for appropriate intervention is recommended.

Another common cause of hearing loss among older adults is medications, especially antibiotics or diuretics which can cause permanent hearing impairment.

A hearing aid amplifies the intensity of sound and can be an effective way to improve the hearing of most older adults. In developed countries nearly 2 million older people own hearing aids. Unfortunately, less than 30 percent of those people actually use the hearing aids. In developing countries like Nigeria, hearing devices are not affordable for most elders..

Fortunately, recent technological advances are improving the quality of the experience in the use of hearing device. They are more portable and user friendly which may make them more acceptable. The fact that they are smaller had helped to remove the stigma of using them. Digitally programmable hearing aids allow individuals to adapt their hearing needs to different social contexts. However, hearing aids are quite expensive and most heath insurance plans, including Medicare, do not cover the cost.

3.3. The Sense of Smell

The nose is the organ responsible for the sense of smell. The cavity of the nose is lined with mucous membranes that have smell receptors connected to the olfactory nerve.

As we age, the number of functioning smell receptors decreases and this increases the threshold for smell. It takes a more intense smell for it to be identified and differentiated from other smells. After the age of 50 the sense of smell decreases rapidly. By age 80, the sense of smell is reduced by about half. The lack of ability to smell spoiled food can lead to ingestion and food poisoning. Thus older persons can miss detecting natural gas leakage at levels that could cause explosions.

3.4 The Sense of Taste

The receptors for taste, called taste buds, are situated chiefly in the tongue, but they are also located in the roof of the mouth and near the pharynx. They are able to detect four basic tastes: salty, sweet, bitter, and sour. The tongue also can detect a taste.

Taste also diminishes with age and older persons often complain that food does not taste as good as it used to. Some atrophy of the tongue occurs with age and this may diminish sensitivity to taste. Receptor cells for taste are found in the taste buds on the tongue and are replaced continuously. Other factors that contribute to changes in taste among seniors include poorly fitting dentures.

3.5 Sense of Touch

The sense of touch is distributed throughout the body. Nerve endings in the skin and other parts of the body transmit sensations to the brain. Some parts of the body have a larger number of nerve endings and, therefore, are more sensitive e.g. fingertips

Four kinds of touch sensations can be identified: cold, heat, contact, and pain. Hairs on the skin magnify the sensitivity and act as an early warning system for the body. The fingertips and the sexual organs have the greatest concentration of nerve endings. The sexual organs have "erogenous zones" that when stimulated start a series of endocrine reactions and motor responses resulting in orgasm.

In later life, our sense of touch and response to painful stimuli decreases. The actual number of touch receptors would have decreases which results in a higher threshold for touch. The major concern is that a loss in touch sensitivity raises predisposes the elderly to burns. For example, older adults do not sense heat as quickly so they tend to have worse burns.

4.0 Conclusion

A number of physiological changes occur with the sensory organs as we grow older. The five senses are: sight, smell, taste, touch, and hearing, Most of the changes of aging on the sensory organs have great impact on the person. They are the most important changes that are responsible for not only social isolation but accident often experienced by the elderly. The environmental awareness is therefore very important for active living.

5.0 Summary.

Physiological changes occur in the following sensory organs:

Organs of sight, smell, taste, touch, and hearing. The changes in these sensory organs are responsible for accident proneness and social isolation often experienced by the elderly

Psychological change like alterations in the body image, loss of spouse, other family members and friends, loss of identity – "empty-nest" syndrome impact on the life of the elderly.

6.0 Tutor Marked Assignments.

Now that you have studied this unit, answer the following questions,

List the five sensory organs commonly affected by old age.

Identify 2 age related changes of the sensory organs specifically vision, hearing, smell, the sense of touch among the elderly.

7.0 References. and further Readings.

1. Reed, D. Foley, D. et al. (1998), Predictors of Healthy Aging in Men with High Life Expectancies. American Journal of Public Health, 88: 1463-1468.

2. Boss GR; Seegmiller JE **Age-related physiological changes and their clinical significance.** *The Western journal of medicine* 01-DEC-1981; 135(6): 434-40 MEDLINE® 7336713 (PubMed ID)

UNIT 5 COMMON PSYCHOSOCIAL CHANGES ASSOCIATED WITH THE ELDERLY.

TABLE OF CONTENT.

1.0 Introduction

2.0 Objectives.

3.0 Main content.

3.1 Common Psychosocial Changes.

3.1.2 Strategies for coping with Psychosocial Changes & Developmental Crises

3.2 Spirituality and Religiosity.

3.2 1 Interventions that enhances the spirituality of client

8.0 Conclusion.
9.0 Summary.
10.0 Tutor Marked Assignments.
11.0 References and further readings.

1.0 Introduction.

The focus of this unit is the common psychosocial problems associated with the elderly, their developmental crises issues liked with the spirituality and religiosity including some research findings.

2.0 Objectives

At the end of this unit you should be able to;

Identify psychosocial problems associated with the elderly,
List the strategies of coping with psychosocial changes and developmental crises associated with the elderly.
Discuss the spirituality and religiosity, including some research findings.

.

3.0 Main content:

3.1 Psychological changes.

Apart from the physiological changes, certain psychological changes also occur in the elderly. They are alteration in the body image, loss of other family members and friends, loss of identity – "empty-nest" syndrome: loss of feeling of security due to decreased earnings and productivity, concerns with health, loss of status, physical ability and peer relationship.

Other psychosocial Changes include the fact that the elderly will have to:

Assume grandparent roles
Adjust to retirement
Increase volunteer activity
Maintain or develop new interests
Cope with death of spouse.
Adjust to change in intimacy and sexuality
Cope with relocation
Cope with losses

3.1.2. Strategies for coping with Psychosocial Changes and Developmental Crises.

Below are some of the strategies available for the elderly to cope with some of the psychosocial changes and developmental crisis.

- Functional Support System
- Accessible community resources
- Individualized counseling services that are regular.
- Provision of link to prayers and religious activities.

3.2. Spirituality

Spirituality and Religiosity; these concepts are frequently confused. Studies have found that health care providers tend to avoid addressing spiritual needs of patients. **Spirituality is the:**

- Totality of man's inner resources,
- the ultimate concerns around which all other values are focused,
- the central philosophy of life that guides conduct,
- and the meaning-giving center of human life which influences all individual and social behaviuor" (Moberg, 1979).
- "Trust and faith in a power greater than oneself" (Levin & Taylor, 1997).

While Religion is:

- only one aspect of spirituality;
- an organized practice of beliefs;
- May or may not fill an individual's spiritual needs eg. Spiritual needs are much broader and more personal than any particular religious persuasion.

3.2.1. Interventions that enhances the spirituality of the elderly :

- Presence and acceptance
- Active Listening and Touch
- Value clarification
- Discussing patients? source of strength and instilling hope
- Conducting a spiritual assessment
- Call or make referral to clergy, pastor, Imam (spiritual consultation).
- Pray, or obtain religious articles (Poncar,94; Mac-Lennan & Tsai, 95).

4.0 Conclusion.

Apart from the physiological changes, psychological changes also occur in the elderly. which are alteration in the body image, loss of other family members and friends, loss of identity – empty-nest syndrome : loss of feeling of security due to decreased earnings and productivity, and concerns with health.

Certain strategies for coping with psychosocial changes like having a functional Support System and the capacity to access resources and counseling services as well as having good link to spirituality and religiosity

5.0 Summary

The major issues highlighted in this unit are the psychosocial changes associated with ageing which is also responsible for the social isolation often experienced among the elderly. Some of these identified psychosocial changes form the basis for the care of the elderly e. g making resources and facilities available to the elderly in the communities.

6.0 Tutor Marked Assignments.

Answer the following questions:

1 Mention 3 psychosocial changes associated with growing old.

7.0 References and further readings.

1 Boss GR; Seegmiller JE **Age-related physiological changes and their clinical significance.** *The Western journal of medicine* 01-DEC-1981; 135(6): 434-40 MEDLINE® 7336713 (PubMed ID).

2 Paul M-Insel, Walton T Roth. Core Concepts in Health 1996 pages 518 -560..

MODULE: 3.

UNIT 1 PROBLEMS ASSOCIATED WITH THE ELDERLY.

TABLE OF CONTENT:

1.0 Introduction.

2.0 Objectives.

3.0 Main content.

3.1. Classification of Problems Associated with Ageing.

3.2. Medical Problems Associated with Ageing.

3.3. Psychosocial Problems Associated with Old Age.

4.0 Conclusion.
5.0 Summary.
6.0 Tutor Marked Assignments.
7.0 References and further readings.

1.0 Introduction.

Since you studied the units in module 2, where all the physiological changes associated with old age were discussed, you would have realized how the physiological changes are linked with the various problems in the body systems of an elderly person. This unit will focus on the problems confronting the aged with special attention to the developing countries including Nigeria

2.0 Objectives

At the end of this unit you should be able to;

Classify the problem associated with old age
List the medical problems associated with old age.
List the psychosocial problems associated with the elderly.

3.0 Main Content:

3.1. Classification of Problems Associated with Ageing.

The problems associated with ageing can be grouped into two major classifications namely medical and psychosocial problems.

3.2. Medical Problems associated with Ageing.

Some of the common medical related problems associated with old age are:

Failing sight commonly due to Cataract, glaucoma, complication of hypertension etc.
Poor dentition resulting in inability to masticate food and malnutrition or other nutritional problems like Diabetes mellitus
Hearing defects, resulting to deafness.(excessive wax etc)
Reduced mobility due to osteoarthritis of the knee and hand.
Proneness to accidents due to failing sight, smell, and touch.
Proneness to respiratory diseases due to inability of the body to maintain body temperature
Proneness to cardio-vascular diseases resulting to Coronary Heart disease, Hypertension and stroke,
Proneness to cancers especially like prostrate gland cancers in males , cervical and breast cancers in the females.
Prolapsed uterus in women.
Reduced body immunity resulting to infections like Tuberculosis, Malaria, and Skin Problems.
Chronic Lower respiratory disease (CLRD)
Impaired coordination in fine work.
Others are urinary incontinence, urinary retention, enlargement of the prostate, dysuria, nocturia, frequently and urgency of micturition.

Exercise 2.2

a). Define the following medical terms identified as problems associated with old age (Cataract, deafness, osteoarthritis, cardio-vascular disease, hypertension, cancers, tuberculosis, malaria, incontinence.

3.3. **Psychosocial Problems associated with old Age.**
Apart from the medical problem, there are some psychosocial problems associated with the elderly as listed below:

Loneliness. (social isolation)

poverty

Confusion.

Depression.

Dementia

Insomnia.

Anxiety, fear of future or death.

Mental capacity(increased difficulty in solving problems)

Inability to deal with life situations.

Paranoid behaviours

Decreased association

Denial of reality.

Loss of self esteem.(and dependency towards end of life)

Loss of family members, friends, spouse.

Increased dependency

Halitosis due to poor oral personal hygiene.

The various health problems are managed using the Standing Orders (Refer **to CHS 428 the use of Standing Orders 2)**

4.0 Conclusion.

In this unit you have learned that the problems of the elderly are as a result of the various physiological changes that occur as one grows old. These problems can be categorized into: medical and psychosocial problems. Some of the psychological problems are social isolation, poverty, apparent reduction in family support, inadequate housing, impairment of cognitive functioning, mental illness, widowhood, loss, bereavement, limited options for living arrangement and dependency towards end of life. The common medical problems are hypertension, diabetes, stroke, arthritis etc.

5.0 Summary

The key points raised in this unit are

The common problems associated with the growing old are due to the various physiological and psychological changes associated with ageing.
The problems were put into 2 major categories ie medical and psychological problems. Some example of the medical problems are hypertension, diabetes, stroke while psychological changes include, poverty, inadequate housing, widowhood, loss and bereavement. All these problems have an impact on the quality of life in old age and health care system.

6.0 Tutor Marked Assignments.

Identify 10 problems associated with the elderly in Nigeria.
Group the identified problems into medical & psychosocial problems.

7.0 References and further readings.

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Parks K Park's Textbook of Preventive and Social Medicine , Seventh edition M/s BANARSIDAS BHANOT Publishers 1167, PREM NAGAR, 482001 (INDIA).

Michael L Clart MD, FRCP, Clinical Medicine, A Textbook for Medical Students and Doctors.

UNIT: 2 CARE OF THE ELDERLY.

TABLE OF CONTENT:

1.0 Introduction

2.0 Objectives.
3.0 Main Content
- 3.1 Reasons for care of the elderly.
- 3.2 Socio cultural influence on care of the aged.
- 3.3 Specific area of care for the elderly.
  - 3.3.1 Care of personal hygiene.
  - 3.3.2 Rehabilitation.
- 3.4 Preventive care and health maintenance for the aged.
- 3.5 Qualities of a good geriatric Care giver.

4.0 Conclusion.
5.0 Summary.
6.0 Tutor Marked Assignment.
7.0 References and further Readings.

1.0 Introduction

As a member of a society grows older, he or she usually changes roles or occupations. The acceptable roles for elders differ in each society. Some cultures utilize their elderly in many ways. The elders are valued because they maintain the old traditions, customs, and kinship systems. It is therefore important to care for the elderly in the society. The unit will discuss the reasons for care among the elderly, socio-cultural influences as well as some specific care area for the elderly.

2.0 Objectives.

At the end of the unit you should be able to:

State 3 rationales for care of the elderly.
Discuss the socio-cultural influences on care of the aged.
Identify specific areas of care for the elderly.
Describe preventive care and health maintenance for the aged.

3.0 Main Content.

3.1 Reasons for care of the elderly.

It is everyone's hope to reach old age before dying. We owe most of our achievements in life to our aged parents/ guardians. It is therefore expected that people take care of their aged parents or guardian who are no longer are able to effectively care for themselves.

When we care for the aged, we help them to maintain an optimum level of mobility, which is necessary for the effective functioning of the various systems of the body. Again, prevention of infection at old age is important because the body's resistance to diseases is reduced, and as such they are prone to infections. The aged therefore need to be protected from getting infected.

Also, the elderly perform a wide range of roles within the family and at the community level. It is therefore important to care for them. Below are identified roles of the elderly in the community.

Peacemakers: The old people are always seen making peace between people. High tempers are often controlled in the presence of the elderly. In some rural communities, difficult problems are usually resolved by the aged. They are counselors and advisory members of the community.

Historians: The aged always hand over family and community history to the younger generation. In most cultures, the elderly are responsible for passing down oral traditions, teaching and instructing younger members. By telling stories, myths, legends, and singing songs, the elderly keep their heritage and history alive. Teaching younger members skills and subsistence knowledge is also very important for the existence of a culture. Frequently, groups will depend on their elders to give them traditional answers to survival challenges and teach them local ecology. They also serve as link between the older and younger generations.

Care of the Family: The aged also help in the care of their grand and great grand children. They are left at home most of the time to take care of the house when people are at work. This role is becoming increasingly vital as younger people do not accept to work as nannies.

Community Leaders: Even if the community does not appoint them, the aged are always called upon when decisions are to be taken. The community respects their opinions and suggestions.

They **ensure that the traditions of the community** are adhered to by the members. They are always reminding people of the value of their traditions. Old age is synonymous with wisdom in African tradition and customs.

Elders are valued because they **maintain the old traditions, customs**, and kinship systems that are imperative to the group's survival even in a difficult region. In Africa, the elderly are also esteemed for upholding values, norms, and taboos, especially involving kinship and marriage ability. In some cultures, elders will protest when a man wishes to marry a woman who is considered related to his family. If the man persists in marrying the woman, the elders will not dismiss it, but instead, curse the marriage.

They are also hononred for their extensive knowledge of the land and the usefulness of the local plant life.

In some cultures, **elders take an administrative and political role**. For the Igbo land in Nigeria, the eldest male is the group's leader and accorded

the responsibility to control the group politically, legally, and morally. Similar political systems exist in other groups of people. When a group or council of elders governs a society, the society is referred to as a gerontocracy

Elders sometimes play **the role of spiritual advisor.** Often elders are spiritual leaders, or at least, teach the details of rituals and ceremonies.

3.2 Socio cultural influence on care of the aged.

This refers to how the society and their different cultures influence the care of the aged.
In some communities, the aged are regarded as people who have nothing to offer to the society. After retirement, some of the aged are forced by factors such as reduced income, loneliness, etc to sell their assets and move into old people's home. This is mainly due to the societal attitude to them. In the developing countries, like Nigeria, the situation is entirely different. The traditional African society has been endowed with the social welfare system that protects the elderly in such a natural way that they are not seen as parasites in the society. Old age is synonymous with wisdom in African tradition and customs. So in the past, the elderly were surrounded by the affection and love of their children and members of the extended family system.

In Nigeria for instance, the elderly are respected for their wisdom, as a result of experiences, which are highly appreciated. The practices in care of the elderly in the different cultures in Nigeria are similar, for instance, in the Yoruba land, the aged are never allowed to live alone. They either live with their grown up children or their grandchildren are sent to live with them. The aged are also loved because it is believed that they are closer to the ancestors and can interact with them.

In Ibo land, the aged also usually have a relation or children to live with as in Yoruba land. Again in Hausa land (the northern part of Nigeria), a new wife is obtained for the aged male because this would be comforting to him and he now has a companion.
The elderly in Africa ought to have their rightful places at homes whether their children are alive or not. The concept of Old People's Home is completely alien to Africa.
Unfortunately, urbanization and modernization have led to the breakdown of African communalism and extended African system and undermined the traditional mechanisms in support and protection of the elderly. This situation is compounded by the fact that society no longer place high value and respect for the elderly but on wealth which is now the measure of success.
The consequence of this situation is that some elders (eg in Nigeria) have taken to begging on the streets just to eke out a living. Most old pensioners languish in penury as their pensions are hardly paid. Even some employers of labour discriminate against old people in employment.
Unfortunately and difficult to believe, only a few non Governmental Organizations (NGO) and Faith Based Organizations (FBO) like the Catholic Church are concerned about the plight of the elderly in urban areas like Lagos State. It is sad to see the elderly as beggars on the streets.

Ageing is an inevitable process in life. It is projected that by the year 2020 many rural areas in Africa will have large populations of the aged. There is therefore the need to put plans in place for old age (This Day, Thursday 31st December 2009. Care for the Elderly in Nigeria.)

3.3 Specific Areas of Care for the Elderly.

3.3.1 Care of personal hygiene:

Skin care

Due to the dryness and wrinkling of their skins, the elderly are highly prone to cuts, abrasions and ulcers, hence the use excessive use of soap is discouraged. Lotions like vaseline should be applied to keep the skin supple. Dry, itchy skin is a common problem in aging adults. To avoid dry skin, the following should be tried:

1. Take only 2 to 3 short baths or showers a week; use warm water (not hot)
2. always shower or bathe immediately after getting out of a pool or spa that has chlorine in it
3. Use soaps made for dry skin, such as glycerin soap with cleansing cream
4. rinse well after using soaps
5. Apply lotion immediately after drying skin, while it is still slightly moist; this helps lock in moisture (Be sure the skin is not too wet or you can get a fungal infection.)
6. Apply lotion all over your body at bedtime; in cold climate put gloves and socks on after applying lotion to retain moisture
7. Drink more liquids
8. avoid alcohol, spicy food, and caffeine and
9. Avoid dry places, such as working under the sun.

Foot care: The foot is properly taken care of by soaking nails in tepid water for 10-15 minutes before trimming. This is done to avoid nail problem and fungal infections.

Oral and dental care:

Eating soft cooked food and cleaning of the teeth after each meal will help to maintain healthy gums and teeth. Lost teeth should be replaced by dentures that should be stored in fresh water at night.

Elimination problems:

Elimination of faceces can be solved by providing adequate roughage in their daily meals. Also ensure and encourage increased fluid intake. All of these will help in combating the problem of constipation.

Diet:

This should be adequate, that is balanced high protein and nourishing food that is low in calorie, properly prepared (softly cooked) and presented in a descent manner. Also eating should be supervised.

Appearance:

The aged have tendencies to neglect their appearance. They should be encouraged to look their best always. Clothes with bright colour to brighten their sprit are proposed for their use.

3.3.2 Rehabilitation

The aged, after an illness or hospitalization may lose their independence and therefore require rehabilitation with special reference.

For Sight ----rehabilitate with glasses

Hearing ------ rehabilitate with hearing aids.

Mobility --------rehabilitated usually by the physiotherapist and can be aided with walking stick.

Incontinence of urine and faceces: rehabilitate with commode, use of adult pad etc

Generally the aged seldom regard themselves as old which implies that the spirit is ageless. The Health Care providers should always give respect in dealing with the aged.

3.4 Preventive care and health maintenance for the aged

Preventive health care can play a crucial role in detecting diseases early among the elderly. However it cannot slow down the aging process. The health care provider must be familiar with normal health patterns before he/she can review and detect the abnormal state of the aged. The major steps in preventive care are listed below:

Illustration of gadgets used for rehabilitation and care of the elderly:

Fig 2.Comode for the elderly

Fig. 3. Leg exercise machine

Fig 4 Artificial dentures

Steps in preventive care:

3.4.1 Early Detection of Problems:

An early detection of problems is made by annual physical examination through having:

Regular dental check ups

Regular visual test

Regular hearing follow-up checks of six months interval. Also there should be proper monitoring of their sleeping patterns. Recommended sleeping time is about 7-hours in 24 hours.

Diet should be monitored. Nourishing low calorie meals to prevent weight gain are recommended. Reduced alcohol ingestion and smoking cessation should be encouraged.

3.4.2 Exercise.

Early ambulation especially after an illness is crucial for the aged.

The aged are advised to have moderate exercise, essentially as this promotes circulation, appetite, good mental and physical functioning.

3.4.3 Rest

Adequate mental and physical rest is usually good for the aged. (At least an hour rest after meal) At rest periods, they are advised to relax with their feet raised on a chair, in order to promote adequate venous returns.

3.4.4 Nutrition

The promotion of adequate nutrition, which prolongs life, and aids resistance to infection becomes of paramount importance to the aged.

Total daily calorie intake, should be decreased to avoid unnecessary weight gain and obesity.

Protein intake should remain constant

Minerals and vitamins must be included in their diet especially for those on diuretics

Finally all food should be cooked soft because most of the aged have difficulty in chewing (dental problems) due to loss of teeth.

3.4.5 Safety.

Proneness to accidents was identified as one of the major problems of the aged, especially home accidents. For instance, falls, obstruction from inhalation of food or poisoning by solids or liquids. Attention should be given to:

Adequate home lighting/ illumination to prevent falls.

Flooring should be such that discourage falling- (smooth surfaces are usually dangerous and wet floors are also bad.

Stair-ways should be easy to use with railings

Bathing facilities should be adequate and not slippery.

Medication at home should be properly labeled to avoid mistakes and ingestion of poisonous substances

Clothing should be adequate to provide warmth, freedom and freshness

Adequate financial plan should be made to provide for emergencies

Environmental cleanliness, Materials like sharp metals and broken bottles should be cleared away to prevent injuries

3.4.6 Retirement:

Adequate recreational activities and hobbies should be provided because such are things that make life worth living. Moreover, they act as diversional therapy for the aged. (Diversion from inevitable problems associated with aging process).

3.4.7 **Prevention of poverty**

Adequate retirement arrangement should be made because such are the things that make life worth living. Such arrangements includes:-

Money-saving activities such as taking up of insurance policies etc which will enable one to take care of him/ herself at old age.

Securing comfortable accommodation before retirement

Establishment of affiliation with age groups

Strengthening relationship with members of the family.

3.5. Qualities of a good health care provider to geriatric patients:

The health Care provider should be:

1. A competent health care provider who is sympathetic, kind and thoughtful not necessarily showing pity towards the elderly client.
2. Patient and tactful , for the aged do become garrulous at times and occasionally appear somewhat unreasonable.
3. Friendly, warm and have a genuine interest in people because the aged are often lonely.
4. Observant of the emotional needs and the emotional reaction of the geriatric patient (signs of worry must be noted).
5. Able to provide privacy for the elderly.

The health care provider should adapt herself/himself to the particular needs of each client. Not all older people have hearing problems, the common habit of shouting at them on that assumption is deplorable. The care provider must make efforts to speak slowly and distinctly.

3.5.1 General recommendation:

There should be an organized system for the delivery of integrated geriatric services oriented towards keeping the elderly in their own homes and communities. whenever possible. It should form an integral part of the general health system. In developing countries, geriatric services should be planned for in advance of actual requirements, taking into account changes as rapid urbanization, industrialization and migration. Their implications for family patterns and the future way of life of the aged should be taken into consideration.

The nucleus for providing health care for the aged is always formed by the primary care physician and the public health workers.. They should be supported and / or guided by a geriatric health infra-structure geared towards assessment, intensive therapy and continuous care. Any system of geriatric care must be closely integrated with the social welfare services.

All training for the health professions (e.g. nurse, social workers, occupational therapists, physiotherapist, speech therapists and psychologists) should include courses in geriatrics. The care of the elderly should be part of our target towards health for all by the year 2015 and beyond. (WHO chronicle Vol. 28 No. 1974. Old Age- a problem for society as a whole)

4 Conclusion.

In this unit, you have learned the reasons for which our elderly need prompt and adequate care. For instance, they are the custodians of culture and customs of a people. The various specific areas of care were highlighted especially the skin, foot, oral and dental care, dietary care and clothing. The basic preventive health care for the aged were discussed**.**

5 Summary.

The rationale for which each society cares for the elderly cannot be overemphazed. In the African society, the elderly are valued for the numerous roles they perform including: peacemaking, historians (handing over the family core values and traditions), and participating in the care of the family especially young grand and great grand children. They are also community leaders: Even if the community does not appoint them most importantly, they ensure that the traditions of the community are adhered to by the members of the communities.

Certain socio-cultural influences / factors were identified to affect the care of the elderly. In Nigeria there are similarities in the way the elderly are cared for in the different ethnic groups. Specific care areas such as: skin, foot, oral and dental area, diet, appearance and issues relating to rehabilitation were highlighted and finally the steps in the preventive health care for the elderly were discussed.

6 Tutor Marked Assignment.

In your own words, answer the following questions

Discuss 4 reasons why the care of the elderly is important in African tradition.
Identify 4 specific areas of care that are beneficial to the elderly.
Describe 5 preventive care and health maintenance strategies for the aged.

7 References and further Readings.

1) This Day Thursday 31st December 2009: Care for the Elderly in Nigeria.
2) Federal Ministry of Health and Human Services, Primary Health Care Department: Community Health Officer Programme: Care of the Aged, Session Plans, Training and Manpower Division, Lagos Nigeria.
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Unit 3 PREVENTIVE CARE AND HEALTH MAINTENANCE FOR THE AGED

10 Introduction

2.0 Objectives.

3.**0 Main Content**.

3.1 Preventive care and health maintenance for the elderly.
3.2 Preventive Health Care Strategies for the elderly.
3.2.1 Early detection of problems
3.2.2 Exercise.
3.2.3 Rest.
3.2.4 Nutrition.
3.3 Accident Prevention and Safety measures.
3.4 Preventing Boredom
3.5 Preventing Sleep problems.
3.6 Useful suggestions for health promotion among the elderly**.**
4 Conclusion.
5 Summary.
6 Tutor Marked Assignment.
7 References and further Readings.

1.0 **Introduction.**

Preventive health care can play a crucial role in detecting diseases early for a timely intervention, but it cannot slow down the ageing processing. The health care providers and the community health workers must be familiar with normal health patterns before they can be able to detect early enough the abnormal state of health of the aged.
In the previous unit, you learned about the various problems confronting the elderly. Now the focus of this unit shall be the various preventive health care measures to be used for effective health maintenance among the elderly.

2.0 Objectives.

At the end of the unit, you should be able to:

Define preventive health care for the elderly.
Discuss the steps in preventive health care for the elderly. Explain strategies for accident prevention among the elderly. Summarize useful suggestions for health promotion among the elderly**.**

3.0 **Main content**.

3.1 PREVENTIVE CARE AND HEALTH MAINTENANCE FOR THE AGED:

Preventive measure refers to the intervention meant or focused towards preventing the occurrence of a disease or an ailment among the elderly.

3.2. PREVENTIVE HEALTH CARE STRATEGIES IN THE ELDERLY.

The preventive health care strategies include:
3.2.1. **Early Detection of Problems**:
An early detection of problems is made by annual physical examination through:

Regular dental check ups
Regular visual test
Regular hearing follow-up about 6 month's interval. Also there should be proper monitoring of their sleeping patterns. Ideal situation is about 7-8 hours in 24 hours.

Diet should be monitored nourishing low calorie meals to prevent weight gain are recommended. Excessive alcohol, ingestion and smoking should be discouraged.

3.2.2. EXERCISE

Early ambulation especially after an illness is crucial for the aged.
The aged are advised to under take moderate exercise, essentially as this promotes circulation, appetite, good mental and physical functioning of the body.

3.2.3. REST

Adequate mental and physical rest is usually good for the aged. At least an hour rest after a meal is recommended. They are advised to relax with their feet raised on a chair, in order to promote adequate venous returns.

3.2.4. NUTRITION

The promotion of adequate nutrition is that it prolongs life and builds resistance against infection. The importance of good nutrition cannot be emphasized.

Total (daily calorie intake, which usually decreases to avoid unnecessary weight gain and obesity.

Protein intake should remain constant.

Minerals and vitamins must be included in the diet especially those on diuretics and management of hypertension.

Finally all their food should be cooked soft because of weak teeth or most of the aged have difficulty in chewing (dental problems) due to loss of teeth.

3.3. PREVENTING BOREDOM.

Adequate recreational activities and hobbies should be provided because such are things that make life worth living. Moreover, they act as diversional therapy for the aged. (Diversion from inevitable problems associated with aging process).

3.4 PREVENTING SLEEP PROBLEMS IN THE ELDERLY

Refreshing sleep requires both sufficient total sleep time of at least of 6- 8 hours rest. Problems with sleep organization in elderly patients typically include difficulty falling asleep, less time spent in the deeper stages of sleep; early-morning awakening and less total sleep time. Poor sleep habits such as irregular sleep-wake times and daytime napping may contribute to insomnia. Therefore there is the need to regulate sleep patterns. Also the intake of caffeine, alcohol and some medications can also interfere with sleep, the elderly should be discouraged from taking such without proper medical prescriptions.

Implementation of good sleep habits and daily physical activity should help create an environment conducive to restorative sleep. Daily exercise and exposure to daylight can help reinforce sleep.

Many patients with insomnia have excessive anxiety deriving from their failed attempts to sleep and respond well to a behavioral approach. It might be useful that such elderly persons may be advised to avoid going to bed until they feel as though they can easily fall asleep.

Provision of quiet environment will promote sound sleep for the elderly.

Over-the-counter antihistamines should be used with caution among the elderly because of their side -effects of confusion, constipation and urinary retention. However, Low dosages of sedating antidepressants are especially helpful in patients with depressive symptoms.

3. 5. Useful Suggestions for Health Promotion for the Elderly.

No known substance can halt aging or extend life, but below are some useful tips for improving the chances of living a long time, preventing illness and staying healthy:

Eating balanced diet, including five helpings of fruits and vegetables a day.
Exercising regularly (check with a doctor before starting an exercise program).
Getting regular health check-ups.
Not smoking (it is never too late to quit).
Practicing safety habits at home to prevent falls and fractures.
Always wear seatbelt in a car.
Staying in contact with family and friends.
Staying active through work, play, and community.
Avoiding overexposure to the sun and the cold.
Moderation of Alcohol consumption.
Having taken alcoholic drink, someone else should drive.
Keeping personal and financial records in order to simplify budgeting and investing.
Planning long-term housing and money needs.
Keeping a positive attitude towards life.
Doing things that make one happy.

4.0 CONCLUSION.

In this unit the various preventive health care measures for the elderly was explained especially early detection of problems via annual physical examination through the regular dental check ups, visual test and hearing follow-up about 6 month's interval.
You have also learned that diet should be monitored to reduce alcohol ingestion, and smoking habits should be discouraged. Again mild exercises following an illness are advocated and adequate rest to promote good mental and physical rest.
Safety measures such as accident prevention at home environment was discussed. The need for some recreational facilities to prevent boredom was highlighted and poverty prevention interventions like taking up of insurance policies, securing and adapting accommodation before retirement were recommended.

5.0 SUMMARY.

In this unit you have learned:

The meaning of preventive health care for the elderly.
Discussed the step in preventive health care for the elderly.
The various accident prevention strategies at home for the elderly.
Measures to promote sound sleep among the elderly.

6.0 TUTOR MARKED ASSIGNMENTS.

Proneness to accident has been identified as a major problem associated with old age. State 4 ways to prevent accidents at home for the elderly.
State 4 ways to prevent nutritional problems associated with the elderly.
Suggest 6 useful tips for health promotion among the elderly

7.0 REFERENCES AND FURTHER READING.

http://www.sleepfoundation.org
Federal Ministry of Health and Human Resources, Primary Health Care Department, Community Health Officers, Session Plans on Care of the Aged : Training and Manpower Development Division, Lagos Nigeria 1992.
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Unit: 4 HOME MANAGEMENT OF ACCIDENT FOR THE ELDERLY

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7 0 References and further readings.

1.0 Introduction

When growing old, the physical ability of elderly people gradually wanes, making them to be prone to accidents. The accidents may result in injury, hospitalization, or even loss of self-care ability. This study unit aims at providing you with some home measures in the management of common home accidents among the elderly.

2.0 Objectives:

At the end of the unit you should be able to;

List common types of home accidents affecting the elderly.
Discuss the strategies for the prevention of common home accidents. (Falls, Choking, accidental poisoning, burns and scald).
Describe the home management of commons accidents among the elderly (Falls, choking, accidental poisoning, burns and scalds)

3.0 Main Content

3.1 Falls.

Fall are one of the common accidents of the elderly.

3.1.1 Causes:

The causes are mostly environmental related, e.g. having wet floor, or slippery floor (e.g. from banana peals. Gait instability and impaired vision, often lead to fall among the elderly.

3.1.2 Strategies to prevent falls in the elderly:

The preventive measures against falls among the elderly are stated below:

Keep floors free of obstructions.
Ensuring adequate lighting in household area.
Keeping furniture e.g. foldable chairs, and toys should be properly stored
Keeping floors dry. Constantly check floor surface for any wear and tear.
Avoiding need to climb steps (rooms at bottom floor house).
Placing non-slippery mat on the floor of bathroom / bath.
Regularly exercise to strengthen gait and power.
Proper length of wears like wrappers and trousers and shirts not being too long.
Ensuring a balanced gait during walking. Walking slowly. If necessary, using walking aids.
Use of suitable corrective lens to ensure a good vision.
Learning to be in sitting position to put on pants etc.
Avoiding over crowding of home with furniture.

3.1.3 Home Management of falls:

Despite the preventives measure put in place, most often the elderly fall. Below are some first aid treatment measures:

Do not panic. Call for help immediately if necessary.
Examine the patient to ensure the airway is clear (e.g. can talk or not); if breathing is adequate and circulation is normal (observe colour of the face, depth and rate of breathing).

If breathing and circulation are normal, check for any other injuries on the body.
If bleeding occurs, ensure that there is no foreign body in the wound. Apply direct pressure to stop bleeding by placing clean gauze on it and adding pressure on the gauze with your hand. Elevate the injured limb.
If deformity is found on the injured part, do not move it, immobilize the part and call for help immediately or refer to the Primary Health Center or hospital depending on severity.

3.2 CHOKING.

3.2.1 Causes of choking:

The common causes of choking are: talking or laughing when eating; especially if the size or texture of food is not suitable for the elderly.

3.2.2. Preventive Strategies for preventing choking in the elderly.

Before a meal, food should be cut into small pieces.
Food should be chewed thoroughly before swallowing.
Talking or laughing during chewing or swallowing food should be avoided
Ensure the set of dentures is in its fixed position and not loose.
Be more cautious when taking soft and sticky food.

3.2.3 Home Management for choking among the elderly:

Do not panic.
Call for help immediately.
Perform CPR if necessary.(Cardio pulmonary resuscitation)
Ensure clear airway and let the elder lie on the side, preferably with head down.

3.3 Accidental poisoning/drug overdose

3.3.1 Causes of accidental drug poisoning:

Inadequate knowledge about drugs, non-compliance to prescription, taking other person's drugs etc.
Poor vision and wrong use of liquids (kerosene) in containers similar to drug container.
Poor care seeking behaviour e.g. buying drug from street hawkers, engaging in self medication.

3.3.2 Preventive measures against accidental poisoning.

Never buy or use un-prescribed, over-the-counter drugs. Consult doctor when feeling sick.
Never take other person's drugs simply because they felt better after use..
Before taking drugs check carefully that it is the right drug, taken at the right time, through the right route and at the right dosage.
Never place different drugs in the same container. Empty containers should be disposed of and not used to store other drugs.

Remove or label boldly all pesticides, and store away properly. They can be an accident waiting to happen if not used /or stored properly.

3.3.3. Home management of accidental poisoning.

Do not panic. Call for help immediately.
Examine the patient if the airway is clear (e.g. can talk or not); if breathing is adequate and circulation is normal (observe colour of the face, depth and rate of breathing).
Perform CPR (cardio pulmonary resuscitation) if necessary.
If the patient is unconscious but the airway is clear, breathing and circulation are normal, turn the patient to lateral position.
If the patient is conscious, give large amount of water to drink but, do not induce vomiting.
Bring along with any vomits and remains of drugs taken when seeking medical treatment.

3.4 BURNS AND SCALDS

3.4.1 Causes:

Carelessness, general disregard of safety of the living environment, etc.

3.4. 2. Preventive measures against burns and scalds.

While cooking, pay extra attention to the stove fire and the cooking utensil. Turn the pan handle away from the front and close to the wall.
When opening the lid of a cooking utensil, take extra care to avoid the steam.
Be careful when handling boiling oil, hot water or soup.
If need to hold hot materials, use insulated gloves.
Ensure all food and drink is at a reasonable temperature before eating or drinking.
All hot objects including an iron or containers with hot matter must not be placed near the margin of a table or desk. also don't put hot tea, coffee, or other hot liquids on a tablecloth that hangs over the side of the table. Someone could trip on the cloth and spill the scalding liquid.

Test the temperature of water before bathing.

Never place an electric appliance where it can fall in water.

Never touch an electric appliance while you are standing in water.

Don't place electric heaters near combustible materials.

Do not burn charcoal or light fire to keep warm at home.
Due to certain diseases, e.g. stroke, diabetes etc., skin senses would be much reduced. Take extra care when touching hot objects.

3.4.3 First Aid Management for Burns and Scalds.

Remove patient off the source of burns.
Do not panic. If necessary, call for help immediately.
Examine the patient if the airway is clear (e.g. can talk or not); if breathing is adequate and circulation is normal (observe colour of the face, depth and rate of breathing).
If breathing and circulation are normal, examine the burnt or scalded sites.
Rinse the injury site with tap water for about 10 minutes.
Cover the injury site with sterile gauze or cloth . Dress with bandages if available..
Never apply toothpaste, or other ointments on the injured sites.
Do not puncture any blister.
Do not tear off any burned clothing that sticks on the injured site.

3.4.4. Referral of patient to health center.

If necessary, call for ambulance service if available or call significant relations ,friends, neighbours for help.
Do not panic.
Tell the call-taker how the injury happened and which part of the patient's body is injured.
Tell the call-taker if the patient is conscious.
Clearly tell the call-taker the address where the accident happened, the route leading to the address, and your contact telephone number.
Do not hang up the phone until the call-taker had no further question. Do not rush.

4.0 **CONCLUSION**

Accident could not be completely avoided, but its occurrence could be prevented among the elderly, Home accidents are one of the leading causes of death among the elderly. In many cases, these accidents could have been avoided by taking simple preventive precautions that could reduce the occurrence of accident thus alleviating the adverse effect on the elderly. In this unit the common accidents among the elderly like falls,

choking, accidental poisoning, burns & scald basic was explained while the preventive and home management measures for each was highlighted.

5.0 SUMMARY.

The specific issues discussed in this unit are as follows:

The common accidents among the elderly are fall**s,** choking, accidental poisoning / drug overdose burns and scald.
Causes of home accidents like falls, choking, accidental poisoning at home , burns and scald**.**
The strategies for the prevention of the common accidents as well as their home management

6.0 TUTOR MARKED ASSIGNMENT

Now that you have studied this unit, answer the following questions;

1. List 3 common home accidents that can occur to the elderly.
2. Enumerate 3 preventive strategies for each of the identified accidents.
3. Describe in details the home management for each of the identified accident

.

7.0 REFERENCES AND FURTHER READING.

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UNIT 5. RESOURCES AND FACILITIES AVAILABLE FOR THE ELDERLY.

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5.0 Summary.

6.0 Tutor Marked Assignment.

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1.0 Introduction

In Nigeria, although the care of the aged is the responsibility of the Federal Ministry of Social Development, Youth and Sports, most times the resources are made available to the elderly by their family, friends and relatives. Children are by far the most important resource, and the grandchildren. The trends in developed nations like America where services are provided by government, more organized and available to the elderly. This unit will explain fully the various resources and facilities available that the elderly may access in the community.

2.0 **Objectives.**

At the end of the unit you should be able to:

Discuss 5 resources and facilities available for the elderly in the community in Nigeria.
Available Services to keep the aged happy in the community.

Discuss the resources available for the elderly in developed countries like America.

3.0 Main content.

3.1 **Resources and facilities available to the aged (Developing countries.)**
The resources available for the aged the communities in Nigeria are as follows:

Family members and friends.
Community Members.
Associations in the communities.
Voluntary agencies:
Government agencies
Health Visitors and
Hospitals and Health Centers.

3.1.1. FAMILY MEMBERS AND FRIENDS.

In Nigeria, about 85% of the aged are being catered for by their various family members. This stems from the culture of extended family system, and the fact that great values and respect are accorded the aged. There is also the belief that having children is essential because they are expected to take care of the parents during old age. This belief explains the reason for which childless marriages are not easily accepted by family members in most communities in Africa including Nigeria.

Once an individual identifies with the family member, he or she is likely to obtain adequate care at old age. Such care ranges from emotional, financial and material support. The first resource available to the elderly is therefore the immediate family members and friends in the communities eg children, grand children, cousins, family friends etc.

3.1.2 COMMUNITY MEMBERS:
Some communities in this country help to provide some recreational facilities where the retired aged people assemble to exchange views, participate in such recreational activities for instance there are shady tree areas mapped out for playing games like draft, ludo games, chess etc. The availability of these community members are a huge resource to the elderly within the community.

3.1.3 ASSOCIATIONS WITHIN THE COMMUNITIES:
Some associations within the communities in Nigeria have done a lot of work to improve the lives of the elderly. Such associations like religious association especially The Christian Women Association, (CWO), The Christian Men Organization(CMO) The Nigerian Red Cross Association, The Rotary Club of Nigeria. The Age Grade Associations: The age grade associations are commonly seen at the village levels in the

communities especially in the eastern part of Nigeria. All these associations have the capacity to assist financially and morally, even with organizing for the provision of preventive health care services in the care for the elderly at the community level.

3.1.4 VOLUNTARY AGENCIES AND NON GOVERNMENTAL ORGANIZATION.

A lot of assistance for the aged in form of material and financial resources has been obtained from the voluntary agencies. Some examples of such agencies include
International Planned Parenthood, Familiy Health International(FHI) United Nations International Children Emergency Funds (UNICEF) etc
Pathfinder International the United Nations Organization
Some of them embark on building and equipping old people's home, providing free medical services for the elderly.

3.1.5 GOVERNMENT RESOURCES:

The Federal Ministry of Social Development, Youth and Sports and Culture has the sole responsibility of caring for the aged in Nigeria.. The ministry is capable of providing adequately for the aged by ensuring proper pension scheme for the aged, providing better accommodations and funding health care services for them. Other resources are providing food subsidies, provision of drugs, transport and recreational facilities and above all increasing the number of old people's homes in Nigeria.

3.1.6. HEALTH VISITORS.

The Primary Health Care System which operates at grass root level across Nigeria has made it very possible for the aged to obtain care, even at the community level. This care system uses the community extension workers who are based in the community to provide health care services at the ward, and community levels. Other community health workers like the Public Health Nurses, the Community Midwifes, the Community Health Officers who are trained to provide health care services, conduct home visits, identify and mange some of the problems confronting of the aged, and making appropriate referrals, eg referring the elderly to Old people's home or the hospital if problems are medical in nature. These health workers assist the old people to obtain medical care where necessary and can also work with the social worker if problem is socially related. They also reconnect the elderly with their relations in distant cities in Nigeria and abroad.

3.1.7. HOSPITALS AND HEALTH CENTERS..

Hospitals and health centers are some of the available facilities to the aged.
In the hospital, the care of the aged is multidisciplinary approach type of care. It involves various professionals like.

Ophthalmologists-- (cares for the eye)
Dentist--- (cares for the teeth)
Social worker --- (Liaise with the ministry of Social Development Youth and Sports and Culture to provide for the aged)

Physiotherapist---(cares for fracture dislocation, skeletal /muscular problems to limit disabilities)
Physician---(cares for their medical problems)
Health visitor—e.g. (All Primary Health Care workers perform home visiting to identify their problem at home)
Psychologists- (deal with their mental and psychosocial problems).
Occupational therapist -- (Deals with their loneliness problems).

3.2. Community facilities and services available in (developed countries):

As has been mentioned previously, one of the most common occurrences of the aging process is loss of independence up to the point that they experience difficulties in carrying out some of the basic activities of life.

In developed countries like America a law was enacted for the older American with the view to improving their quality of life. Each community has its own peculiarities and the services available to elders. In general terms the services are:

1. The national nutrition programme for elders, where food is made available. Two major strategies used to distribute food are namely:

a) "Meals on Wheels" Services

In 1972 an amendment to the Older Americans Act outlined a national nutrition programme for elders and provided funds for communities to establish meal services. The meal services are provided through home delivered meal and often known as (Meals on Wheels) This is the regular delivery of meals usually once a day, five days per week to elders in their homes. These meals are prepared in a central location, sometimes in a hospital, school or senior center and are delivered by community volunteers.

b) Congregate meal programmes

With this approach, meals are provided for individuals who can travel to a central site, often within senior centers or publicity funded housing units. Usually it is the noon meal or lunch that is provided; these meals are funded by Federal and state government monies. Both types of meal programmes (**Meals on wheels and congregate meal programme)** are strictly regulated by Federal and state guidelines to ensure that the meals meet standard nutritional requirements. The elders may pay full price or just make a voluntary contribution.

2) Homemaker Services

Periodic homemaker services can be provided for the elders to enable them to remain in their own homes. These services are normal housekeeping activities such as house cleaning, laundry and meal preparation. The availability of these services allows many elders to live semi independently and delays their moving in with relatives or into group housing.

3) Chore and Home Maintenance Services

Chore and home maintenance services includes such services as yard work, cleaning gutters and window, installing screens and storm window, making minor plumbing and electrical repairs, maintaining air conditioners and helping to adapt a home to any impairments the elders might have.

4) Visitor Services

Social; interaction and social contact are important needs of every human being, regardless of age. Visitor services amount to one individual taking time to visit with

another person who is homebound or unable to leave his or her residence. This service is usually done on a voluntary basis.

5) Adult Day Care

Adult day care programmes provide care during daytime hours for elders who are unable to be left alone. These services are modeled after child day care. Most programmes offer meals, snacks and social activities for the clients. Some either provide or make arrangements for the clients to receive therapy counseling, health education or other health services. Other day care programmes are designed for elders with special needs, such as Alzheimer clients, the blind, etc. Adult day care programmes allow families to continue with daytime activities while still providing the primary care for a family member.

6) Respite Care

Respite care is planned short term care. Such care allows families who provide primary care for an elder family members to leave their elder in a supervised care setting for anywhere from a day to a few weeks. Respite services provide full care including sleeping quarters, meals, bathing facilities, social activities and the monitoring of medications. The respite care programmes allows primary caregivers to take a vacation to visit other relatives, or to be otherwise relieved from their constant care giving responsibilities in orde to avoid burnout issues.

7) Home Health Care

"Home health care**"** is an important alternative to traditional institutional care. Services such as medical treatment, physical therapy and homemaker services often allow patients to be cared for at lower cost than a nursing home or hospital and in familiar surroundings of their home. These programmes are run by official health agencies like the local health department, hospitals or private companies provide a full range of services including preventive, primary rehabilitative and therapeutic services in the client's home. The care is often provided by nurse home health aides and personal care workers (licensed health care workers).

8) Senior Centers

The enactment of the Older Americans Act of 1965 provided funds to develop multipurpose senior centers, facilities where elders can congregate for fellowship meals education and recreation. Also, a number of communities have built senior centers with local tax funds. Senior centers are widespread in the United States and are the most common community facilities aimed at serving seniors. However, they are found much less commonly in rural areas.

3.3 Available Services to keep the aged happy in the community.

Below are some of the available services that can make the elderly happy in the community **.**

Prompt payment of all their entitlements when they retire from active service.

Involving the elderly in community activities

Provision of house helps, health visitors, free medical services etc. to them.
Provision of social clubs, playing gadgets etc.
Provision of Hostels especially in the urban cities.
Provision of opportunities for excursion to visit interesting places and events

4.0 Conclusion.

In situation where the needs of the elderly are met through the available community services the lifestyles of elders are greatly enhanced, otherwise, they are confronted with a very poor quality of life. The major resources and facilities available for the elderly in the community in developing countries like Nigeria includes family members and friends, community members, association in the communities, voluntary agencies, Government agencies, health visitors, Hospitals and Health Centers. In developed countries like America facilities that are well organized include "meals on wheels," home makers, chore and home maintenance services, adult day care respite care, home health care services.

Some of the services that can make the elderly happy are prompt payment of entitlements following retirement, provision of help, playing gadgets, hostels or living place and opportunity for excursion.

5.0 Summary.

In this unit, the facilities and resources available to the aged in the community were discussed, for example the Family members and friends, the community members, Voluntary agencies, Government agencies, Health visitors and, Hospitals and health centers. Also some of the services that can make the elderly happy in the community like prompt payment of entitlements following retirement, provision of house helps, playing gadgets, hostels or living places and providing opportunity for excursion were identified.

6.0 Tutor Marked Assignments.

Identify 6 resources and facilities available to the elderly in the community.
Mention 4 types of services that can make the elderly happy in the community.

7.0 References and Further Readings.

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UNIT 6 DEATH AND DYING

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1.0 Introduction

Death is the most certain event in human existence; therefore death should be put in mind as we live the daily life. However the death phenomenon is conceived differently, depending on ones' cultural, ideological orientation. The focus of this unit shall be on issues relating to the dying person, eg what fears , cares, including the interventions that will facilitate peaceful death.

2.0 Objectives

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

Define the concept of death and dying.
Identify the fears of the person who is dying.
List the stages of dying.
Discuss what you should do when your patient's death is imminent.
List what you should do when you do not know what to say.
Discuss what to say, and what not to say, to a grieving family.
Explain some tips for caring for the dying person
List the structure and function of Hospice.
Discuss preparation for death.

3.0 Main Content

3.1 Definition of Death

Scientifically using the physiological definition, death is conceived as a cessation of breath and heart beat. The use of respirators and other life support systems in modern medicine allows body functions to be sustained artificially. To determine death requires investigating the presence of physical response other than heartbeat.

Theologically, death is defined as the separation of soul and body. ”

Philosophically, death is defined as the cessation of the integrated functioning of the human organism. This disintegration, of course, is like “the separation of body and soul” definition not an observable definition.

The Christian or religious perspective, death is not the end of life, but rather a transformation. For Paul in his letter to the *Thesssalonians* (4:13), death is a kind of sleep: “*We want you to be quite certain, brothers, about those who have fallen asleep. To make sure that you do not grieve for them, as others do who have no hope*.”

Africans, like others, resist the daily contemplation of death. Often people do not write their living wills. Among the Igbo, in Nigeria, the name of death is “Onwudinjo,” meaning “death is evil.” Death is perceived as an evil event etc.

3.2 Fears of the Patient who is about to die.

The attitude toward death is absolute loss and evokes a feeling of confusion, pain and fears. The common fears that confront a dying person are stated below:

Fear of Isolation
Fear of Pain
Fear of Dependence
Fear of Death Itself:

This is due to the fact that death has to do with immortality. Death is perceived as the ‘**End of life’** and usually very painfully.

3.3 Stages of Dying.

The stages of death which the dying person experiences are stated below:

- Denial and isolation: Trying to avoid the inevitable. It is a common knowledge that people deny death even by the expression of death as “gone to glory” “passed away”
- Anger: Frustrated outpouring of bottled-up emotion.
- Bargaining: Seeking in vain for a way out.
- Depression: Final realization of the inevitable.
- Acceptance: Finally finding the way forward.

3.4 When You Don’t Know What To Say

- Avoid rote responses e.g each person is unique.
- Avoid common greetings (e.g. “Hi! How are you?).
- Be sincere, genuine and honest. Admit you don’t know what to say.

- Don’t be afraid to discuss death.
- Don’t lecture or preach.
- Let the dying person talk.
- Ask what you can do and do it. Keep your promises.
- Watch your tone of voice. Avoid “cutesy” baby talk and condescension.
- Don’t abandon the patient.

3.5. What to Say to the Family of the dead.

- I’m sorry
- I’m sad for you
- How are you doing with all of this?
- I don’t know why it happened
- What can I do for you?
- You must really be hurting
- It isn’t fair, is it?
- You must really feel angry
- I’m here and I want to listen
- Please tell me what you are feeling
- This must be hard for you
- What’s the hardest part for you?
- I’ll call you tomorrow
- Take all the time you need
- Thank you for sharing your feelings

3.5.1 What NOT to Say to the family of the dead .

I understand how you feel

- Death was a blessing
- It was God’s will
- It all happened for the best
- You’re still young
- Be strong!
- You have your whole life ahead of you
- You’ll feel worse before you feel better
- You can have other children
- You can always remarry
- Call me when I can help
- Something good will come out of this
- At least you have another child
- He/she led a full life
- It’s time to put it behind you now

3.5.2 Tips for caring for the dying person.

In caring for the dying, it is important

To set treatment priorities

Share information with significant relations, be open to propose issues like will writing if it is acceptable given the culture, desires of the dying person.

Many would prefer to die at home in familiar and beloved surroundings. In traditional African cultures, the family comes together and children are involved in the conversation. The dying person is comforted and encouraged to embrace death with dignity.

Dealing positively with the losses and fears of the dying person while respecting the persons' cultural and religions practices. For example involving the spiritual director of the dying person and loved ones as requested

Maintaining hope via the speech, actions before the dying person.

Respects and values the dignity and worth of each person.

Be available to accompany the dying person.

3.5.3 Hospice Services:

The concept of hospice care grew out of perception that care of the dying within conventional hospital setting was inadequate. Hospice is a place where peaceful death and dying is accepted. It can be referred to as a "rest home" while in developing countries like Nigeria it is not common to find hospice homes, rather the responsibility of ensuring peaceful death are the directed towards the family members

Hospice care includes:

Palliative care: Measures taken to reduce the intensity of a disease especially those involving control of pain and other symptoms

Pain management.

Support for family (respite care).

Death with dignity.

Grief and bereavement.

Funeral and memorial planning. The above services are provided via an interdisciplinary approach to service delivery.

3.5.4 Hospice Personnel:

In developed countries, Hospice personnel include the :

- Case manager
- Nurses
- Home Care givers or health aides .
- Social workers
- Spiritual counselors
- Volunteers
- Medical director and attending physician
- Dietitians. etc.

3.6. Preparing for Death.

- Unlike many Americans, Africans do not tend to set aside money for their funerals while still alive. They do not make preparations towards their dying. They prefer to leave the burden to their living relatives.
- Living Will: In Nigeria as is often seen in other developing countries, people do not write their living wills.
- Legal Proxy. A lot of awareness creation is needed for people to use the legal services in preparing for death in developing countries like Nigeria.

4.0 Conclusion.

In this unit you have come to understand that death is one of the greatest challenges of human existence. Death is viewed as end of life "bad and evil event" however the perception of death to a great extent influence how one can react to the phenomena. The unit had identified what important information and how it can be presented that will provide hope for the dying person. What the care giver need to know about stages of death and dying including the preparation for death.

5.0 Summary.

Death and dying had always been the greatest challenge mankind faces. Death is often described as a necessary end that one does not say when it will take place. Most often the elderly anticipates death once one is 60 years and above. In this unit you have learned about :

- The definition and concept of death and dying
- Fears of the patient who is about to die.
- Stages of dying.
- What to say to the family of the dead and what NOT to say to the family of the dead.
- The tips for caring for the dying person.
  - Hospice Services.
  - The Personnel providing hospice services.
- Preparing for death.

6.0 Tutor Marked Assignment.

In your own words answer the following questions:

Define the term death.
List the stages of death.
Mention 4 statements that will provide hope for the family of the dying person.
List 3 tips for caring of the dying.

Mention 2 issues to be considered in preparing for death.

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