NATIONAL OPEN UNIVERSITY OF NIGERIA

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: NSS509

COURSE TITLE: GERONTOLOGICAL NURSING

GUIDE

NSS509
GERONTOLOGICAL NURSING

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NSS509 is a two credit unit course. It is a 500 level elective course available for B.Sc. students who wish to develop knowledge and skills in the nursing care of the elderly.

The course will expose you to an understanding of the concept and theories of coping. It will enable you to apply some nursing concepts and theories to the actual care of the elderly so as to help the elderly benefit maximally from nursing care.

The course consists of 10 units plus a course guide and the units include the meaning of ageing and gerontological nursing, aging process, theories as applied to ageing and effect of ageing on the body system, home care of the elderly, institutional care of the elderly, geriatric nutrition, drug use by the elderly, emergence nursing care of the elderly and common medical ï surgical problems of the elderly.

This course guide tells you briefly what the course is about, what course materials you will use and how you can go through these materials with maximum benefit.

In addition, the course guide gives you guidance in respect to your Tutor-Marked Assignments (TMAs) which will be made available to you in the assignment files in the study centre. It is in your best interest to attend the tutorial sessions.

Course Aim

The courseô broad objective is to build in you, the ability to understand and apply the principles, concepts and theories of ageing as well as that of nursing in the practice of care for the elderly in contemporary society.

Course Objectives

In order to achieve the broad objectives set, each unit has specific objectives which are usually stated at the beginning of the unit. You are expected to read these unit objectives before your study of the unit and as you progress in your study of the unit you are also advised to check these objectives. At the completion of each unit make sure you review those objectives for self assessment. At the end of this course you are expected to meet the comprehensive objectives as stated below. On successful completion of the course you should be able to:

- state who is an elderly person

- in terms of Biological, functional, psychological
cal concepts
- ageing process in terms of biological, psychological and sociological changes
- differentiate gerontological nursing from geriatric nursing
- state factors that complicate the nursing care of the elderly
- discuss at least three biological theories of ageing
- state five sociological theories of ageing
- discuss three psychological theories that are related to ageing
- state the significance of theories in development of nursing profession
- discuss at least two nursing theories that are relevant to the practice of gerontological nursing
- describe the effect of ageing on:

- cardiovascular system
- integumentary system
- musculoskeletal system
- gastrointestinal system
- urinogenital system
- endocrine system
- reproductive system
- sense organs of sight and hearing

- explain the philosophy of the practice of home care nursing for the elderly
- state the roles of the nurse in home care setting
- state the roles of the family in institutional care
- state the peculiar nature of the health of the elderly that must be noted for home care to be of help to the elderly
- understand the infection control practice in home care of the elderly
- understand the community resources for the care of the elderly
- discuss the institutional care of the elderly
- compare institutional care with the home care of the elderly
- describe the importance of nutrition in the care of the elderly
- discuss the nutritional assessment of the elderly
- describe the principles guiding drug therapy in the elderly
- discuss the common drugs used by the elderly
- state the health education to the elderly on drug use
- state the nursing considerations for the selected drugs commonly used by the elderly
- define emergency nursing care of the elderly
- state the information to the care-giver of the elderly on the emergency preparations

- y tray
- for the care of the elderly
- state the nursing care of the elderly patient.

Working through the Course

To complete the course, you are expected to study through the units, the recommended textbooks and other relevant materials. Each unit has a tutor-marked assignment which you are required to answer and submit to your facilitator through your counsellor at the specified time.

Course Materials

The following are the components of this course:

- The Course Guide
- Study Units
- Textbooks

Study Units

Unit 1	Meaning of Ageing and Gerontological Nursing
Unit 2	Theories as Applied to Ageing and Gerontological Nursing
Unit 3	Effects of Ageing on the Body Systems
Unit 4	Home Care of the Elderly
Unit 5	Institutional Care of the Elderly
Unit 6	Geriatric Nutrition
Unit 7	Drug Therapy in the Elderly Person
Unit 8	Geriatric Rehabilitation
Unit 9	Medical Emergencies of the Aged
Unit 10	Common Diseases of the Elderly

Assessments

The two components of assessment for this course are the tutor-marked assignment and the end of course examination. The tutor-marked assignment is the continuous assessment component of your course which accounts for 30% of the total score; these tutor-marked assignments must be answered by you at a stipulated time which must be submitted at the Study Centre while the end of course examination concludes the assessment for the course which constitutes 70% of the total course. It is a three-hour written paper which covers all the units of the course. It is expected that you create quality time to study all the units properly in preparation for the end of course examination.

signments (TMAs)

Each unit contains self assessment exercises and you are required to submit assignments. You are required to submit four assignments in which case the highest three of the four marks will be counted. Each assignment count 10% toward your total course work.

Final Examination and Grading

The final examination for course NSS509 will be of two hours duration and has a value of 70% of the total course grade. The examination will consist of questions which will reflect the type of tutor-marked problems you have previously encountered. All areas of the course will be assessed.

Facilitators/Tutors and Tutorials

There are 8 hours of tutorials provided in support of this course. You will be notified of the date, times and locations of these tutorials as well as the names and phone numbers of your tutor as soon as you are allocated a tutorial group. Your facilitator (as the tutors are called) will mark and comment on your assignments, keep a close watch on your progress and on any difficulties you might encounter. Do not hesitate to contact your facilitator by telephone if you need help.

We wish you success in the course and hope that you will find gerontological nursing interesting and useful for solving the problems of the increasing age group.

Best of luck

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UNIT 1 THE MEANING OF AGEING AND GERONTOLOGICAL NURSING

CONTENTS

1.0 INTRODUCTION

Improved medical services and control of communicable diseases have increased life span over the past years. As a result, many people are now living above the age of 65. This older population has unique needs and problems.

The first organised efforts to deal with the problems of the elderly were the establishment of the American Geriatric Society and the Gerontological Society in the 1940s.

In 1950, the first national conference on ageing was held in Washington DC. In 1961 American government set up the National Council on ageing, a voluntary organisation whose membership is open to all who shared an interest in the elderly.

tries like Africa and Asia, cultural practices and he care of the aged. Unfortunately, these cultural destroyed by rapid technological advancements. The destruction of these cultures creates special problem for the elderly in the developing world. The concept of ageing will be discussed and ageing defined. You will gain an understanding of ageing, the ageing process and definitions of gerontological nursing and geriatric nursing.

2.0 OBJECTIVES

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

- define the elderly
- define ageing in terms of biological, functional, psychological and sociological processes
- describe the ageing process in terms of biological, psychological and sociological changes
- define gerontological nursing and geriatric nursing
- state the factors that complicate the nursing care of the elderly.

3.0 MAIN CONTENT

3.1 Who is the Elderly?

Legally, an elderly person is a person of sixty-five years of age or above. The age of sixty-five is used not because of the actual physiological, psychological or sociological changes, but because it is the age of retirement from active service in many countries of the world.

Statistics and research findings have shown that persons who are sixty-five years and above constitute a group sufficiently different from others and that the grouping is well founded. Defining the population at risk as falling within a precise age ï range (65 and above) makes it possible to plan comprehensive services which will take account of the physical and emotional factors that may complicate old age.

3.2 Definition of Ageing

Certain changes are seen to affect most people as ageing occurs but it is clear that there are large individual differences in the precise changes observed. Due to these individual differences, many academic disciplines try to define ageing as they understand it. Let us try to look at some of the definitions.

Biological Ageing: This refers to changes in structure and functions of the body that occur over the life span. This includes all the changes that

logical activities of the cells, tissues, during the life span.

Functional Ageing: This refers to the capacities of individuals to function in the society when compared with those of others of the some age. Here, productivity is used to define the age of the individual. It is the society that determines whether one is an elderly or not.

Psychological Ageing: This refers to behavioural changes, alteration in self-perception and reactions to the biological changes that occur in the body of the individual over time. In this case, it is the attitude of the individual that determines his/her age. This gives rise to ñyouth at heartò

Sociological Ageing: - This refers to the roles and social habits of the individual in the society. This definition is closely related to functional ageing.

3.3 The Ageing Process

The Ageing Process: Ageing is a developmental stage and like any other developmental stage, it is a linear process. That means that one does not suddenly become ñoldò at age 65. It is of the same rate at which a 35-year old is ageing that an 85 year-old is also ageing. The rate at which the elderly loses functions does not increase with age. What makes it look as if the 85-year old is ageing faster is the amount of psychological, social and biological loses. The age at which many people retire from active employment is also when other life events such as physical illness or bereavements begin to make their appearances with greater frequency.

Ageing is defined as a progressive unfavorable loss of adaptation and a decreasing expectation of loss of life with the passage of time that is expressed in measurement as decreased viability and vulnerability of normal forces of mortality.

The Biological Process of Ageing: This refers to the gradual decline in healthy functioning which occurs in an organism and which ultimately leads to death. Biological ageing could be primary or secondary. Primary ageing is in-born and is based on hereditary factors while secondary ageing is caused by trauma and disease. In both cases, cells die or produce less efficient mutations or develop alteration in the chemical structure of their enzymes. Abnormal metabolic processes set up to the detriment of the whole organism (Kendell and Zealley, 1983).

d Psychological Processes of Ageing: The changes hysical and psychological state in the ageing ly related to sociological factors.

Some individuals psychologically deal constructively with the changes of ageing while some do not.

The status of old people appears to depend on their value to the society. In a situation like traditional African society where this long experience in life can provide useful information for later generations and where only a few people can survive beyond middle age, their positions are assured. In addition, where they are seen to have a clear-cut role in the family their position is also asserted.

3.4 Gerontological and Geriatric Nursing

3.4.1 Geriatric Nursing

The American Nurses Association Division on Geriatric Nursing Practice defined geriatric nursing as concerned with the assessment of the nursing needs of older people, planning and implementing nursing care to meet their needs and evaluating the effectiveness of such care to achieve and maintain a level of wellness consistent with the limitations imposed by the ageing process.

3.4.2 Gerontological Nursing

The scientific study of biological, sociological, psychological and functional ageing process as well as Nursing care and treatment of elderly people is referred to as gerontological nursing. Gerontological nursing includes everything in the geriatric nursing as well as the scientific study of the ageing process.

SELF ASSESSMENT EXERCISE

Define functional and sociological ageing?

3.5 Factors that Complicate Gerontological Nursing Practice

(1) There is a great difference on the effect of chronological age on the ageing process. There is variation in ageing.
(2) There is multiplicity of an older personôs losses socially, economically, psychologically and biologically. Since no two persons have the same experiences in these areas that affect the older adults there is greater variation in ageing process.

ponse of the aged to disease, coupled
disease entities, tends to complicate

(4) The cumulative effects of multiple chronic illnesses and /or degenerative process tend to make the practice of gerontological nursing complex

(5) Cultural values associated with ageing and social attitude toward the aged present a special problem to all that care for them.

4.0 CONCLUSION

Age 65 and above is regarded as elderly because it is the official age of retirement from active public service in most countries of the world. Since ageing is a developmental stage with its attending linear process it means that one does not suddenly become ñoldò at age 65. It is the same rate at which a 35-year old is ageing that an 85 year-old is also ageing.

5.0 SUMMARY

We have seen the ageing process as being characterised by multiple losses that accompany developmental changes. The ageing process has been viewed in terms of biological, sociological, psychological and functional perspectives. Geriatric and gerontological nursing have been defined.

6.0 TUTOR-MARKED ASSIGNMENT

1(a) Define the term ageing
(b) Who is an elderly person?

2. Discuss the ageing process in terms of biological, psychological, sociological and functional perspectives.
3. Differentiate between Gerontological nursing and geriatric nursing.

7.0 REFERENCES/FURTHER READING

Tomey, A.M. and Alligood, M.R (2002). *Nursing Theorists and their Works*, (5th ed.).

Davis, A.R. (ed.). (2001). Adult Nurse Practitioner-Certification Review. London: Mosby

Rice, Robyn (2001). *Home Care Nursing Practice, Concept and Application*. Philadelphia: Mosby.

ORIES AS APPLIED TO AGEING AND ONTOLOGICAL NURSING

CONTENTS

1.0 INTRODUCTION

Different disciplines have developed theories of ageing due to the complex nature of the ageing process. These theories will be discussed under the following perspectives: biological, sociological and psychological. We will discuss the nu rsing theories that apply to nursing care of the aged. The importance of theories in the nursing practice will also be highlighted.

2.0 OBJECTIVES

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

- discuss three biological theories of ageing
- state five sociological theories of ageing
- discuss three psychological theories that are related to ageing
- state the significance of nursing as a profession
- discuss two nursing theories that are relevant to the practice of gerontological nursing.

3.1 Theories of Ageing

Theories of ageing are viewed from different perspectives. This is because of the complex nature of the process of ageing. Some of the perspectives include:

3.1.1 Biological Theories of Ageing

The biological theories of ageing are divided into three major categories: Genetic mutation, oxidative stress and genetic programme theories.

a. **Genetic mutation theory**: It states that ageing is the result of accumulated mutations in the deoxyribonucleic acid (DNA) in the cells that lead to progressive impairment of functions. This theory focuses on the role of telomerase enzyme that express in germ cells not in the body cells.

The telomeres found in the end of chromosomes appear to shorten with each cell cycle in the body. This leads to decrease in cell reproductive capacity and ultimately, cell death.

b. **Oxidative stress theory**: This theory is based on oxygen-free radicals that are generated randomly in cells during oxidative metabolisms. These free radicals have the potentials of damaging the cells. These oxygen-free radicals have the ability to combine chemically with proteins which result to breaks in DNA. The DNA in the mitochondria is probably vulnerable to this type of damage because of its proximity to the oxidative metabolism machinery. The enzymes like superoxide dimutose, an antioxidant enzyme removes these free radicals in normal cells, but such enzymes are found to be decreased in the elderly.

c. **Genetic programme theory**: This theory states that because maximal life span is genetically determined, the ageing process is also genetically determined. That means that regulatory processes turn off the expression of some genes and turn on others.

3.1.2 Sociological Theories

These theories focus on the rates and relationship at which individuals participate in their later years and on adaptation to accepted social values. There are five lines of thought concerning the successful ways the elderly cope with the various stresses to which they are subjected.

nt theory: According to Cumming and Henry derly cope best if they accept the inevitability of ct with others, particularly the activities of younger people and manage to enjoy their retreat from the hurly-burly of everyday life. It proposes that ageing is a developmental task in/and of itself, associated with particular pattern of behaviour that results from simply growing older.

Most old people dismissed this theory as not being valid since older people do not tend to withdraw but continue to be active in their churches and communities for as long as they are able.

b. Continuity theory: This theory proposed that how a person has been throughout life is how the person will continue through the remainder of life. It states that individuals change very little over time. If they were active and outgoing when they were younger, they most likely would behave in exactly the same way as they age.

c. Activity Theory: This theory holds that an older person, aware of certain failing skills must make all the more effort to counter this deterioration on others to maintain a sense of purpose and satisfaction. This theory proposes the opposite of the disengagement theory. It is saying that older people remain active which in itself is a sign of ñhealthy ageingò

d. Age stratification theory: The theory focuses on the interdependence of the older adults on the society and how the ageing person is viewed by others. This in other words, means that it is the society that determines who is elderly.

e. Environment fit this theory: This theory relates the individualsô personal competence within the interactions. It focuses on interrelationships between the competence of a group of people, older adults and their society or environment. The changes in behaviour as people age can be explained in three ways:

(i) as a person ages, changes may occur in some of the individualôs competence that may not be acceptable by the environment
(ii) as a person ages, the environment may become more threatening and make one feel incompetent to deal with it
(iii) with rapid advances in technology in all areas of life, the older persons might feel intimidated by the chaos and noise around them and tend to become more isolated.

of Ageing

The psychological theory of ageing is related to sociologic theories of ageing. As a person ages psychologically, adoptive changes take place that assert the person to cope with or accept some of the biologic changes. These adoptive mechanisms include memory, learning capacity, feeling, intellectual functioning and motivation to engage or not engage in particular activities. Psychological ageing incorporates both behavioural changes and also developmental aspects related to the older adults. Only those areas of psychological theories that relate to elderly will be looked at.

a. **Jung's theory of individuals:** Jung stated that successful ageing is when a person can look deeply inside self and is able to evaluate and value post accomplishment and accept ones limitations.

SELF ASSESSMENT EXERCISE

a. Recap the psychological theories of ageing

b. **Course of human life theory:** This was propounded by Buhler. He stated that old age is a time one no longer has life goals.

c. **Erickson's stages of life theory:** This stated that elderly person (65 and above) has a psychological crisis of ago integrity versus despair. He said that older adults can look back with a sense of satisfaction and acceptance of life and death. He went further to say that unsuccessful resolution of this crisis may result in a sense of despair in which individuals view life as a series of misfortunes, disappointment and failure.

3.2 Nursing Theories

It should be noted that all the theories discussed above are not nursing theories. Nursing utilises both science theories and social science theories but it is nursing theories that help nursing to grow to professional status.

3.2.1 The Importance of Nursing Theories for the Development of Nursing

Not only is a theory essential for the existence of nursing as an academic discipline, it is also vital to the practice of different branches of the profession (Tomey and Alligood, 2002).

nursing theories for the profession can be stated as ories

(1) utilised in the nursing practice gives a well-defined and well-organised body of specialised knowledge that is on the intellectual level of higher learning
(2) constantly enlarge the bodies of knowledge nursing uses to improve her techniques of education and service by the use of scientific method
(3) entrust the education of nurse practitioners to institutions of higher learning
(4) apply its body of knowledge in practical services that are vital to human and social welfare
(5) help nurses to function autonomously in the formulation of professional policy and in the control of professional activities
(6) attract individuals of intellectual and personal qualities who exalt service above personal gain and who recognise their chosen occupation as a life work
(7) strive to compensate nurse practitioner by providing freedom of action, opportunity for continuous professional growth and economic security.

3.2.2 Nursing Theories Relevant to Gerontological Nursing Practice

Leiningerôs transcultural nursing theory proposes that cultural care provides the broadest and most important means that nurses can use to promote health and well-being. To her, nursing is an inherently transcultural profession and transcultural care knowledge is essential if nurses are to give competent and necessary care to people from different culture. Leininger linked care with culture and proposed that they should not be separated in nursing actions and decisions. She suggested that the ultimate goal of cultural-driven nursing is for nurses to assist, support or enable all individuals to maintain well-being, improve life or face death.

Leiningerôs theory fitted in well with gerontological nursing because culture determines the societal values of an elderly person. The more the culture ascribes value to the elderly person the more care and protection the society gives to the elderly. In other words, the nurse must know that the concept of health and care the elderly receives is individually and culturally defined.

Self Care Deficit Theory of Nursing: Orem's Self-Care Deficit Theory of nursing describes three concepts that are basic to nursing practice ï self care, self-care deficits and nursing system.

mpasses the basic activities that aid d health maintenance. The self-care food, air, rest, social interacting and other components of human functions. The self-care requisites are the focus of health-related behaviour of individuals, families and community.

Nursing system according to Oremôs theory is multidimensional and viewed as wholly compensatory, partially compensatory or supportive ï educative system.

This theory completely takes care of the type of patients that constitute the elderly. Some are completely dependent but still need health-education. The other group may be normally dependent while the rest may be completely dependent on the care by others. The theory views care as something to be performed by both nurses and patients. The role of a nurse is to provide education and support that help patient acquire the necessary abilities to perform self-care (Rice, 2001). The principles of gerontological nursing can completely be based on this theory.

4.0 CONCLUSION

Ageing is a normal process of life. It is peaceful and graceful in some people while in others it may be turbulent. A few theories of ageing drawn from relevant disciplines are examined in order to help us recognise practical manifestations when such occur.

5.0 SUMMARY

We have studied the theories of ageing. These theories are based on biological, sociological and psychological concepts. The diversity of theories of ageing showed how complex the process of ageing can be.

We also looked at the importance of theories in nursing profession in general. Some relevant theories to gerontological nursing were also discussed. This is to enable the students to understand the scientific principles of gerontological nursing.

6.0 TUTOR-MARKED ASSIGNMENT

1. Discuss three psychological theories that are related to ageing.
2. Discuss the significance of the theory in nursing practice.
3. Discuss the nursing theories that can be applied to gerontological nursing.
4. Discuss the applicability of Oremôs theory to the practice of gerontological nursing.
5. Discuss the application of Leiningerôs theory of transcultural nursing to the practice of gerontological nursing.

CES/FURTHER READING

Alligood, M.R (2002). *Nursing Theorists and their Works*, (5th ed.).

Davis, A.R. (ed). (2001).Adult Nurse Practitioner-Certification Review. London: Mosby.

Rice, Robyn (2001). *Home Care Nursing Practice, Concept and Application*. Philadelphia: Mosby.

GEING ON THE BODY

CONTENTS

1.0 INTRODUCTION

Many physiological functions decline at a rate of approximately 1% per year after the age of 30. A decline in any one major system is not always significant. It is the gradual deterioration of several organ systems that typically affects the functional ability of the older adults. As age-related changes occur, some people develop chronic problems and therefore become more vulnerable to illness.

2.0 OBJECTIVES

1. At the end of this unit the students should be able to describe the effect of ageing on:

- cardiovascular system
- integumentary system
- musculoskeletal system
- gastrointestinal system
- neurological system
- urinogenital system
- endocrine system
- reproductive system
- sense organ of sight and hearing

good background knowledge of anatomy and the body systems.

3.0 MAIN CONTENT

3.1 Effect of Ageing on the Integumentary System

The most obvious reflection of age appears in the integumentary system. Hair, skin, body composition and teeth, all undergo changes. Integumentary changes are related to internal (genetic) and external causes such as exposure to sunlight and environmental chemicals. About 90% of all older adults have some kind of skin disorder.

The Skin: The skin is composed of three layers: epidermis, dermis and subcutaneous.

- **Epidermis**: The skin outer layer prevents the entry of foreign substances and the loss of body fluids. Melanocytes decrease within the epidermis and the dermal-epidermal junction flattens owing to the retraction of papillae. These changes cause the skin to appear thin, pale and translucent.

- **Dermis**: The dermis contains blood vessels that provide nutrients to the epidermis and assist in thermoregulation. Nerve fibers serve a sensory purpose in perception of pains, touch and other sensations. Collagen which makes up the major portion of the dermis is decreased, leading to decreased elasticity and strength. Decreased vascularity and increased fragility make the older adults less resistant to sharing forces and more prone to deceits ulcers.

- **Subcutaneous**: This inner layer composed of fatty tissue serves as a storage area for calories as an insulator and regulator for temperature change and protects the body from trauma. Subcutaneous glands and sweat glands are contained within this layer. With advancing age, function is reduced in these glands due to the loss of hair follicles and impairment in the ability to maintain body temperature (homeostasis).

- **Nail**: The nail growth slows down around the third decade with a decrease in lunula size and a decrease in peripheral circulation. The nail plate turns yellow and thick, causing the nail to become soft and brittle, and to split easily.

- **Hair**: Graying of the hair is the result of decline in melanin production. The hair becomes thinner on the head and the body

nsity of nasal and ear hair particularly
air is seen in women as a result of
decrease in estrogen.

3.2 Effect of Ageing on the Musculoskeletal System

The primary changes in the musculoskeletal system caused by ageing include change in stature and posture. There is a decrease in height (1.2-4cm) mainly due to compression of the spinal column. There is lengthening and broadening of the ears and nose. The long hones of the body are not affected by ageing.

There are changes in body tissue as a result of stress, vitamin D intake, parathyroid hormones and calcium, these lead to changes in bone mass and metabolism.

There is increase in bone absorption within the vertebral bodies, wrist and hip due to decrease in calcium levels.

There is decrease in lean body mass with increase in body fat. There is slowing of muscle tissue regeneration. The muscle becomes atrophied with more fibrous changes in musculoskeletal and nervous system leading to slower movement and decrease in strength and endurance.

3.3 Effect of Ageing on the Cardiovascular System

With age, the heart has an increase in lipofuscin deposits in the myocardial fibers. The number of pacemaker cells in the sinoatrial node is decreased, which produces changes in the normal sinus rhythm. An accumulation of lipids combined with a degeneration of collagen and calcification of the valve causes the valves to become thick and stiff. The increase in thickness produces cardiac murmurs, which are common in the older adults. There is an increase in calcium deposits on the walls of the aorta and large vessels, leading to increased systolic blood pressure. In addition, the baroreceptors, which regulate blood pressure, are less sensitive in the older adult. Blood volume is reduced owing to the drop in plasma volume, and there is a slight drop in the number of red blood cells and in hemoglobin and hematocrit volume. Blood coagulability increases with age.

3.4 Effect of Ageing on the Respiratory System

Ageing produces changes both within the respiratory system and in other related systems. In addition, changes in other systems affect the respiratory system. Musculoskeletal changes including shortening of the thorax, with an anterior-posterior diameter increase. Osteoporosis of the

well as calcification of the costal cartilages occurs. ed rigidity of the chest wall, weakening of the diaphragm, intercostals muscles and accessing muscles. There is also atrophy of pharynx and larynx. The normal internal pulmonary changes include decreased blood flow to pulmonary circulation, decreased oxygen diffusion and shortened breath with decreased maximum breathing capacity. There is increased airway resistance, less ventilation of the bases of the lungs and more of the apex, impaired gas exchange. Bronchus become more rigid, decreased ciliary action, impaired cough mechanism. These combined age-related changes produce increased stiffness of the chest wall and diminished muscular strength and lead to reduced efficiency of breathing. Maximal inspiratory and expiratory force is reduced and more work is needed to move air in and out of the respiratory system.

3.5 Effect of Ageing on the Gastrointestinal System

The gastrointestinal system of the older adults may be characterised by decreased secretion, absorption and motility. Constipation is a common complaint among older adults, but is most likely caused by decreased fluid intake, insufficient bulk, and lack of exercise. After the age of 50, the liver begins to shrink and enzyme production is decreased. Changes in the liver are particularly important when considering drug therapy, especially those drugs that are metabolised by the liver. Lower drug dosage in elderly is a common rule. The elderly may have decreased absorption in iron, vitamin and foliate resulting in anemia.

3.6 Effect of Ageing on the Genito-urinal System

Age-related changes in the genitourinary system include a decrease filtration surface area with a progressive loss of renal mass and kidney weight. Renal blood flow progressively decreases from 12000ml/minute to 6001l/minute by age of 80. Glomerular filtration rate declines with age, owing to nephron loss and decrease in proximal tubular functions. Changes in the tubules decrease tubular transport mechanisms, owing to diminished ability to concentrate or dilute urine in response to excess or loss of salt and water. Creatinine clearance decreases with age and should be carefully monitored before administration of drugs dependent on renal functions. The urinal rhythm of urine production is lost with urine production remaining relatively the same over 24 hours with nocturia as the outcome. Drugs excreted in an unchanged form are likely to be excreted more slowly. In addition, renal diseases may cause an accumulation of drugs while low serum albumin level provides fewer binding sites, making freer drugs available. Drugs commonly taken by the elderly (e.g. digitalis, amino glycoside and antibiotics) should be calculated using the creatinine clearance as a guide.

SE

the genitourinary and gastrointestinal systems.

3.7 Effect of Ageing on the Endocrine System

There is little decrease in hormone secretion in ageing with the exception of oestrogen and testosterone. The most common disorders associated with the endocrine system are thyroid dysfunction, and diabetes mellitus. The thyroid gland is located in the neck anterior to the trachea. The thyroid gland produces thyroxine (T4) and triiodothyroxine (T3). The three most important conditions of the thyroid are hypothyroidism, hyperthyroidism and nodules. The signs and symptoms of these disorders may not be typical in the older adults and may go undiagnosed and untreated. The most common symptoms of hypothyroidism in older adults may be attributed to normal ageing changes and thus go undiagnosed. Among these symptoms are fatigue, loss of initiatives, depression, myolgia, constipation and dry skin. In addition some fragile older adults may develop mental confusion, anorexia, falling, incontinence and arthralgia. Hyperthyroidism in the elderly may go undiagnosed because the symptoms are more vastly different than in the younger population. Common atypical presentation in the elderly are weakness and apathy, weight loss, congestive heart failure with a trial fibrillation, angina, bowel disturbance such as diarrhea or constipation, dyspepsia, abdominal distress, mental confusion and depression.

3.8 Effect of Ageing on the Neurological System

There is still much that is unknown about nervous system changes with age. Some experts believe that there is a 10-12% brain weight decrease due primarily to a progressive loss of neurons. Both grey and white matters are lost. Lipofusion deposits, neurofibrillary tangles and neuritic plaques are found increasingly in the cytoplasm of the neurons, brain cells and brain tissues. In the cerebral cortex the dendrites shrink, reducing the number of fibers that receive synopses from other cells, resulting in reduced transmitted impulses. Monamine oxidase (MAO) and serotonin increase in the brain platelets and blood plasma, while norepinepherine many contribute to depression. There is a slowing of motor neuron conduction which accounts for slower reaction time. Age-related changes in the autonomic nervous system interfere with the ability of the hypothalamus to regulate heat production and heat loss. Sleep pattern also changes with age. Stages 3 and 4 (deep sleep) are greatly decreased while frequent awakenings and total awake time are

in cognition are not a normal ageing change and ed.

3.9 Effect of Ageing on the Sense Organs

Visual: Presbyopia is rigidity and loss of elasticity to the crystalline lens and decrease in ciliary muscle prevent the accommodation for near vision. Diagnosis can be made during eye examination and glasses usually correct the problem.

Cataracts: Senile cataract is the most common causes of adult blindness. Clouding or opacity of the crystalline lens is due to changes in the lens protein which causes swelling within the lens capsule. Clouding of the lens results in blurred vision and also causes light rays to scatter, producing a glare. Cataracts are visible in dark pupils. Diagnosis is made by fundoscopic eye examination, and the problem is corrected surgically.

Hearing: Presbycusis is a sensorineural loss of hearing, particularly of consonant, high-pitch sounds. Hearing loss may be gradual and the older adult adopts by reading lips or cupping the less affected ear. Diagnosis is made from a hearing examination. Implants, surgery or assistive hearing devices may correct or improve the problem. The nursing goal is aimed at preventing social isolation and increasing self esteem and social interaction.

3.10 Effect of Ageing on the Reproductive System

In older age, malesô testosterone production decrease, the phases of intercourse are slower and there is a lengthened refractory time. No changes are seen in libido and sexual satisfaction. Testes decrease in size, sperm count decreases and seminal fluid has a diminished viscosity.

Female estrogen production decreases with menopause and breast tissue diminishes. The uterus decrease in size and mucus secretion ceases. Uterine prolapse many occur as a result of muscle weakness.

4.0 CONCLUSION

This unit stresses the need to have good understanding of normal workings of the body systems as they advance in age at various levels. Consequently effects of ageing on the systems become discernible.

The effects of ageing on the different systems of the body have been reviewed. An elderly person can be recognised simply by looking at the face. These characteristics are as a result of ageing effect on the integumentary system. Some of the activity imbalances in aged are attributed to the effect of ageing on the cardiovascular and respiratory system. Knowledge of the effect on the ageing on the body system helps the student to understand how to care for the elderly.

6.0 TUTOR-MARKED ASSIGNMENT

Describe the effect of ageing on cardiovascular, neurological and reproductive system.

7.0 REFERENCE/FURTHER READING

Eliopoulos, C. (1991). *Gerontologic Nursing* (3rd ed.). Philadelphia: TB Lippincott.

E CARE OF THE ELDERLY

CONTENTS

1.0 INTRODUCTION

Home care nursing consists of principles of nursing practice that are both old and new. It is old in Africa, Asia and Latin America where there are cultural provisions for the elderly but it is new for developed countries where people are so busy that no provision is made for the elderly in homes. Home care nursing blends the concepts of community health nursing and disease-focused care that is holistic in manifestation. Here, the application of home care nursing of the elderly is highlighted.

2.0 OBJECTIVES

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

- explain the philosophy of the practice of home care nursing for the elderly
- state the role of the nurse in home care setting
- state the role of the family in home care
- state the peculiar nature of the health of the elderly
- explain infection control practices in the home care of the elderly
- discuss the community resources for the elderly.

3.1 The Philosophy of the Practice of Home Care

According to Rice (2003) home care nursing is the delivery of quality nursing care to patients in their home environment on intermittent or part-time basis. Of importance in home care is the care giver in home and family environment (which includes community resources). The cooperation of the elderly and his/her care givers and the self determination for optimal health are important for achieving successful self care management at home. The home care nursing of the elderly represents all that the elderly is and wants to be and it is based within a relation-centred ethics.

3.2 The Role of the Nurse in Home Care of the Elderly

The home care nurse functions as a case manager through a multidisciplinary approach. The nurse formulates the care plan based on the nursing process of assessing, diagnosing, planning, implementing and evaluating. The roles of the nurse include:

(1) providing health rehabilitative and palliative therapies. Health promotional behaviours are viewed as a very important consequence of these therapies
(2) educating the patient and care givers about the illness or disability and mutually identified health care needs. Recommendation to promote optimal health or best level of functioning and self care management follows
(3) developing patient and care giver competence, decision making and judgment in self care management at home
(4) faster positive patient and care giver adjustment to coping mechanism for changed life-style, role and self concept as a result of illness or disability
(5) reintegrating the patient and care giver back into the family, community and social support system.

These roles could be seen as having the general purpose of providing the elderly and their care givers with the understanding, support, treatment, information and caring need to successfully manage their health care needs at home.

SELF ASSESSMENT EXERCISE

The philosophy of home care nursing is the -------- of ------- to patients in their -----environment on ----------or-------- basis.

Family in the Home Care of the Elderly

In the home care of the elderly, the client must be viewed as a member of the family unit that is part of the health team and the therapeutic aims that must acknowledge the strengths and weaknesses of this team. The members of the family must be involved in planning and in actual care of the aged. This is the only way the family members will get the basic knowledge, skills and encouragement that are needed for extended period of care that is usually needed. The objective of the home care nursing of the elderly is to maintain the elderly at home for as long as is consistent with his own health and happiness and the well-being of his relatives and supporters. When this is no longer possible, hospital resources should be used.

The home care given to an elderly person depends greatly on the willingness of the family members to cooperate in achieving the quality of life that is acceptable to the elderly in particular, and the society in general. In other to help the family members to cooperate with the care, the characteristics of the elderly must be explained to the family members. Some of the characteristics include:

(i) elderly persons are very slow in carrying out all their activities. Any effort to quicken their rate of action is met with resistance
(ii) they always try as much as possible to claim independence from the family members even where it is well known that he/her has high level of dependency due to illness and disability
(iii) provision of safety in the environment is of cardinal importance in the home care of the elderly. This is to prevent accident due to ongoing changes in the body system
(iv) in modern time, the elderly suffer from social isolation. To prevent social isolation, the family members should know that the elderly should be included in all the social activities of the family as much as their health permits
(v) the elderly may never complain of any problem or when they complain, they try to play it down. So any complaint made by an elderly should be investigated. Their health conditions can change fast
(vi) the elderly love to be respected in all ramifications
(vii) the care of the elderly requires interdisciplinary actions and the financial burden is borne by the family.

The roles of the family include:

(i) provision of physical comfort: The physical comfort may include helping the elderly meet the needs of activities of daily living. These include daily bath, oral care and other body grooms. The

lerly enhances his/her living, sleeping, ies etc. Where the elderly has a lot of is usually adequate when compared with the poor ones and those with loss of memory. The physical comforts expected from the family also include provision of good light, correct height of bed, chairs, toilet seat etc.

(ii) the family provides an environment that is handicap-friendly with regard to the elderly personôs disability. Environmental adjustment includes provision of physical structures that enhance the comfort of the client

(iii) the family should make specific effort to involve the elderly in the family social activities. The involvement should depend on the ability of the elderly. The elderly, where applicable, should be encouraged to participate in religious activities

(iv) the first member of the health team to notice that the elderly is sick is the family members. The family members usually provide the initial care before calling the attention of the nurse and others that are involved in the care. The family members should be educated on the health problems of the elderly

(v) the family should provide sensory stimulation to the elderly in other to promote mental activities. This contributes to the feeling of well-being. The family must consider the intellectual and recreational needs of the individual. These will create interest in living and add meaning to life beyond mere physical existence. There should be balance between shared activities and individual activities

(vi) the family plays significant role in rehabilitating the elderly. The family helps in speech therapy and physiotherapy.

3.4 Infection Control in the Home Care of the Elderly

The universal precautions stipulate the general guideline for infection control in home care in general. These guidelines are designed to reduce the transmission of blood-borne and other pathogens and apply to all patients regardless of their diagnosis. These guidelines reinforce the idea that all body substances can be a source of infection. These guidelines also emphasise that the environment is a potential source of infection. They contain recommendation to prevent droplet, direct or indirect contact and true air-borne transmission of infectious diseases. The precautions include:

(i) hands should be washed with soap and water before and after contact with the patient

(ii) wear gloves if there is a possibility of infection transmission

(iii) wear disposable face mask whenever there is a reasonable expectation that droplet infection transmission may occur

s and needles should be placed in protective ntainers that can be sealed with lid

(v) wear gloves when handling specimen and handle all specimens carefully to minimise spillage

(vi) clean all equipment thoroughly to remove organic material before disinfection or sterilisation

(vii) although home care nurses should primarily use an aseptic technique when performing most procedures, clean techniques are usually taught to the client care giver. The information should be enough that they can safely manage infectious diseases at home

(viii) encourage daily cleaning of the room. Trash container should be washed with soap and water daily. The room should be well ventilated with enough light

(ix) the elderly should be taught to wash their hands with soap and water before and after evacuation of bowel or bladder and before handling foods

(x) maintaining health at a high level by eating a balanced diet and getting adequate amount of sleep, rest, sunshine, fresh air and exercise.

3.5 Community Resources for the Care of the Elderly

Home care of the elderly requires multi-disciplinary team that includes family unit, nurse, medical personnel, social workers, clinical psychologists and rehabilitation therapists. Apart from the therapeutic benefits of such approach, there are research gains from having access to the comprehensive knowledge available in such resources. The united energies and interaction of the care members ensure the development of appropriate philosophies of action and training, research programmes both clinical and operational can be more broadly oriented. The specialised knowledge and skill about old age syndromes may be more readily acquired and taught.

The primary health care teams are in the best position to give a comprehensive health care to the elderly. The care may be personal service like home help, meal-on-wheel and attendance to day care centre. They also pay attention to eyesight and hearing. Occupational therapy and physiotherapy should also be available in the community for the interest of the elderly. Night nursing should be arranged for short period of acute needs.

Home visit has long been recognised as being essential in the care of the elderly. It is particularly valuable in the social assessment of the needs of the elderly. The behaviour of the elderly in out-patient unit is usually deceptive. Home visitation offers the nurse the chance to assess the

ment. A much more realistic view is where the observed presence of social stresses of intergeneration stress may help to elucidate the present problems of the elderly. The two most important variables which determine whether the patient requires admission or home care are the quality of home support available and the aim and types of physical disability.

Good transport system is a very essential community resource needed for the home care of the elderly. When good transportation service is available, the elderly could be managed in hospital clinics without admission and progressive impairment will be controlled. This offers relief to relatives.

3.6 Nursing Diagnosis for Home Care

1. **Impaired Home Maintenance:** This is the state in which an individual or family experiences or is at risk to experience difficulty in monitoring a safe, hygienic, growth-producing home environment. This diagnosis can describe situations in which the individual or family needs specific support or instruction to manage the home care of a family member or activities of daily living.

To make this diagnosis, one or more of these conditions must be observed:

a. difficulty in maintaining home hygiene
b. difficulty in maintaining safe home
c. inability to keep up home
d. lack of sufficient finance

The following may or may not be present:

a. repeated infection
b. accumulated wastes
c. over crowding
d. infestation

For the elderly adult, this diagnosis is related to multiple care requirements secondary to family members with deficits (cognitive, motor and sensory).

The objective of this care is for the home care giver to help the elderly demonstrate the ability to perform the skills necessary for the care of the home.

on

(i) Determine with the person and family the information needed to be taught and learnt
(ii) Determine the type of equipment needed, considering availability, cost and durability

Determine the type of assistance needed. These needs may be needs, housework and transport. Discuss the implications of caring for a chronically ill family member and the effect on other role responsibility.

The nurse should arrange for home visit. Allow the care giver opportunities to share problems and feelings. Refer to community agencies as indicated e.g. nursing, social services and need services.

Evaluation:

(i) identify factors that restrict self care and home management
(ii) express satisfaction with home situation.

2. Care Giver Role Strain

This is a state in which an individual is experiencing physical, emotional, social and/or financial burden in the process of giving care to another. It represents the burden of care giving on the physical and emotional health of the care giver and its effects on the family and social system of the care giver and care receiver.

The situation is characterised by the care giver:

(i) report insufficient time or physical energy
(ii) has difficulty performing care giving activities required
(iii) care giving responsibilities interfere with other important roles (e.g. work, spouse, friends, and parents)
(iv) apprehension about the future for the care receiverôs health and ability to provide care
(v) apprehension about care receiverôs care when care giver is ill or deceased
(vi) depressed feelings and anger.

Interventions

(i) Assess for causative or contributing factors that may be:

(a) poor insight into situation
(b) unrealistic expectations

(ii) Provide empathy and promote a sense of competency
(iii) Discuss the effect of present schedule and responsibilities on:

- physical health
- emotional status
- relationship

(iv) Assist to identify activities for which assistance is desired

It may be elderlysô need for:

- hygiene
- meal
- laundry
- house keeping
- shopping
- house repair

(v) Discuss with the family the following:

- importance of regularly acknowledging the burden of the situation for the care giver
- benefits of listening without giving advice
- the importance of emotional support

(vi) Identify all possible sources of volunteer help in family:

- friends
- neighbours
- church
- community group

(v) Identify community resources available:

- support group
- social service
- home-delivered meal
- counselling
- transportation
- day care

(vi) When appropriate home care is not possible discuss with the family, the nursing home and senior housing.

d Family Coping

ich a usually supportive primary person is providing sufficient, ineffective or compromised support comfort, assistance or encouragement that may be needed by the client to manage or master adoptive task related to his or her health challenges.

To make this diagnosis the following must be found:

(i) the elderly expresses or confirms a concern or complaint about the significant otherôs response to his/her
(ii) the care giver describes preoccupation with personal reactions (e.g. for, anticipatory grief, guilt, anxiety) to elderly personôs condition
(iii) the home care giver confirms an inadequate understanding or knowledge base that interferes with effective assistance or supportive behaviours
(iv) the home care giver withdraws or enters into limited or temporary personal communication with the client in times of need
(v) the home care giver displays protective behaviour disproportionate (too little or too much) to the clientôs abilities or need for anatomy.

4.0 CONCLUSION

According to Watson (2001), caring in the home is pure care in that it is in a non-institutional, real-living situation. It is the most authentic and yet demanding aspect of personal-professional caring manifested. This is true for the family members as well as any professional care providers.

5.0 SUMMARY

The foundation of home care must be based on trusting relationship that the nurse brings to the situation. The nurse must create and sustain relationship-centered caring as the basis of all that occurs during the care period.

6.0 TUTOR-MARKED ASSIGNMENT

1. State the roles of the nurse and the family in the home care of an elderly.
2. What are the community resources needed for the care of the elderly?

ER READING

Watson, J. (2001). Reconsidering Caring in the Home. *In*: Rile (2001). Home Care Nursing Practice ï Concept and Application. London: Mosby.

ITUTIONAL CARE OF THE ELDERLY

CONTENTS

1.0 INTRODUCTION

The policy of most governments on the institutional care of the elderly is based on the wrong assumption that elderly persons due to changes in their body have problems that are beyond help in the family and the community. So the institutional care of the elderly is then seen as the only alternative to difficulties encountered at home and to the problems of ñblocking the bedò in the acute care setting in the hospitals. These difficulties are due to poor utilisation of the community resources for the care of the elderly which in turn leads to family crisis and breakdown. The family then turns to long-term institutional care. In this unit, institutional care will be examined.

2.0 OBJECTIVES

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

- define the institutional care of the elderly
- state the reasons for institutional care of the elderly
- state the roles of the nurse in the institutional care of the elderly
- discuss the practice and prospect of institutional care of the elderly.

5.1 The Role of the Nurse in the Institutional Care of the Elderly

The fact that the main needs of the elderly may be nursing care needs, the institutions that care for the elderly are usually called Nursing Homes. Nurses working in such homes restore health and alleviate the sufferings of the elderly. Unlike in the acute care setting where the clients are sent home when they get better, in case of nursing homes, the elderly is still retained in the homes because there is no facility or a committed care giver at home. The roles of the nurse in these institutional care settings are not different from the fundamental roles of the nurse which include the following:

- The nurse co-ordinates the work of others involved in the care of the elderly persons including the physician, the physical therapist, the social workers etc. The nurse prepares the plan of care and ensures that the plan is carried out as and when due. The nurse makes sure that the elderly personôs appointment with the physician, for laboratory investigations, or with the physiotherapist is kept. The work of home keepers is checked and s/he ensures that the catering staff serve enough and adequate food to the elderly
- Provision of care: Nurses provide continuous care to the elderly 24 hours a day. ñWhen others have gone nurses stayò. Nurses help the elderly to do what they should do for themselves if they have the ability. It is the duty of the nurse to ensure that the elderly in their care breathe properly, eat balanced diet, rest, sleep and remain comfortable. The nurse takes care of the elimination needs and helps them to avoid the harmful consequences of being immobile as common in the elderly. Nurses use the nursing process to continually evaluate the conditions of the elderly and also plan for their care. The attention of the physicians is called when the nurse identifies a problem that requires medical treatment. The nurse carries out the prescribed treatment for the elderly conscientiously.
- Protection of the elderly: Elderly persons are prone to infection and injury. The nurse ensures that the environment is safe and healthy. The nurse takes every precaution to prevent the spread of infection from one elderly to the other. The house keepers are supervised to ensure that the rooms are clean, needles and other materials used for procedures are sterile and soiled materials are kept away. Sharp objects are placed in safety containers after use. The nurse washes hand with soap and water before and after care and ensures that the elderly maintain a good hand-washing habit.

rotects the elderlyôs dignity and tries to save the embarrassment or shame. The nurse makes sure that physically safe in bed or when ambulating. The nurse protects the elderly against anything that might be harmful in the institutionôs environment

- Health education**:** Teaching is a major role of the nurse in restoring health, promoting health and preventing illness. The nurse demonstrates to the elderly deep breathing, active exercises bearing in mind the ability of the elderly. The nurse teaches the elderly self care and how to minimise disability and maintain high quality of life
- Advocate for the elderly**:** Nurses spend good time with the elderly once admitted to the institution. The elderly share details of their lives with the nurses. They undress for nurses and trust them to perform different procedures on them. Nurses use the information they get from the client to speak on their behalf. Advocacy is all about speaking on behalf of the elderly person and interceding when necessary. This advocacy is a part of the nursing care plan.

3.2 Practice and Prospect of Institutional Care

There are social arguments against institutionalising elderly persons. The desire to retain independence and/or to remain living in the community is strongly ingrained in our culture and should always be respected. People should be helped and encouraged to live in their homes and in their own communities for as long as they wish and able to do so. Elderly people should at all times be given the facilities and opportunities to function independently and to retain their identity as individual persons irrespective of the care setting. The Ireland National Council for the aged takes the view that comprehensive repair and adaptation services to the house of the elderly, together with appropriately designed and serviced sheltered housing, supported by day care facilities, out and in-patient hospital facilities, respite and intermittent care in hospital and community support services are alternatives to institutional care of the elderly.

Additionally, well organised nursing and home-help provision will serve as support to family doctors and the community caring network (family and voluntary workers) and so enable many more elderly people to remain living independently with or without their families and relatives.

In the cases of those whose physical or mental capacity is such that they cannot be cared for in the community, continuing nursing care home located as near to the elderlyôs home and family as possible and

ed by a wide range of community
ne service provision for elderly person
ise that elderly peopleôs level of dependency changes over time.

SELF ASSESSMENT EXERCISE

List out the roles of the nurse in institutional care setting.

4.0 CONCLUSION

While ensuring that fewer people end up in institutional care to which they are unsuited for, it is also necessary in the short-term to offer the opportunity to those already in such care setting to return to live in their own community, if possible. This requires positive discrimination in favour of such persons in the allocation of special shelter housing and in provision of domiciliary services. Peculiar problems and challenges of the elderly highlighted with focus on important roles nurses play along with other care providers.

5.0 SUMMARY

The need for institutional care for the elderly has been discussed. Institutional care exists perhaps because of failure of home environment to adequately deal with the situation. Nevertheless, the home environment or near it is still a better choice to ensure independence and safety of the elderly.

6.0 TUTOR-MARKED ASSIGNMENT

1. What are the roles of the nurse in the institutional care of the elderly?
2. What are the prospects of institutional care in Nigeria?

7.0 REFERENCE/FURTHER READING

WHO (2003). *Nursing Care of the Sick.* AITBS Publishers: India.

UNIT 1 GERIATRIC NUTRITION

CONTENTS

1.0 INTRODUCTION

The ageing process leads to a lot of physiological changes that have far-reaching implications for the dietary needs of the individual. In prescribing a diet for the elderly, care must be taken to provide dietary intake of energy and essential nutrients adequate in quality and quantity. It should also be remembered that socio-cultural influences play a more important role than instincts in directing food choice (Okaka *et al*, 2006). In this unit, the nutritional need of the elderly will be examined.

2.0 OBJECTIVES

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

- explain the reasons behind geriatric nutrition planning
- formulate geriatric menu.

Nutrition is defined as the science of food, nutrients and substances therein, their activities, interactions and balance in relation to health and diseases and the process by which the organism ingests, digests, absorbs, transport, utilises food and excretes wastes substances. For maximum benefits from foods, the needs of an elderly must be well planned. Meal planning for the elderly is not different from that of the middle-aged adults since old age is a continuation of the past life with likes and dislikes for certain foods. The elderly is advised to continue to eat their favorite foods with minimum modifications to take care of their new physiological and health conditions.

3.1 Guidelines for Planning

- The intake of protein by the elderly should be increased for about 1.5-2g per kilogram body weight in order to maintain normal nitrogen balance since catabolism of protein increases in old age.
- Excessive protein intake should be avoided since this puts a lot of stress on the liver and kidney whose efficiencies are reduced by the ageing process.
- Intake of energy-providing food should be reduced in view of the reduced physical activities and metabolism. Excessive intake of calories reduces the life expectancy of the elderly by initiating metabolic diseases like diabetes mellitus and hypertension. It has also been documented that maintenance of working weight in elderly has a protective effect. So an elderly should take enough calories to sustain their working weight.
- Water and fluid intake of the elderly should be generous. About 1.5-2.5 liters a day provided not contraindicated by medical conditions. This level of hydration will ensure a urinary out-put of at least 1.5 liters a day.
- Vitamins and mineral intakes by the elderly should be generous especially iron, calcium and vitamins C and B. Sodium intake should be reduced because of high blood pressure and renal conditions common in elderly.
- Joules derived from fat should be cut down to about 20% of the total joules. It should be mostly essential fatty acids.
- The diet of the elderly should contain high fibre to prevent constipation.
- Attention must be paid to the state of dentition of the elderly and their foods must be presented in form that can be handled by such dental state.

...e recommended intake of certain nutrients like ...B and A, it is necessary to introduce specific foods ...its and dark green vegetables and milk.

- Empty calorie foods should be avoided. Such foods include sugar, honey and oil. Foods with high nutrient density should be given considering the health state of the elderly.
- Food choice responds principally to learned conditioning which influences all the activities of the elderly. The elderly should be presented with food that they are familiar with.

3.2 The Importance of Geriatric Nutrition

According to Minsky (2006) ageing is part of living. The choice of food has a far-reaching implication on the choice of an individual to age healthfully or age with sickness and poor quality of life. Human ageing is becoming one of the biggest challenges that face man continually increasing but good nutrition can help to combat the challenges. Healthy nutrition is needed to increase the age of onset of chronic degenerative diseases and to maintain healthy functional living in elderly.

Nutritional deficiencies are common in elderly people due to such factors as reduced food intake, lack of variety in the foods they eat, medications that deplete nutrients and create side effects, the price of foods rich in nutrients and the deplorable food choice available from ñanorexia of agingò due to hormones (lapin and ghrelin) that are higher in elderly and lead to prolonged and suppressed hunger and leads to calories depletion and malnutrition. That is why it is important to pay special attention to the nutrition of the elderly. Notable changes due to declining nutrition include: weight loss and dehydration, loss of muscle mass, performance of activities of daily living and poor oral health status. A good nutrition help to correct or prevent all these notable changes. Most of the medications used to treat diseases common in the elderly have been shown to have the potential of creating nutrient deficiencies.

For this reason the nutritional status of the elderly should be monitored especially when they are on drugs that may affect their nutritional status. It should also be noted that immobility either in bed or in a chair contributes to negative nitrogen balance and increased protein demands that are associated with the requirements for healing wounds, pressure ulcers, or bone fractures and for producing immune bodies when fighting infections. So it is important to provide enough dietary protein to maintain tissue integrity, muscle mass and immune function. It should be noted that in the absence of overt renal disease, most elderly people can tolerate high levels of dietary protein if they are adequately hydrated.

mption in older adults is sometimes age, thirst decreases and voluntary ortant to maintain adequate hydration because water serves several purposes, including the maintenance of body temperature, a diluents for medications and as a solvent for nutrients waste products and electrolytes.

People over the age of 60 have much less of the ñfriendlyò bacteria in their gut, making them more susceptible to gastrointestinal infections and bowel conditions such as irritable bowel syndrome. Supplementing their food with lactobacillus acidophilus and bitidobacterium are helpful.

Ageing is associated with metabolic degenerative diseases like osteoporosis, atherosclerosis, diabetes, sarcopenia (loss of skeletal muscle mass) and Alzheimer disease. To control these degenerative diseases specific foods that trigger them must be eliminated, such foods as conventional fats, fried foods, soft drinks, sugar and artificial substitutes. Sugar is one of the most serious causes of these degenerative metabolic diseases. When these foods are consumed they lead to increase in blood sugar and release of free radicals that oxidise fats. When the fat is oxidised, it forms plaque deposits in the blood vessels leading to atherosclerosis and hypertension. To reduce the burden of osteoporosis proper dietary interventions to stimulate bone formation must include calcium that is optimally absorbed, magnesium from non-laxative sources, boron, vitamin D (deficiency is common in older person) flavanoids and adequate protein.

Fruits and vegetables are ideal complex carbohydrates because they turn into sugar very slowly and because they contain more water and less dense in carbohydrate. They also contain soluble fibers that delay glucose absorption when eaten in sufficient quantities. Consumption of 20-35 grams daily of the soluble fibre is recommended. To control these degenerative diseases like diabetes mellitus, it is important to choose carbohydrates with low glycemic index and low glycemic load. Glycemic index is the amount of sugar in a food. It ranged from 0-100. Complex carbohydrates from vegetables have low glycemic index. Glycemic load is an indication of how fast a carbohydrate is converted to glucose in the body. The faster a food is turned into glucose the worse it is for blood sugar balance. Vegetables have low glycemic load and are recommended for the reduction of metabolic degenerative diseases in elderly.

Cataract is present in thirty per cent of elderly persons above 75 and worldwide; 50 million people are blind due to cataract. Many research studies show that antioxidants, particularly vitamin C, Vitamin E and Carotenoids can reduce the risk of cataracts. A recent Canadian study

e who were on low vitamin E diet had a 2.5 fold racts and those on low vitamin C had a four-fold greater risk.

SELF ASSESSMENT EXERCISE

Highlight 4 importance of geriatric nutrition.

3.3 Nutritional Assessment of the Elderly

Like any other nutritional assessment, the assessment of the nutritional status of the elderly uses multiple sources of information that include: historical data, nutritional history, anthropometric data, biochemical analysis of blood and urine and the presence of any disease process. In some cases the nutritional information may be obtained from significant others. The nurse uses the nursing process in the formulation of nursing care plan of a client with nutritional problems.

Nutritional History

A nutritional history identifies the elderly who are or may be at risk of malnutrition. It investigates the adequacy and recent food intake and, in particular anything that has impaired adequate selection, preparation, ingestion, digestion, absorption and excretion of wastes.

The following are included in the nutritional history:

- comprehensive review of usual dietary intake, including food allergies, food aversion and use of nutritional supplement including vitamin and alternative therapy
- recent unplanned weight loss or gain
- chewing or swallowing difficulties
- nausea, vomiting or pains with eating
- altered pattern of elimination (constipation, diarrhea)
- chronic disease affecting utilisation of nutrients e.g. malabsorption, pancreatitis, diabetes mellitus
- recent trauma, surgery or sepsis
- use of medications e.g. laxatives, antacids, antibiotics antineoplastic drugs and alcohol.

Physical assessment: Most physical findings are not conclusive for particular nutritional deficiencies. The finding must be compared with former conditions like:

(i) loss of muscle and adipose tissue
(ii) work and muscle endurance
(iii) change in hair, skin or neuromuscular function.

metric is the movement of the body or

(i) **Height:** It is used to determine ideal weight and body mass index.

(ii) **Weight:** It is a good indicator of nutritional status that can be compared with previous weight. It is used in calculating body mass index. Change may reflect retention (odema) or, dehydration.

(iii) **Body Mass Index:** It is used to evaluate adult weight

$$BMI\ (kg/m^2) = \frac{\text{Weight (kg)}}{\text{Height (m) x height (m)}}$$

BMI value of 20-25 is optimal
Value greater than 25 but less than 30 is over weight
Value greater than 30 is obesity
Value less than 20 is underweight.

(iv) **Triceps Skin fold Thickness (TSF):** Measure of the midpoint surgical calipers is used to measure the skin fold. Because of variation in the site of measure, variation in position, age and status, it is only trained clinicians who should perform this assessment for more accurate result.

Laboratory Tests

No laboratory test specifically measures nutritional status but the following can be used to estimate it:

(1) Protein status: This is evaluated in the following tests

(a) Serum albumin (3.5-5.5g/dl)
(b) Transferrin (180-260mg/dl)
(c) Thyroxin ï binding prealbumin (20-30mg/dl)
(d) Retinol ï binding protein (4.5mg/dl)

Albumin and transferrin have relatively long half-lives of 19 and 9 days, respectively, whereas thyroxine ï binding prealbumin and retinol-binding protein have very short half-lives of 24-48hrs and 10 hours respectively. If hydration status is normal and anemia is absent, albumin and transferrin levels can be used as baseline albumin and transferrin can be used as baseline indicators of adequacy of protein intake and synthesis. During protein calories malnutrition, however, the plasma, albumin level and indicator or visceral protein is unchanged. For evidence of response to nutritional therapy, values for the short turnover proteins i.e. thyroxine-binding prealbumin and retino-binding protein are the most useful.

ance: If more nitrogen is taken in than excreted, d to be positive and an anabolic state exists. If more ...creted than taken in, nitrogen balance is said to be negative and a catabolic state exists. Most nitrogen loss occurs through the urine with a small, constant amount loss via the skin and feaces. Nitrogen balance study should only be performed by specialists because of the accurate measurement of 24 hour food intake and urine output required.

(3) Creatinin – height index: Comparison of a patientôs 24 hr urinary creatinin excretion with a predicted urinary creatinin for individuals with the same height. This test evaluates body muscle mass. The quantity of creatinin produced is directly related to skeletal muscle wasting. The validity of results is affected by inaccuracies in the urine collection procedure and a lack of age - referred norms.

Estimating nutritional requirements: The primary goal of metabolic support is to meet the needs for body temperature, metabolic processes and tissue repair. Energy needs can be estimated using the following options:

(1) Indirect calorimetry: This is done using a metabolic cart; specialised personnel are required in order to provide accurate result

(2) Harris and Benedict equations: It is used to determine the Basal Energy Expenditure (BEE). BEE can be calculated using the following equations developed by Harris and Benedict.
BEE (male) = 66.5+(13.8XW) + (5xH) ï (6.8XA)
BEE (female) = 665.H (9.6xW) (1.9xH) ï (4.7xA)

Where:

W = Weight (kg), H = height (cm) and A = age (yr)

The BEE is multiplied by a stress factor that is estimated from the degree of stress and the need for weight maintenance. The stress factor (correction factor) ranges from 1.2 ï 1.5. The lower the factor, the less the estimated stress. In some disease conditions the stress factor may be as high as 2-3 times the caloric requirement of the BEE

(3) deal Body Weight Calculation: The ideal body weight (IBW) is calculated by first determining the height add 2.3kg to the weight. Then add or subtract 10% of the resultant figure to determine the IBW e.g. a 1.62m tall woman should have on IBW of:

= 4x2.3+45
= 9.2+45
= 54.2kg

The IBW of such woman is = 54.2kg +10

(b) IBW for men: Give 50kg for the first 1.5 meters for additional 0.03m in height; add 2.3kg to the weight. Then add or subtract 10% of the resultant figure to determine the IBW e.g. 0.1.62m tall man should have an IBW of

$$1.62 = +50 + \frac{(.12x2.3)}{0.03}$$

= 50+4+2.3
= 50+9.2
= 59.2kf

The IBW of such a man is = 59.2+10kg

The ideal body weight (IBW) is defined as the weight of an individual that conforms to optimal health and it varies from time to time in an individual. This method is an estimate but it gives an idea of what it should be.

4.0 CONCLUSION

Nutrition of the elderly involves selecting foods from those common foods that the elderly is used to. Old age is not the right time to introduce a new food menu. The food choice will also consider the physical and physiological condition of the elderly.

5.0 SUMMARY

Food intake is critical to the health of the elderly just as it is to other phases of life process. The fragile nature of the elderly calls for what is appropriate in quantity and quality. This unit stressed the importance of moderation in the planning and preparation of dietary regimen for the elderly; bearing in mind his/her eating habit history and experience.

6.0 TUTOR-MARKED ASSIGNMENT

Discuss the principles behind the formation of diet for the elderly.

7.0 REFERENCE/FURTHER READING

Okaka, J.C, Akobundu, E.N.T and Okaka, A.N.C. (2006). *Food and Human Nutrition*. An Integrated Approach. Enugu: O.J.C Academic Publishers.

G THERAPY IN THE ELDERLY

CONTENTS

1.0 INTRODUCTION

Drug is any substance that can bring about a change in biological function of the body through chemical actions. WHO also defines drug as any substance or product that is used or is intended to be used to modify or explore physical system or pathological states for the benefit of the recipient. When these drugs are taken, they lead to series of physicochemical activities in the body. For an elderly, there activities are amplified by the failing organs of the body to the detriment of the elderly. How these drugs are affected by the systems of the elderly will be discussed in this unit.

2.0 OBJECTIVES

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

- explain the physiological changes in the elderly persons that affect drug actions
- discuss the special considerations in drug administration in the elderly persons.

5.1 The Physiological Changes in the Elderly that Affect Drug Use

Physiological changes in the elderly and pharmacokinetics of a particular drug determine particular dosage of the drugs by the elderly. The age-related changes that alter the therapeutic and toxic effects of drugs are as follows:

- Changes in body mass: The proportions of fat, lean tissues and water in the body change with age. Total body mass and lean body mass tend to decrease while the proportion of body fat tends to increase. These changes in the body composition affect the relationship between a drugôs concentration and distribution in the body
- Gastrointestinal function: There is a decrease in gastric acid secretion and gastrointestinal motility in elderly person. All these reduce the emptying of stomach contents and movement through the entire intestinal tract. Elderly persons have been known to have more difficulty in absorbing drugs than young people. This is especially significant problem with drugs that have a narrow therapeutic range in which small change in dosage can be crucial.
- Hepatic function: The liverôs ability to metabolise certain drugs decreases with age. The decrease is caused by diminished blood flow to the liver, which results from an age-related decrease in cardiac out-put, and from the lessened activities of certain liver enzymes.
- Decreased hepatic function may result in more intense drug effects caused by higher blood levels, long-lasting drug effect because of prolonged blood levels and a greater risk of drug toxicity.
- Renal function: The ability to eliminate some drugs may be reduced by more than 50% in the elderly and most of the drugs used by the elderly are excreted primarily through the kidneys. If the kidneyôs ability to excrete the drug is decreased (as found in the elderly) high blood levels of the drug result.
- Disease conditions - The physiologic decline in organ function in the elderly is usually worsened by disease conditions. This leads to adverse drug reactions as well as noncompliance.

siderations in Drug Administration in the

- Drug dosages are modified to compensate for age-related decrease in renal function. BUN and creatinin level serve as a guide for adjusting drug dosages so that patients receive therapeutic dose without the risk of toxicity.
- Compared with younger people, elderly patients experience twice as many adverse drug reactions mostly due to greater drug use, poor compliance and physiologic changes. These adverse reactions are often mistakenly attributed to salinity and in some case the elderly may continue to receive the drug. For this reason any adverse reaction in an elderly must be investigated.
- Because the total body water content decreases with age, a normal dosage of potassium-wasting diuretics may result to sever dehydration and can also lead to raised blood uric acid and glucose level thereby complicating gout and diabetes mellitus. When an elderly is on diuretics, he/she must be closely monitored.
- Many elderly people experience light-headedness when on antihypertensive drugs partly due to atherosclerosis and decreased elasticity of the blood vessels. Antihypertensive drugs can lower blood pressure too rapidly resulting in insufficient blood flow to the brain which causes dizziness and fainting. In the elderly, aggressive treatment of high blood pressure may be harmful. Reducing blood pressure to 139/90 mmHg is the target but need to be done more slowly in the elderly than younger adults.
- Noncompliance: In elderly patients, the factors that are linked with non-compliance to drug regimen includes:

- diminished visual acuity
- hearing loss
- forgetfulness
- the need for multiple drug use in the elderly
- socio-cultural factors
- the elderly may fail to take prescribed doses or to follow the correct schedule.

- The nurse should review the elderly personôs drug regime with him/her. The nurse should make sure that the elderly understand the dose, the time and frequency of doses and why the drugs are prescribed.

Elderly on Drug

The elderly may be at a greater risk for adverse drug reaction arising from different factors like drug ï drug interaction, incorrect dosage etc. Due to changes in the conditions of the elderly, adjustments are frequently made to their regular drug regimen either by altering the dose or adding one or more new drugs. Adverse effects may go unnoticed by the practitioner or unreported especially when they are cared for at home. The nurse caring for the elderly both at home and in institutions must carefully review the elderlyôs drugs upon discharge, inform him/her of any potential adverse drug effects to be aware of, and tell him to call the nurse if the effect becomes bothersome.

The following general guidelines will help to ensure that elderly adults receive the maximum therapeutic benefit and avoid adverse reactions, accidental overdose, and harmful changes in effectiveness.

(1) Instruct the elderly to learn the brand and genetic names of all drugs they are taking and the actions of the drugs. The elderly should be instructed to report unusual reactions experienced in the past, allergies to foods and other substances, special medical problems and drugs taken over the last few weeks before giving them new drugs.

(2) Advise the elderly to always read the label before taking a drug, to take it exactly as prescribed and never to share prescribed drugs.

(3) Advise the elderly not to change brands of a drug without consulting his/her doctor to avoid harmful changes in effectiveness. Certain generic preparations are not equivalent in effect to brand-name preparations of the some drugs.

(4) Tell the elderly to check the expiration date before taking a drug.

(5) Advice the elderly to safely discard drugs that are outdated or no longer needed and to keep discarded drugs out of the reach of children.

(6) Tell the elderly to store each drug in its original container, at room temperature and in places that are not accessible to children or exposed to sunlight.

(7) Advise the elderly not to mix different drugs in a single container. They should know that relying on memory to identify a drug and specific direction for its use is dangerous.

y must remove the tablets from their original
use a daily or weekly ñmedication plannerò as a
ruct him/her to keep on index card with the planner that include the drugôs name, strength, dosage instructions and physical description written on the card. This is particularly important as the elderly are usually on multiple drug therapy.

(9) Advise the elderly to have a sufficient supply of drugs when traveling. He/she should carry the drugs with him in their original containers and not pack them in the luggage.

3.4 Nursing Considerations for Selected Drug Commonly Used by the Elderly

Here some of the things a nurse should consider while administering some of the common drugs in the elderly are considered.

(1) Amlodipine besylate (Norvasc)

- The elderly must be monitored carefully. This is because some elderly especially those with severe obstructive coronary artery disease, have developed increased frequency, duration, or severity of angina or acute myocardial infarction after initiation of calcium channel blocker therapy or at time of dosage increase like norvasc. The nurse should monitor blood pressure frequently during initiation of therapy. Because the drug may induce vasodilatation and a gradual onset of acute hypotension is not rare.
- Notify the doctor if sign of heart failure occurs and this includes swelling of fingers and feet or shortening of breath.
- Caution the elderly to continue taking the drug even when feeling better.

(2) Nifedipine (Adalat)

Do not give immediate release from within 1 week of acute myocardial infarction or in acute coronary syndrome. Monitor blood pressure regularly especially in patients who take beta blockers or other anti-hypertension. The nurse should advise the elderly who is taking it as antiangian that chest pain may worsen briefly when beginning drug or when dosage is increased. Instruct the client to swallow extended-release tablet without breaking, crushing or chewing them. Advise the elderly to avoid taking drug with grapefruit juice.

Closely monitor vital signs during the course of administering the drugs especially blood pressure in the patients with myocardial infarction.

The nurse should inform the elderly that the drug may cause headaches especially at the beginning of the therapy. The treatment for the headache is aspirin or acetaminophen. To minimise dizziness when standing up, tell client to rise slowly. Advise him to go up and down stairs carefully and to lie down at the sign of dizziness.

(4) Atenolo (beta blockers)

The nurse should check apical pulse before giving drug, if slower than 60 beats/minutes withhold drug and report to the doctor. The blood pressure should be monitored regularly. As a beta blocker, it may mask tachycardia caused by hyperthyroidism. In the elderly with suspected thyrotoxicosis, withdraw beta blocker gradually to avoid thyroid storm. The nurse should teach the elderly at home care how to take his/her pulse and to withhold drug if pulse is less than 60 beats/min.

(5) Captopril (ACE Inhibitor)

The nurse should monitor the BP of the elderly and must know that elderly patients may be more sensitive to drugs hypotensive effects. In the elderly with impaired renal function or collagen vascular disease, the WBC and differential counts should be monitored before starting the drugs and every 2 weeks for the first 3 months of the therapy.

Advise the client to take the drug 1 hour before meals because food in the GI tract may reduce absorption. Inform the client that light-headedness is possible, especially during the first few days of therapy. Instruct the client to rise slowly to minimise this effect and to report occurrence to the nurse. If fainting occurs, he should stop. Advise the client to use caution in hot weather. Diarrhea and excessive perspiration can lead to light-headedness and syncope.

The client should report signs and symptoms of infections, such as fever and sore throat as well as swelling of face, lips or mouth or difficulty in breathing.

(6) Doxazosim (Cardura) (An alpha blocker)

The nurse should monitor BP closely after starting the drug. If syncope occurs, the client should be placed in a recumbent position and treat supportively. A transient hypotensive response is not considered a

tinued therapy. The elderly should be made to know otible to a first-dose effect. This effect is common ers. The client is advised to avoid driving and other hazardous activities until drugôs effects on the CNS are known.

(7) Hydralazine hydrochloride

The nurse should monitor BP, pulse rate and body weight frequently. Hydralazine may be given with diuretics and beta blockers to reduce sodium retention and tachycardia and to prevent angina attacks. It must be noted that elderly people are more sensitive to drugôs hypotensive effects. The nurse should know that the red blood cells, lupus erythematosus cell preparation, and antinuclear antibody titer should be determined before starting this drug and periodically during long-term therapy. The nurse should monitor the elderly client closely for sore throat, fever, muscle and joint aches and rashes and this must be notified immediately to the doctor.

3.5 Nonsteroidal Anti-inflammatory Drugs

These drugs include ibuprofen, indomethacin, piroxican etc. This group of drugs acts to inhibit prostaglandin synthesis; thereby impeding cyclooxygenase ï 2 to produce anti-inflammatory, analgesic and antipyretic effect. Because NSAIDS impair synthesis of renal prostaglandin, they can decrease renal blood flow and lead to reversible renal impairment especially in patients with renal or heart failure or liver dysfunction and in those taken diuretics. These effects are more pronounced in elderly adults so they should be monitored closely.

Renal and liver functions and hemotocrit are monitored. The client must be monitored for symptoms of gastro intestinal bleeding. The client is instructed to take the drug with food, milk or antacids. The drug is absorbed more rapidly when taken with food. The client should limit alcohol because it increases the tendency for gastro intestinal bleeding. The client should be taught the signs and symptoms of gastro intestinal bleeding which including blood in vomit, urine or stool, coffee-ground vomit and black tarry stool.

Digoxin

Digoxin is one of the common drugs used by the elderly. It is used to treat heart failure, paroxysmal supraventricular tachycardia, arterial fibrillation and flutter. These conditions are very common in the elderly.

Digoxin mode of action is by inhibiting sodium-potassium-activated adenosine triphosphate, promoting cytoplasm and strengthening

cts on the central nervous system to luction through sino-aterial and aterio-

The nurse should know that digoxin-induced arrhythmias may increase the severity of heart failure and hypotension. Patients with hypothyroidism are extremely sensitive to cardiac glycosides and may need lower doses. Before giving loading dose, the nurse must obtain base-line data of heart rate, rhythm, BP and electrolyte and find out if the elderly has taken digoxin in the past 2 to 3 weeks. Loading dose is normally divided over the first 24 hours with approximately half the loading dose given in the first dose. Before giving drug, take the apical-radial pulse for 1 minute or decrease in pulse rate, pulse deficit, irregular heat. The toxic effects on the heart are life-threatening and require immediate attention. The digoxin level should be monitored. The therapeutic level ranges from 0.8 to 2mg/ml. Obtain blood for digoxin level at least 6 to 8 hours after last oral dose. Excessive slowing of the pulse rate (60 beats per minute or less) may be a sign of digoxin toxicity and the drug is withheld and the physician notified. The elderly and home care giver are taught about the drug action, dosage, how to take pulse and reportable signs. Advise the elderly to report adverse reaction like nausea, vomiting, diarrhea, loss of appetite and visual disturbances. The elderly should eat potassium-rich food like banana.

Physiological changes take place with increasing age; the nutritional requirements also change accordingly. During old age, energy requirements are less as the basal metabolic rate (BMR) starts decreasing from the age of 35. The requirement of energy reduces at the rate of about 5 to 20% between the ages of 35 and 70 years. To cater for this change in requirement, calorie intake should be reduced to maintain ideal body weight as per age and body weight.

4.0 CONCLUSION

In administering drugs to the elderly the physiological state of the organs of the elderly must be considered in relation to the type of drug. Drug dosage is usually reduced in the elderly to compensate for the system of the elderly. The elderly must be monitored whenever they are on any types of drug because adverse reaction is common in them.

5.0 SUMMARY

This unit examined the physiological decline in the bodyô vital organs which affects drug use by the elderly. The need for caution when administering drugs to the elderly is stressed. Overuse, underuse or

the elderly should be avoided. Careful and close
al. Users should also be aware of likely side effects.

6.0 TUTOR-MARKED ASSIGNMENT

1. Discuss the physiological changes in the elderly that affect their use of drug.
2. What are the special points to be considered while giving drugs to the elderly?

7.0 REFERENCE/FURTHER READING

Kelly, W.J. (ed.). (2006). *Nursing 2006 Drug Handbook*. USA: Lippincott William and Wilkin.

HABILITATION

CONTENTS

1.0 INTRODUCTION

Rehabilitation is a restorative process to help clients, physically impaired or handicapped regain their maximum physical, mental and vocational usefulness following disease or injury. Because of the multiple incapacitating diseases that affect the elderly, rehabilitation services are very important to enable them cope with their physical and psychological challenges. In this unit the rehabilitation services for the elderly will be examined.

2.0 OBJECTIVES

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

- define rehabilitation
- state the role of the nurse in rehabilitation services to the elderly
- discuss the range of motion exercises
- describe home medical equipment and assistive devices.

3.0 MAIN CONTENT

3.1 What is Rehabilitation?

Professional rehabilitation includes physical, occupational and speech therapists. Effective rehabilitation for patients with improved mobility is an educational process involving the coordinated efforts of patients, care givers, physicians and various health specialists. The ultimate goal for the elderly with physical impairment is to maximise their independence and daily function within the environment.

ness, disease, injury that lead to physical disability esulting in an increased need for rehabilitation.

To ensure patientôs maximum recovery to restoration of functions or to prevent further dysfunction, a multidisciplinary approach is essential. Open communication among the nurses, the physician and all rehabilitation professionals regarding the establishment of goals and the plan of care will result in an overall improvement in the quality of patient care.

3.2 The Role of the Nurse in the Rehabilitation of the Elderly

i. The nurse uses nursing process and holistic approach to assess the rehabilitation needs of the elderly as related to their physical challenges or disease process.
ii. The nurse helps the elderly adjust to and accept alteration in the body image secondary to the disease by focusing on the ability not on the loss, anxiety and depression. This is done by helping the elderly to appreciate their ability rather than disability.
iii. The nurse implements the rehabilitation programme. For example the nurse assists the elderly to ambulate early.
iv. The nurse educates the elderly on the benefits of early rehabilitation and expected outcome.
v. The nurse helps the elderly to keep his/her appointment with the physiotherapist and other professionals therapists involved in the rehabilitation services.
vi. The nurse teaches the family their role in the rehabilitation programme of the elderly. They should be involved in the planning process.

3.3 Range of Motion Exercises

Prevention of joint contractures and adhesion and maintenance of joint mobility is common rehabilitative programme of the elderly. These goals are met through a joint range of motion exercises which can be performed by the nurse, the care giver and the patients following health education. There are four ranges of motion exercises that can be performed:

i. **passive range of motion:** This is range of motion in which the elderly offers no assistance. The movement is performed completely by another person
ii. **active- assistive range of motion:** This is range of motion in which the elderly assists with the movement but still requires assistance from another person

This is range of motion in which the ient unassisted

: This is range of motion in which movements are performed with weights or against physical resistance.

3.4 Home Medical Equipment and Assistive Devices

Home medical equipment and assistive devices are seen as an adjunct in the rehabilitation process for the elderly (Rice, 2003). Some of these equipment include: raised toilet seat, toilet safety rails, bedside commodes, bath tub seat, tub transfer benches, tub safety rails and grab bars. These devices promote independence in performing such activity of daily living (ADLS). Self help assistive devices used to facilitate independence with dressing, grooming, feeding and cooking include: long-handled reached, shoe horns, stocking gids, button hooks and drilling sticks.

The elderly with impaired communication or phonation may require augmentative communication devices, cassettes and talking tapes.

4.0 CONCLUSION

Rehabilitation is common needs of the elderly due to their medical and physical disability. The goal of rehabilitation is to restore in the elderly the maximum attainable level of function and independence. The nurse has much to do with the rehabilitation of the elderly both in home and in institutional care.

5.0 SUMMARY

The ultimate goal of rehabilitation is to restore the elderly to pre-illness status as much as possible. This unit has brought to focus the concept of geriatric rehabilitation, what it entails and those involved in the process of helping the elderly to be able to engage in activities he used to do before the onset of this phase of life.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define rehabilitation
2. What are the roles of the nurse in the rehabilitation of the elderly persons?

7.0 REFERENCE/FURTHER READING

Rice, Robyn (2001). *Home Care*. Nuray Practa Concept and Application. Philadelphia: Mosby.

ICAL EMERGENCIES OF THE AGED

CONTENTS

1.0 INTRODUCTION

A medical emergency is a situation in which a client requires immediate medical treatment to prevent further body damage or death. Whoever is working with an elderly must be ready for emergency because of the unpredictable nature of the health condition of the elderly. In this unit the principle of emergency nursing care of the elderly will be examined.

2.0 OBJECTIVES

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

- define emergency nursing
- discuss the concept of emergency preparedness in geriatric care
- list conditions that commonly cause emergency in the elderly.

3.0 MAIN CONTENT

3.1 Emergency Nursing Defined

Medical emergency is defined as any sudden illness or injury that is perceived by the client or significant others as significant and requiring immediate intervention. The emergency continues until the condition is stable or no longer threatens the clientôs integrity or well being. Emergency situation can occur anywhere such as home, hospital, market etc.

Emergency nursing care is defined as the assessment, diagnosis and treatment of perceived, actual or potential, sudden or urgent physical or

rimarily episodic or acute. These may
t measures.

3.2 Emergency Preparation

The preparation for emergency by the nurse for an elderly person depends on the medical and physical condition of the elderly. For example, a nurse caring for an elderly who is on injection should have in mind that the client stands the risk of insulin reaction (hypoglycemia) after injection or hyperglycemia if the client has decreased his injection. It is the duty of the nurse caring for an elderly to identify the likeliest type of emergency that may occur in each of the elderly and not only prepare for it but also educate the client and the care givers on how to prevent this or care for them if they occur. An important way to be prepared for emergency in the elderly is to let the elderly and their care givers know how, who, and when to call for help. If the elderly is cared for at home, the care giver should be educated on how to recognise danger signs and who to call or what to do in the interim. The family should know the phone members of the following:

- the nurse
- the ambulance services
- the consult department of the local hospital
- the poison control centre, if any
- the police
- the family doctor, if any

The family should also know that the person receiving the call will need to have the following information:

- the name of the caller
- the exact location and nature of the emergency
- the telephone number of the caller
- in brief, all the information the caller has about the situation
- the general condition of the elderly
- the type of first aid the victim is receiving

3.3 The Emergency Tray

In all nursing practice some kinds of emergency supply kits or tray are kept.

Being prepared for emergency means making sure that everything in the tray is working and up to date. The drugs should not be expired. If the

tion, the tray (kit) and whoever works in the clinic it.

It is the duty of the nurse to make sure that there is a backup supply and to check the expiry dates of drugs. The nurse makes sure that the items are used only for emergencies and they are replaced immediately afterward.

3.4 Emergency Steps

(i) **Assessment:** When faced with emergency condition of the elderly the nurse should first gather as much information and as quickly as possible. This information provides clues to the urgency of the situation and treatment priority. If the elderly has been under the care of the nurse, it will be easier to know health problems such as hypertension, myocardial infarction, diabetes mellitus etc.

(ii) **Establishing priorities:** From the initial assessment, the principles of triage are applied. The priorities are of the following order:

(a) significant alteration in vital signs e.g. hypertension, hypotension, hypothermia, hyperthermia, respiratory difficulty, cardiac dysarrythmia
(b) altered level of consciousness
(c) severe pains
(d) bleeding not controlled by direct pressure
(f) condition that will worsen from delay in treatment e.g. chemical burns, drug over dose
(g) sudden vision loss
(h) disruptive behaviour
(i) sexual assault
(j) symptoms that are vague but cause the nurse some concern.

(iii) **Nursing intervention:** This depends on the condition presented by the elderly. The general nursing training has equipped every nurse with the knowledge of how to intervene in all medical emergencies. It should be noted that emergency preparedness involves the nurse updating his/her knowledge in the nursing intervention in emergency.

4.0 CONCLUSION

Emergency care of the elderly is an individual nursing care given as a result of sudden changes in the health condition of the elderly. The more prepared the nurse, the more likely the nurse can save the patient. It is

ring for an elderly must be able to
nditions that may occur.

5.0 SUMMARY

Elderly people have fragile health disposition and like children may be prone to medico-nursing emergencies. This unit has stressed the need for nurses caring for the elderly to be well prepared for such emergencies. Common cases were highlighted along with the basic principles of their management.

6.0 TUTOR-MARKED ASSIGNMENT

Discuss the emergency preparedness in geriatric care.

7.0 REFERENCE/FURTHER READING

Rice, Robyn (2001). *Home Care*. Nuray Practa Concept and Application. Philadelphia: Mosby.

MON DISEASES OF THE ELDERLY

CONTENTS

1.0 INTRODUCTION

At the beginning of this course we discussed in details the effect of the ageing process on the different systems of the body. Each of these effects has disease process associated with them. The implications are that there are some disease conditions that are common to the elderly. It does not mean that they are not found in the younger age. The details of the disease process and care are beyond the scope of this course. However, they will be listed. The students are advised to read them up in medical surgical Nursing textbooks.

2.0 OBJECTIVES

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

- describe the nursing care of the elderly with:

(a) prurities
(b) decubitus ulcer
(c) osteoporosis

3.0 MAIN CONTENT

3.1 Diseases of the Integumentary System

(i) Prurities: This is a generalised itching due to drying and flaking of the skin; due to xerosis is a common cause of prurities in the elderly. The other causes include chronic renal failure, hepatitis, and diabetes mellitus.

The nurse should perform skin inspection and also identify conditions that may cause drying, itching or allergic responses.

The frequency of bathing may be reduced using mild detergent soap. The skin should be rinsed carefully in tepid to warm water. The use of sponge should be avoided. The skin should be thoroughly dried. An emollient skin lotion should be applied to the skin immediately after bath. The client should be provided with adequate protein, vitamin C and vitamin A. At least 1.5-2 litres of water should be provided daily except if it is contraindicated.

(ii) Decubitus ulcer: This is a localised cellular necrosis due to prolonged pressure over a bony prominence that deprives the area of blood supply. It is common in the elderly due to reduced activities and immobility.

Nursing care

The nurse performs an assessment of the skin to identify the elderly that are at risk of ulcer formation and institutes preventive measures. Assist with personal hygiene. Observe and remove any source of moisture in contact with the skin.

Turn the client every 1 to 2 hours and assess condition of skin over bony prominence. The nurse monitors fluid and nutritional intake.

Reduce pressure to any bony prominence when indicated by use of toe plant for bed linens, air or water mattress, flat pad etc.

3.2 Diseases of the Musculoskeletal System

The commonest diseases of the musculoskeletal system in the elderly include:

(i) Osteoporosis

Senile osteoporosis results from imbalance in the activities of osteoblasts (bone forming) and osteoclasts (bone destroyer). It affects both trabecular and cortical bones of the vertebrae and articulating bones of the hip. The causes include:

- Decrease of estrogen and androgen level
- Imbalance in sex and adrenal hormone

(B) Life style behaviour

- Long life low calcium intake
- High caffeine intake
- Excessive alcohol intake
- Smoking
- Sedentary lifestyle
- Excessive exercise
- Decreased vitamin D utilisation

Nursing Care

Provide complete musculoskeletal assessment to identify risk factors. Encourage correct positive and initiate an individualised exercise programme suitable to functional and mobility states e.g. swimming, walking, biting, tennis and volley ball. Initiate muscle-strengthening programme in collaboration with a physician and physical therapist including lifting small weight, prone extension or use of other equipment. Initiate nutritional programmes that will help the elderly reach ideal body weight. The calcium intake should be increased to 100mg daily.

The following should be included in teaching:

(a) smoking cessation
(b) weight control
(c) reduction in coffee and alcohol intake
(d) moderate exercise

(2) Degenerative joint disease

Degenerative joint disease, also known as osteoarthritis is a non-inflammatory disorder of the movable joints most frequently the weight ï bearing joints, knees, hips and lumba spine. It is characterised by deterioration of articular cartilage with formation of new bone on the joint surfaces.

Heberdinôs made bony protuberance found at the distal interphalangeal joints are characteristic of the disease and are often seen in elderly adults. In the later stages, degenerative joint diseases produce pains, stiffness, crepitation, and joint hypertrophy. Systemic symptoms are

om immobility. Predisposing factors
ining exercise, joint war and obesity.

Nursing care

Relieve of pains is one of the objectives of care. Pains could be relieved using drugs like indocid, ibuprofen observe the toxic effect of these drugs which include nausea and vomiting, epigastric distress and gastric bleeding. Pains can be relieved by the application of moisture heat, massage over the joint and muscle. The joint can be rested using assistive devices like care or crutch walk that is placed on the affected side and advance with unaffected side. There should be reduction in caloric intake to control weight and prevent obesity.

(3) Rheumatoid Arthritis

This is a chronic, systemic, progressive disease affecting women more often than men. It is characterised by decreased joint mobility and deformity. In the early stages, symptoms include pains and stiffness of involved joint which may be relieved by rest. It may occur at any age but it is common among the elderly.

Other diseases that affect old age are listed below. Their detailed presentation is beyond the scope of this work. Students are advised to read them up in medical surgical text books.

Cardiovascular system:

(1) Hypertension
(2) Angina
(3) Peripheral vascular disease
(4) Myocardial infarction
(5) Congestive heart failure
(6) Cerebrovascular accident

Respiratory system:

(1) Chronic Obstructive Pulmonary Disease
(2) Pneumonia
(3) Cancer of the lung

Gastrointestinal system:

(1) Abdominal pains
(2) Cancer of the Gastro Intestinal Tract

n:

ronic renal failure

(2) Incontinence

Endocrine system:

(1) Diabetes mellitus

Neurological system:

(1) Dementia
(2) Parkinson disease

Hemolytic disease:

(1) Anemia
(2) Cataract
(3) Prosbycusis

4.0 CONCLUSION

Each of these effects discussed has disease associated with its occurrence. This is to say that some disease conditions are common to the elderly while the younger ones might manifest them in varying dosage.

5.0 SUMMARY

The effects of disease process on the elderly and care have been discussed. However, some are beyond the scope of this course, learners are enjoined to read them up in books and journals.

6.0 TUTOR-MARKED ASSIGNMENT

Discuss the implications associated with disease conditions that are common to the elderly.

7.0 REFERENCES/FURTHER READING

Tomey, A.M. and Alligood, M.R. (2002). *Nursing Theorists and their Works*, (5th ed.).

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