NSC 509

GERONTOLOGY NURSING

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www.noun.edu.ng
NOUN Press
Year of publication: 2022
ISBN:
Copyright:
Name of printer: NOUN PRESS
E-mail: np@noun.edu.ng

COURSE GUIDE

NSC509 is a three-credit unit course and a 500 level elective course available for BNSc. students who wish to develop knowledge and skills in the nursing care of the elderly.
This course is designed to expose you to an understanding of the concept and theories of aging. 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 twenty two (22) units under seven modules. This course guide explain to you briefly what the course is about, what course materials you will use and how you can go through these materials with maximum benefit.

Course Aim

The course' 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 objective 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
· define ageing in terms of Biological, functional, psychological and Sociological concepts
· describe the ageing process in terms of biological, psychological and sociological changes
· differentiate gerontology 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 gerontology nursing
· describe the effect of ageing on:
- cardiovascular system
- integumentary system
- musculoskeletal system
- gastrointestinal system
- urino-genital 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
-Identify the care need knowledge of the care-giver.

-Discuss how the care-givers could be helped.

· 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

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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

MODULE ONE: TRENDS IN AGING AND AGING PROCESS

1.1 UNIT ONE: TRENDS IN GERONTOLOGY

1.2 UNIT TWO; AGING AND AGING PROCESS

1.3 UNIT THREE: THEORIES OF AGING

1.4 UNIT FOUR: ETHICAL CONSIDERATION IN GERONTOLOGY

MODULE TWO: EFFECT OF AGING ON BODY SYSTEMS

2.1 UNIT ONE Effect of aging on Integumentary System, Neurological System and Sense Organs

2.2 UNIT TWO: Effect of Aging on Musculoskeletal System, Cardiovascular System and Respiratory System

2.3 UNIT THREE: Effect of Aging on Gastrointestinal System, Genitourinal System, sexual fuction, Reproductive System and Endocrine System

MODULE THREE: PROVIDING CARE TO THE ELDERLY

3.1 UNIT ONE: NURSING DIAGNOSIS AND CARE PLAN FOR ELDERLY

3.2 UNIT TWO: HELPING THE FAMILY WITH ELDERLY

3.3 UNIT THREE: HOME CARE OF THE ELDERLY

3.4 UNIT FOUR: INFECTION CONTROL IN CARE OF ELDERLY

3.5 UNIT FIVE: INSTITUTIONAL CARE OF THE ELDERLY

MODULE FOUR: GERIATRIC NUTRITION

4.1 UNIT ONE: NUTRITIONAL ASSESSMENT OF ELDERLY

4.2 UNIT TWO: GUIDE TO MEAL PLANNING FOR ELDERLY

MODULE FIVE: DRUG THERAPY IN ELDERLY PERSON

UNIT ONE: MEDICATION FOR ELDERLY

UNIT TWO: HEALTH EDUCATION ON MEDICATION AND CONSIDERATIONS FOR SELECTED MEDICATION FOR ELDERLY

MODULE SIX: SPECIAL NURSING CARE FOR ELDERLY

6.1 UNIT ONE: FALL PREVENTION IN ELDERLY

6.2 UNIT TWO: SKIN CARE FOR ELDERLY

6.3 UNIT THREE: SLEEP AND REST IN ELDERLY

6.4 UNIT FOUR: TEMPERATURE CONTROL IN ELDERLY

6.5 UNIT FIVE: COGNITIVE AND AFFECTIVE CARE OF 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

Tutor-Marked Assignments (TMAs)

The TMA will be uploaded in the portal and you are required to answer the questions and submit within a specific period. Each TMA assignment count 10% toward your total course work.

Final Examination and Grading

The final examination for course NSC508 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 hour online facilitation to support of this course. You will be notified of the date, times. Do not hesitate to contact your facilitator by telephone if you need help.

MODULE ONE: TRENDS, PROCESS AND THEORIES OF AGING

UNIT ONE: TRENDS IN GERONTOLOGY

UNIT TWO; AGING AND AGING PROCESS

UNIT THREE: THEORIES OF AGING

UNIT FOUR: ETHICAL CONSIDERATION IN GERONTOLOGY

UNIT ONE: TRENDS IN GERONTOLOGY

1.1.1.0 Introduction

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

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

(1) Discuss the effect of culture on the care of elderly

(2) Describe factors that contributed to improved health of elderly.

(3) Outline the action plans of United Nations on the care of elderly.

1.1.3.0 Main Content

1.1.3.1 Historical back of Care of Elderly

The first organized efforts to deal with problems of the elderly were the establishment of the American Geriatric society and the Gerontology society in the 1940s. In 1950, the first national conference an aging was held in Washington DC. In 1961, American government set up the National Council on aging, a voluntary organization whose membership is open to all who shared an interest in the elderly.

In developing countries like Africa and Asia cultural practices and norms provided for the care of the aged. Unfortunately, these cultural practices are being destroyed by rapid technological advancements. The destruction of these cultures creates special problem for the elderly in developing world. The increase in number in the world is posing important

challenges to public healthcare system. As population age structure changes, so too with the incidence and prevalence of many types of diseases and disabilities. These changes along with changes in technology, labour force structure and retirement behavior (Han and Slaone, 1992) unfortunately, the principal mechanisms of population aging in developed countries like Nigeria is not known unlike that of developed countries of that world. From a demographic point of view, women have experienced quiet different mortality rate from that of men.

According to WHO, aging has implications for participation in the labour force. A large number of elderly are forced out of labour force. A large number of elderly are forced out of labour force by mandatory retirement policies. The increase in population of elderly and the continuing decline in labour force participation means that the number of persons retired from fulltime employment will continue to increase significantly. Retirement has implications to the financing of and access to healthcare. Those who leave the workforce at age of 65 on high income may have better access to healthcare. Lower income elderly often find it difficult to produce out-of-pocket medical expenses. Has aging any effect on labour force?

All categories of healthcare providers are aware of the need to address the unique health problems of elderly in Nigeria. One thing is common in the approach taken when caring for the elderly and that is helping them to remain healthy and functional and mention the best quality of life. Nurses are in the best position to meet the health needs of these for fastest growing segment of the population. The nurse can do this by addressing the continuum of healthcare needs of elderly, ranging from primary,

secondary and tertiary prevention interventions including rehabilitation to issues related to end-of-life care.

Due to the fact that the focus of healthcare of the elderly is on preventing disabilities and monitoring and improving function, emphasis are laid on statistics about chronic conditions and impaired function in daily life. This emphasis is due to the dramatic increases in life expectancy through preventing disability delaying the onset of chronic condition.

1.1.3.2 World Profile of Elderly

According to United Nation (2002), the profile of world aging is as follows:

1. The number of people in the world aged 60years and above will increase from about 600,000,000 in 2000 to almost 2,000,000,000 by 2050.
2. The fastest growing group of the older population is the group of people aged 80years and above.
3. The proportion of older adult are projected to increase globally from 10% in 1998 to 15% by 2025.
4. In Europe, the proportion of older adult will increase from 20% in 1998 to 28% in 2025.
5. Increases in the numbers of elderly will occur more dramatically in developing countries, where the older population is expected to quadruple in the next 50 years.
6. By mid-century, the old and young will represent equal proportions of the world population.

1.1.3.3 UNITED NATION ACTION PLAN FOR ELDERLY

United Nations (2002) International Plan of action on aging 2002 recommended the following that could help in family care of the elderly:

Objective 1: Reduce the cumulative effects of factors that increase the risk for disease and potential dependency in older age. This is good, can be met by;

a. Give priority to poverty eradication policies to improve the health status of poor and marginalized older people.
b. Set gender specific targets to improve the health status of older persons and reduce disability and mortality.
c. Identify and address environmental and socioeconomic factors that contribute to disease and disability in later life.
d. Focus health promotion, health education and prevention policies and information campaigns on major known risk factors associated with unhealthy diet, physical inactivity and other unhealthy behaviours.
e. Take comprehensive action to prevent the abuse of alcohol and to reduce tobacco use and the involuntary exposure to tobacco smoking.
f. Promote safe use of all medications.

Objective 2: Develop policies to prevent ill-health among other persons. The objective can be met by:

a. Design early intervention to prevent or delay the onset of disease and disability.

b. Ensure that gender-specific primary prevention and screening programmes are available and affordable to older persons.
c. Provide training and incentives for healthcare professionals to teach older persons about self-care and healthy lifestyles.
d. Prevent falls and other unintentional injury by developing a better understanding of their causes and by implementing prevention programmes.
e. Encourage older people to maintain or adopt an active and healthy lifestyle, including physical activity and sport.

Objective 3: Ensure access to food and adequate nutrition for all older persons.

a. Ensure a safe and nutritionally adequate food supply at both national and international levels.
b. Promote lifelong healthy and adequate nutrition, with particular attention to ensuring that specific nutritional needs of men and women throughout the life course are met.
c. Pay particular attention to nutritional deficiency and associated diseases in the design and implementation of health promotion and prevention programmes for older people.
d. Educate older persons about specific nutritional needs including adequate intake of water, calories, protein, minerals and vitamins.
e. Promote affordable dental services to prevent and treat disorders that can impede eating and cause malnutrition.

f. Ensure appropriate and adequate provision of accessible nutrition and food for older persons in hospital and care setting.

1.1.3.4 Factor That Improved Health of Elderly

Research has shown that the following factors are the underlying reasons for improved health and functions of elderly.

(i) Attitude changes
(ii) Healthier lifestyle
(iii) Environmental changes
(iv) Higher educational level
(v) Greater uses of assistive devices
(vi) Avoidance of health risk behaviors
(vii) Improved diagnostic and therapeutic techniques
(viii) Decreased prevalence of chronic conditions.

Although, the elderly constitute minority group in the population, yet they occupy about half of the available adult hospital beds. They also spend four times as many days in the hospital as younger adults and they averaged about twice the number of contacts with doctors than did people of all other ages combined.

According to Miller (2004), elderly are most likely to have an accumulations of chronic illness and some of these chronic conditions cause functional impairments in daily activities. These chronic illness and functional impairments increase the vulnerability of the older person to further impairment when an acute illness is super imposed. Because the focus of

nursing is an assisting people to respond to actual or potential illness, the goal of gerontology nursing is to assist older adults to attain and maintain the highest level of health and functioning. Because people become more heterogeneous as they age, the care of elderly is very complex and must be provided with cultural sensitivity and with recognition of the unique history of each older person.

1.1.3.5 FAMILY DYNAMICS WITH ELDERLY

Grand-parenting can be a positive experience for older adults because they obtain enjoyment, affection and sense of purpose from caring for their grandchildren without the stress of child-rearing responsibilities. Grandchildren provide new interest and meaning to life. The relationship between siblings is stronger than any other relationship. Siblings drift apart during young and middle adulthood but reestablish stronger ties as older adults. At elderly stage, the siblings provide socialization, emotional, financial and household assistance. Marriages stabilize in elderly adults due to interdependency in life. The spouses provide to each other security and safety supports. They complement each other's action. The death of a spouse alters the life of older persons. It is usually difficult to adjust to loss of significant other added to the demand to learn the new task of living alone. Retirement is a major adjustment of an aging individual. It is often an individual's first experience of the impact of aging.

1.1.4.0 SUMMARY; The basic information on the changing trend in elderly have been presented to you as well as the UN action plan for elderly to enable you understand the fundamentals of care of elderly.

1.1.5.0 CONCLUSION; Elderly has been presented to you to enable you understand the level of problems elderly will present to nurses in future. You are also prepared to note the need of cultural sensitivity in care of elderly.

1.1.6.0 SELF-ASSESSMENT EXERCISE:

Self-Assessment Exercise:
State factors that contribute to increased population of elderly above 80 years

1.1.7.0 TUTOR MARKED ASSESSMENTS:

(1) Differentiate the effect of culture in the care of elderly in Africa and that of Europe.

(2) Discuss the action plan of UN in meeting the nutritional needs of elderly in the member countries.

1.1.8.0 REFERENCES

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

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

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

UNIT TWO; AGING AND AGING PROCESS

1.2.1.0 INTRODUCTION: The peak of physical maturity is reached during younger adulthood but the peak of psychological maturity, with regard to aspects such as wisdom, creativity, spirituality and emotional growth is likely to be reached in elderly.

1.2.2.0 LEARNING OUTCOME: At the end of this unit you should be able to

(1) Discuss the meaning of aging

(2) Explain the processes of aging in terms of Biological process as well as sociological process.

(3) Differentiate functional aging from biological aging.

1.2.3.0 MAIN CONTENT:

1.2.3.1 MEANING OF AGING

The aging is part of a life course continuum and its beginning is not clearly demarcated at any one specific point in time and there is a great deal of individual variation among people regarded as elderly. Aging does not start at any one chronological point; instead it is the accumulation of some common characteristics with increasing age that help to identify an elderly. Illness tends to accumulate with increased age.

Some elderly people will be extremely healthy and maintain a high level of independent functioning through old age until their death, whereas others will have significant degrees of physical, mental or psychological impairment for brief and long periods of time. Gerontologists view age identity on a continuum of subjective, wellness and this is based on assumption that old age accompanied by a decline in health. Consequently, people who feel

younger and people who feel poorly will feel older. The only objective definition of aging is that it is a universal process that begins at birth and it is applied equally to young and old people.

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 in most of the countries of the world.

Statistical analysis of research findings has shown that persons sixty-five and above constitute a group sufficiently different from others and that this grouping is well founded. Defining the population at risk as falling within a precise age-range (65 and above) makes it possible to plan a comprehensive services which will take account of the physical and emotional factors which many complicate old age. Certain events that commonly occur between the ages of 50 and 65 years foster sense of one's aging. These events include menopause, experiencing the deaths of parents and friends, being one of the oldest at work and having to face physical restrictions as well as retirement from work. Most of these are sociological in origin. The individual become more philosophical in approach to life, less irritable with minor issues. It is clear that those things that were previously ascribed to aging

disease or disuse. About one-third of functional decline in elderly is due to disease, another one-third due to inactivity (disuse) and the remaining one-third due to aging proper.

1.2.3.2 DEFINITION OF AGING

Certain changes are seen to affect most people as aging occur 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 aging as they understand it. Let us try to look at some of the definitions.

1.2.3.2.1 Biological Aging: This refers to cahnges in structure and functions of the body that occur over the life span. This include all the changes that occur in individual due to biological activities of the calls, tissues, organs and the system in the body over the life span.

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

1.2.3.2.3 Psychological Aging: This refers to behavioral changes, alternation 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 determine his/her age. This gives rise to “youth at heart”.

1.2.3.2.4 Sociological Aging: This refers to the roles and social habits of the individual in the society. This definition is closely related to functional aging.

1.2.3.3 AGING PROCESS

Aging is a developmental stage and like any other developmental stage is a linear process. That means that one does not suddenly become “old” at age 65. It is of the same rate at which a 35 years old is aging that an 85 year-old is also aging. The rate of which the elderly lose functions does not increase with age. What makes it look as if the 85 year-old is aging faster is the amount of psychological, social and biological losses. 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.

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

1.2.3.3.1 Biological Process of Aging: This refers to the gradual decline in healthy functioning which occurs in an organizing and which ultimately leads to death. The biological aging could be primary or secondary aging. The primary aging is inborn and is based on hereditary factors while the secondary aging is caused by trauma and disease. In both *Gerontological Nursing* produce less efficient mutations or develop alteration in the chemical structure of their enzymes. Abonrmal metabolic processes get up to the detriment of the whole organism (Kendell and Zealley, 1983).

1.2.3.3.2 Sociological and Psychological Process of Aging:The changes which occur in physical and psychological state in the aging individuals are

closely related to sociological factors. Some individuals psychologically deal constructively with the changes of aging 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 the 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.

1.2.3.4.1 Perception of Elderly

Other definitions of aging are subjective and that is why aging have different meaning for different age group. School children do not view themselves as aging but they like to announce to people how old they are. They see their increased years experiences as an opportunity that permit them to enjoy additional opportunities and responsibility. They do not take delight when any of their parents announce their 60^{th} birthday. Adolescents perceive aging as what allows them to particiapte legally in coveted activities such as driving. Adult associate aging as several years beyond their current age.

Culture significantly influences people's view about age identity and people in society that place a high social value on youth adopt age identification that are younger than their chronological age. People report their ages as younger than their chronological age. This is exactly what is happening in Nigeria today where people go to court more than 5 times for age declaration.

1.2.3.5.1 Advantages of Chronological Age

1. It is easily measurable.
2. It serves as an objective basis for social organization.

   Chronological age is used by society to establish certain criteria for activities like education, driving, marriage, employment, alcohol consumption, military services and the collection of retirement benefits. To take part legally in these activities, people must provide documentation of a certain chronological age.

   Retirement of old workers is seen as a solution to providing jobs for younger people and payment ofgratuity or pension as a solution to social burden caused by old age.
3. It is widely accepted
4. Readily understood

1.2.3.5.2 Disadvantages of Chronological Age

From biogerontology perspective, chronological age has little or no value because no biologic measurement applied to everyone at a specific age. So, there is no way of measuring age objectively.

For gerontological practitioners, the important indicators of age are physiological health, psychological well-being, socio-economic factors and ability to function and socialize to the extent that one desires. Based on this understanding, the concept of functional age are used instead of chronological age. Functional age is culture specific. Functional definition of age is associated with higher levels of well-being with more positive attitude about aging.

Another advantage of functional definition is that it provide a more rational basis for care that the measurement of how years have passed since the person was born. In function age, there is no need to ask “how old are you but (1) how functional are you? (2) How well do you feel? (3) Is there anything that you would like to do that you cannot do?

Age is then defined in relation to the cumulative effects of age – related changed and risk factors that affect their health and functioning.

Gerontologist agree that a number of processes that are highly variable and individualized. Elderly are divided into “faily elderly” and able elderly”. The fairly elderly tend to belong to the oldest-old group whereas able elderly group belong to young-old. Fairly elderly is the term applied to those who are medically ill or incapacitated most of the time and who have the greatest healthcare needs. Able elderly are those who are able to function in the community with little assistance. Medically, the fairly elder person typically is 85 years of age or older, is functionally disabled, takes several medications and has few social supports.

1.2.3.6 Characteristics of successful aging

Successful aging include:

i. Active engagement with life.
ii. High cognitive and physical function
iii. Low probability of disease and physica function

Attitude towards coping change from (1) Gerontocratic attitude. The old people were honoured and obeyed.

Agsim is the prejudices and stereotypes that are applied to older people sheerly on the basis of their age. It is ways that do not allow individuals with unique ways of living their lives. It devalues the contributions of older adults and views the pathologies of later life as normal aging processes. Ageism is an outcome of modernization.

Implicit ageism is the thoughts, feeling and behaviours towards elderly people that exist and operate without conscious awareness or control, with the assumption that it forms the basis of most interactions with older individuals. Implicit ageing is detrimental in several ways. The implication of the increasing diversity of elderly population is that the nursing care must be based on an assessment of the unique needs of each individual receiving care because each elderly bring a long and diversed personal history of the healthcare situation, it is important that gerontological nurses be able to identify those factors that are likely to affect each patient.

Aging is a universal phenomenon and the belief that is possible or desirable to overcome the natural aging process (as in 1990s) reinforce fears about aging. It also denies all the positive and enriching aspect of aging from the psychological perspective.

1.2.3.7 LIFE EXPECTANCY

Life expectancy is defined as the predictable length of time that one is expected to live from a specific point of time such as birth. Life span is defined as the maximum survival potential for a particular species. Life span of human is between 110-122 years. Human life span is fixed.

Life expectancy in developed countries has increased from 49 years in 1900 to 74.1 years (for men) and 79.5 years (for women in 2000). Life expectancy varies from country to country. People today lead to surviving illness that lead to early deaths in previous decades but they still tend to suffer from chronic illness that do not lead to death. As a consequence, people today spend a relatively greater proportion of their lives in a State of some level of dependency. So active life expectancy is an indicator of quality of life during older adulthood.

The following have been agreed with regard to life expectancy:

1. Even in the absence of disease death will occur as a result of declining organ reserves.
2. The rate of mortality increases exponentially after age 30years.
3. Projection about aging can be dramatically altered in the future by unpredictable event such as warfare, new disease or medical breakthrough.
4. Chronic disease has replaced acute illness as the major threats to life and death.
5. The overriding concern about longevity should focus on quality of life rather than length of life.

1.2.3.8.1 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 these needs and evaluating the effectiveness of such care to achieve and maintain a

level of wellness consistent with the limitations imposed by the aging process.

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

1.2.3.9 Factors that complicate Gerontological Nursing Practice

1. There is a great difference on the effect of chronological age on the aging process. There is variation in aging.
2. There is multiplicity of an older person's losses in, social, economic, psychologic and biological factors. Since no two persons have some experiences on these areas that affect the older adults, there is greater variation in aging process.
3. The frequently typical response of the aged to disease, coupled with the different forms of diseases entities tends to complicate the condition.
4. The cumulative disable effect of multiple chronic illness and/or degenerative process tend to make the practice of gerontological nursing complex.
5. Cultural values associated with aging and socail attitudes towards the aged present a special problem to all that care for them.

1.2.4.0 SUMMARY: Development continued during this period. Old age is a continuum and is determined to a small degree by age related changes and to a more significant degree by pathological conditions, risk factors and other factors that affect ones wellness and functioning.

1.2.5.0 CONCLUSION: The aging process has been presented to you to enable you understand better the processing of aging. This will enable you understand the care of elderly.

1.2.6.0 SELF-ASSESSMENT EXERCISE:

Self-Assessment Exercise:
State factors that complicate the care of elderly.

1.2.7.0 TUTOR MARKED ASSESSMENTS:

(1) Discuss the advantages and disadvantages of use of chronological age.

(2) Differentiate gerontology nursing from geriatric nursing.

(3) Describe the characteristics of elderly with successful aging.

1.2.8.0 REFERENCE/FURTHER READING

Tomey, A.M. and Alligood, M.R (2002). *Nursing Theorists and theirWorks*, (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.

UNIT THREE: THEORIES OF AGING

1.3.1.0 INTRODUCTION: Different disciplines have developed theories of aging due to the complex nature of aging process. These theories will be discussed under the following perspective biological, sociological and psychological theories of aging. We will discuss the nursing theories that applied to nursing care of the aged. The importance of theories in the nursing practice will also be highlighted.

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

(1) Define biological theoris of aging

(2) Discuss different types of biological theories of aging

(3) Differenciate sociological theoties of aging from environmental theories of aging.

1.3.3.0 MAIN CONTENT:

1.3.3.1.THEORIES OF AGING:

Theories of aging are viewed from different perspectives. This is because of the complex nature of the process of aging. Some of the perspective includes:

1.3.3.1 Biological Theories of Aging: The biological theories of aging are divided into three major categories:

1.3.3.1.1 Genetic Mutation Theory: It states that aging is the result of accumulated mutations in the deoxyribonucleic acid (DNA) in the cells that lead to progressive impairement of the functions. This theory focused on the role of telomerase enzyme that expressed 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.

1.3.3.1.2 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 oxgen-free radicals have the abilities to combine chemical with proteins which result to break in DNA. The DNA in the mitochondria is probably vulnerable to these type of damage because of its proximity to the oxidative metabolism machinery. The enzymes like superoxide dimutase, an antioxdiant enzymes removes these free radicals in normal cells. But such enzymes are found tobe decreased in elderly.

1.3.3.1.3 Genetic Programme Theory: This theory states that because maximal life span is genetically determined, the aging process is also genetically determined. That means that regulatory processes turn off expression of some genes and turn on others.

1.3.3.2 Sociological Theories: These theories focus on the rates and relationship in which individuals participate in their later years and on adaptation to accepted social values. There are five lines of thought concerning the successful way for old people to cope with the various stresses to which theya re subjected.

1.3.3.2.1 Disengagement Theory: According to Cumming and Henry (1926) the elderly cope best if they accept the inevitability of reduced contact with

others, particularly the activities of younger people and manage to enjoy their retreat from the hurly-burly of everyday life. It proposes that aging is a developmental task in/and of itself, associated with particular pattern of behaviour that result 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.

1.3.3.2.2 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 their age.

1.3.3.2.3 Activity Theory: This theory holds that an older person, aware of certain failing skills 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 “healthy aging”.

1.3.3.2.4 Age Stratification Theory: The theory focuses on the interdependence of the older adults with the society and how the aging person is viwed by others. This in other words means that it is the society that determine who is elderly.

1.3.3.2.5 Environment Fit Theory: This theory relates the individual's 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 behavior as people age can explained in three ways:

(i) As the person ages, changes may occur in some of the individuals competences 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 person might feel intimidated by the chaos and noise around them and tend to become more isolated.

1.3.3.3. Psychological Theories of Aging: The psychological theory of aging is related to sociologic theories of aging. 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. Pychologic aging incorporates both behavioural changes and also developmental aspects related to the older adults. Only those areas of the psychological theories that relate to elderly will be looked at.

1.3.3.3.1 Jung's Theory of Individuals: Jung stated that successful aging is when a person can look deeply inside self and is able to evaluate and value past accomplishment and accept one's limitations.

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

1.3.3.4 Nursing Theories

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

1.3.3.4.1 The importance of Nursing Theories for development of Nursing

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

The importance of nursing theories for the profession can be stated as follows:

(1) Nursing theories utilized in the nursing practice gives a well-defined and well-organized body of specialized knowledge that is on the intellectual level of the higher learning.

(2)Nursing theories constantly enlarge the bodies of knowledge nursing uses to improve her techniques of education and service by the use of scientific method.

(3)Nursing theories entrusts the educaton of nurse practitioners to institutions of higher learning.

(4)Nursing theories applies its body of knowledge in practical services that are vital to human and social welfare.

(5)Nursing theories help nurses to function autonomously in the formulation of professional policy and in the control of professional activities thereby.

(6)Nursing theories attract individuals of intellectual and personal qualities who exalt service above personal gain and who recognize their chosen occupation as a life work.

(7) Nursing theories strives to compensate nurse practitioners by providing freedom of action, opportunity for continous professional growth and economic security.

1.3.3.4.2 Nursing theories relevant to Gerontological Nursing Practice:

1.3.3.4.2.1 Lininger's Transcultural Nursing; This theory proposes that cultural care provides the broadcast 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 care nursing is for nurses to assist, support or enable all individuals to maintain well-being, improve life or face death.

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

1.3.3.4.2.2 Self Care Deficit Theory of Nursing. Orem's self-care deficit theory of nursing described three concepts that are basic to nursing practice – self care, self-care deficits and nursing system.

Nursing System: Self-care encompasses the basic activities that aid health promotion, well-being and health maitenance. The self-care requisites include the need 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 Orems theory are multidimensional and viewed as wholly compensatory, partially compensatory or supportive-educative system. This theory completely takes care of the type of patientss that are common in elderly. Some are completely dependent but still need health-education. The other group may be normally dependent while the rest may be competely dependent on the care by others. The theory view 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 be completely be based on this theory.

1.3.3.4.0 SUMMARY: Gerontologist have developed these theories to explain psychological adoptation of aging. The disengagement theory suggests that healthy aging involves voluntary cutting back on work, social and even family ties. The disengaged individual becomes more satisfied with vicarious activities and especially with reminiscence.

1.3.3.5.0 CONCLUSION: We have studied the theories of aging. These theories are based on biological, sociological and psychological concepts. The diversity of theories of aging showed how complex the process of aging can be. We also looked at the importance of nursing 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.

1.3.3.6.0 SELF-ASSESSMENT EXERCISE:

Self-Assessment Exercise:
Discuss the importance of theory in nursing.

1.3.3.7.0 TUTOR MARKED ASSESSMENTS:

(1) Explain the environmental theory of Nursing of aging.

(2) Discuss a theory of nursing relevant to gerontology nursing.

(3) Describe the importance of theory in development of nursing.

1.3.3.8.0 References;

Eliopoulos, C. (2014). *Gerontologic Nursing* (3rd ed.). Philadelphia: TB Lippincott.

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

UNIT FOUR: ETHICAL CONSIDERATION IN GERONTOLOGY

1.4.1.0 INTRODUCTION: Gerontology Nurses are likely to encounter ethical dilemmas in their practices. These dilemmas usually arise due to medical intervention and decision making for elderly with cognitive impairments. The nurse has a responsibility to assist the elderly and their families in decision making and also refer them to the appropriate community agencies.

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

(1) Discuss ethical issues involved in care of elderly

(2) Outline the rights of elderly

(3) Define the term "Advance directives.

1.4.3.0 MAIN CONTENT:

1.4.3.1 ETHICAL CONSIDERATIONS:

When man has to choose between right and wrong, he makes a moral decision. General agreement in a community of what is right and wrong in human conduct constitutes an ethical system. The word "moral" describes a particular type of human behavior while the word 'mores' is applied to the characteristics manners of a society and the customs which support them. The word ethics has obtained a more theoretical sense in modern usage. It relates to the precepts which should control moral behaviours. It is the science which is concerned with the nature and grounds of moral obligation, distinguishing what is right from wrong and the reason for it.

1.4.3.2 THE RIGHT OF ELDERLY

The elderly has the right of autonomy. Autonomy is a person's freedom to direct one's own life as long as it does not impinge on the rights of others. An autonomous person is capable of rational thought and is able to recognize the need for problem solving. The person can identify the problem, search a solution that allows their continued personal freedom, as long as it does not cause any harm to others.

All adults are presumed to be comptent by law for participating in legally binding decisions. Competency is a legal term that refers to the ability to fulfill one's role and handle one's affairs in an adequate manner. Competent people are guaranteed all rights granted by the constitution and state laws. All adults who have not been declared incompetent by a judge have the right to make their own decision about medical treatment and healthcare. The nurse is confronted with ethical issues of older person's ability to make reasonable decision, particularly when the person is cognitively impaired. When questions are raised that the elder person's ability to participate in decisions about medical care, the health proxy may assume decision-making responsibility.

1.4.3.3 DECISION-MAKING CAPACITY:

Decision-making capacity refers to the ability of a person to consent to or refused a specific medical treatment or procedure. In contrast to competency which is determined by a court of law, the decision-making capacity is determined by healthcare practitioners or by an interdisciplinary healthcare team. Decision-making capacity is based on a person's having the following characteristics:

1. Appreciate the right to make a choice.
2. Understand the risk and benefit of the medical intervention and lack intervention.
3. Ability to communicate about the decision
4. Stability over time and
5. Consistency with the person's usual beliefs and values.

The capacity is not based on a particular diagnosis nor should it be influenced by a person's chronological age, but on a careful evaluation of the person's ability to understand the issues involved in a specific decision-making situation and to communicate about these issues. Advance directive is a legal term that deals on end of life care. It is designed to protect healthcare consumers by requiring that healthcare provide to the following:

1. Inform patient of their right to refuse treatment and make healthcare decision.
2. Provide written informationa about their states
3. Ask each person whether an advance directives has been completed
4. Documentation of patient's advance directives in their medical records and
5. Provide education for their staff and community an advance directive.

1.4.3.4.1 Advance Directives

Advance directives are legally binging documents that allow competent people to document what medical care they would or would not want to receive if they were not decision and communicate their wishes. Advance

directives enable people to appoint a proxy decision-maker, who is a person responsible for communicating their wishes if they are incompetent or unable to communicate. The advanced directives contain five wishes.

1. Who does one want to make care decisions for one when one cannot make them for oneself?
2. What kind of medical treatment does one want or not want when very sick or unable to speak for onself.
3. What would help one feel comfortable while one is dying.
4. How does one want people to treat him?
5. What do one want his/her loved ones to know about him/her or her feeling after one has gone.

This document must be drawn when one is capable of understanding the intent and it is only effective only when the person lacks the capacity to make a particular health related decision.

1.4.3.4.2 TYPES OF ADVANCED DIRECTIVES

The two types of advance directives are living wills and durable power of attorney for healthcare.(1) Living wills are legal documents whose purpose is to allow people to specify what type of medical treatment they would want or not want if they become incapacitated and terminal ill. (2) A durable power of attorney for healthcare is an advance directive that takes effect whenever someone cannot, for any reason, provide informed consent for healthcare treatment decision. It allows a surrogate healthcare decision maker who is also called a healthcare proxy, to voice the wishes of the person who is capacitated.

1.4.4.0 SUMMARY: In any stable progressive society, there must always be a general agreement on what is right and what is wrong in human behavior. Without such agreement, dissension and disorder occur to an extent which soon becomes intolerable. This leads to the concept that some actions are good and others evil that are found among all peoples everywhere.

1.4.5.0 CONCLUSION: The basic ethical issues in the care of the elders have been treated to enable you care for the elders. All these are to enable you to avoid litigations as a geriatric nurse.

1.4.6.0 SELF-ASSESSMENT EXERCISE:

Self-Assessment Exercise:
Describe the two types of advanced directives..

1.4.7.0 TUTOR MARKED ASSESSMENTS:

(1) Discuss the right of the elderly

(2) Describe term ”decision- making capacity”

(3) Outline the importance of advanced directives.

1.4.8.0 REFERENCES

Watson, J. (2001). Reconsidering Caring in the Home. – Concept and Application. London: Mosby.

MODULE TWO: EFFECT OF AGING ON THE BODY SYSTEM

UNIT ONE: Effect of aging on Integumentary System, Neurological System and Sense Organs

UNIT TWO: Effect of Aging on Musculoskeletal System, Cardiovascular System and Respiratory System

UNIT THREE: Effect of Aging on Gastrointestinal System, Genitourinal System, sexual fuction and Endocrine System

UNIT ONE: Effect of aging on Integumentary System, Neurological System and Sense Organs

2.1.1.0 INTRODUCTION:

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

2.1.2.0 LEARNING OUTCOME

At the end of this unit you should be able to

(1) Discuss the effect of aging on integumentory system

(2) Describe the effect of aging on the neurological system.

(3) Outline the effect of aging on sense organs

2.1.3.0 MAIN CONTENT:

2.1.3.1 Effect of aging on Integumentary System

The most obvious reflection of age appears in the integumentory 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 enviornmental chemicals.

2.1.3.1.1 The Skin: The skin is composed of three layers:

Epidermis: The skin outer layer prevents the entry of foreign substances and the loss of body fluids. Melanocytes decrease in elderly. Within the epidermis and the dermal-epidermal junction flattens owing to the retraction of papillae in elderly people. 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 perceptual 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 decubitus ulcers.

Subcutaneous: This inner layer composed of fat tissue serve 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.

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

2.1.3.1.3 Hair: Graying of the hair is the result of decline in melanin production. The hair becomes thinner on the head and the body while there is increased density of nasal and ear hair particularly in male. Increase facial hair is seen in women as a result of decreased in oestrogen.

2.1.3.2 Effect of Aging on Neurological System and Sense Organs

There is still much that is unknown about nervous system changes with age. Some experts believed that there is a 10%-12% brain weight decrease due to primarily to a progressive loss of neurous. Both grey and white matters are lost. Lipofusion deposits, neurofibrillary tangles and neuritic plagues 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 transmittedimpulses. 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 heart

production and heart loss. Sleep pattern also changes with age. Stage 3 and 4 (deep sleep) are greatly decreased while frequent awakenings and total awake time are increased. Changes in cognition are not a normal aging change and should be investigated.

2.1.3.3 Effect of Aging on Sense Organs

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

Cataracts: Senile cataracts are 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.

2.1.3.3.2 Hearing: Presbycusis is a sensorineural loss of hearing, particularly of consonant, high-pitches 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.

2.1.4.0 SUMMARY: About 90% of all order adults have some kind of skin disorder. Decreased vascularity and increased fragility make the older adults less resistant to sharing forces and more prone to decubitus ulcers.

2.1.5.0 CONCLUSION; The effects of aging on the integmentory system and sensory system to enable you understand the prevention of common problems of the skin and special senses in elderly.

2.1.6.0 SELF-ASSESSMENT EXERCISE:

Self-Assessment Exercise:
Outline the changes that occur in the skin of elderly.

2.1.7.0 TUTOR MARKED ASSESSMENTS:

(1) Discuss the effect of aging on integumentory system

(2) Describe the effect of aging on the neurological system.

(3) Examine the effect of aging on sense organs

2.1.8.0 REFERENCES

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

Eliopoulos, C. (2014). *Gerontologic Nursing* (3rd ed.). Philadelphia: TB Lippincott.

UNIT TWO: Effect of Aging on Musculoskeletal System, Cardiovascular System and Respiratory System

2.2.1.0 INTRODUCTION:

The specific effect of aging to musculoskeletal sysytem include on posyure and vitamin D metabolism while the effect on cardioverscular and respiratory system may be live treathening if not keep in check.

2.2.0 LEARNING OUTCOMES: At the end of this unit you are expected to

(1) Describe the effect of aging on the musculaskeletal system.

(2) Discuss the effect of aging on cardiovascular system

(3) Examine the effect of aging on the respiratory system.

2.2.3.0 MAIN CONTENT:

2.2.3.1 Effect of Aging on Musculoskeletal System

The primary changes in the musculoskeletal system caused by aging 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 aging.

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 become atrophied with more fibrous changes in musculoskeletal and nervous system lead to slower movement and decrease in strength and endurance.

2.2.3.2 Effect of Aging on the Cardiovascular System

With age, the heart has on 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 increased in calcium deposits on the walls of the aorta and large vessel, 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.

2.2.3.3 Effect of Aging on Respiratory System

Aging 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 auterior-posterior diameter increase. Osteoporoses of the ribs and vertebrae as well as calcification of the costal cartilages occur. There is also atrophy of pharynx and larynx. The normal internal pulmonary changes include decreased blood flow to pulmonary circulation, decreased oxygen diffusion and shorten breath with decreased maxiumum 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,

decrease ciliary action, impaired cough mechanism. These combined aged-related changes produce increased stiffness of the chest wall and diminshed msucular 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.

2.2.4.0 SUMMARY: Aging affect the activities of osteoblasts and osteoclasts cousing changes in the bones. There is also decrease in lean mass. Aging also affect respiratory activities.

2.2.5.0 CONCLUSION: The effect of aging on musculasteletal system and respiratory system have been presented to you to enable you understand how to take special care of the elderly.

2.2.6.0 SELF-ASSESSMENT EXERCISE:

Self-Assessment Exercise:
Describe the effect of aging on respiratory system.

2.2.7.0 TUTOR MARKED ASSESSMENTS:

(1) Discuss the effect of aging on cardiovascular system

(2) Outline the effect of aging on the respiratory system.

2.2.8.0 REFERENCES

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

Eliopoulos, C. (2014). *Gerontologic Nursing* (3rd ed.). Philadelphia: TB Lippincott.

UNIT THREE: Effect of Aging on Gastrointestinal System, Genitourinal System, sexual fuction and Endocrine System

2.3.1.0 INTRODUCTION: The gastrointestinal system of the older adults may be characterized by decreased secretion, absorption and motility. Age related changes in the genitourinal system include a decrease filtration surface area with a progressive loss of renal mass and kidney weight.

2.3.2.0 LEARNING OUTCOME: At the end of your study of this unit you should be able to (1) Describe the effect of aging on the gastrointestinal system

(2) Discuss the effect of aging on the genitourinary system

(3) Differenciate effect of aging on sexual functions of elderly men and women

(4) Examine the effect of aging on the endocrine system.

2.3.3.0 MAIN CONTENT:

2.3.3.1 Effect of Aging on Gastrointestinal System

. Constipation is a common complaint among older adults, but is mostly likely caused by decreased fluid intake, insufficient bulk and lack of exercise. After the age of 50, the liver begins to shrink and enzymes production is decreased. Changes in the liver are particularly important when considering drug therapy, especially those drugs that are metabolized 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 anaemia.

2.3.3.2 Effect of Aging on Genitourinal System

Age related changes in the genitourinal 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 60011/minute by age of 80. Glomerular filtration rate decline with age owning to nephron loss and decrease in proximal tubular functions. Changes in the tubules decrease tubular transport mechanisms, owning 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 diurinal rhythm of urine production is lost with urine production remaining relatively the same over 24 hours with nocturia as the outcome. Drugs excreted in a changed form are likely to be excreted more slowly. In addition, renal diseases may cause an accumulation of drugs while low serum albimin level provides fewer binding sites, making freer drugs available. Drug commonly taking by elderly (e.g. digitolis, aminoglycoside and antibiotics) should be calculated using the creatinine clearance as a guide.

2.3.3.3 SEXUAL FUNCTION

The age-related changes that affect female sexual function include atrophy of reproductive organs, thinning and drying of vaginal wall, diminished vaginal length and width and decreased vaginal lubrication. The age-related change that affect male is degenerative changes in reproductive organs. The above age-related changes lead to:

1. Less intense response to sexual stimulation owing to age-related factors.
2. Decreased sexual activities owing to risk factors.

The risk factors that increase the sexual dysfunction in elderly include:

1. Myths and misunderstanding of sexuality in elderly.
2. Social circumstances like loss of partner.
3. Medications like antihypertensive.
4. Relationship problems, they finally difficult in forming new relationships.
5. Systemic diseases like diabetes mellitus and arthritis.
6. Illness of partner
7. Environmental factors like lack of privacy.
8. Alcoholic use.

HEALTH PROMOTION ON SEXUAL ACTIVITY IN ELDERLY

Older people remain fully capable of enjoying orgasm but their response to sexual stimulation usually is slower, less intense and of shorter duration. Increasing the amount and diversity of sexual stimulation and experimenting with different positions can compensate for these changes and increase sexual enjoyment.

The following habits enhance sexual enjoyment:

- Exercising regularly
- Limiting consumption of alcohol.
- Monitoring optimal health and nutrition.
- Using hearing aids and corrective lenses as needed.
- Enjoying in sexual activities when relaxed and energy level is at its peak.

Health promotion intervention for hot flashes resulting from menopause in women. I advise the women to;

i. Engage in regular exercise especially aerobic exercise.
ii. Avoid caffeine, alcohol, hot beverages and spicy foods.
iii. Perform relaxation techniques like slow deep breathing several times daily and at the onset of a hot flash.
iv. Keep environmental temperature cool
v. Engage in regular weight-bearing exercises for prevention of osteoporosis
vi. Provide daily intake of 1,500mg calcium and 600IU vitamin D for prevention of osteoporosis.
vii. Perform pelvic muscle exercises to prevention of urinary incontinence.

2.3.3.4 Effect of Aging on Reproductive System

In older age males' 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 dminished viscosity.

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

The effects of aging on the different systems of the body have been reviewed. An elderly person can be recognized simply by looking at the face. These characteristics are as a result of aging effect on the integumentary system. Some of the activity inbalance in aged are also contributed to the effect of aging on the cardiovascular and respiratory system.

2.3.3.5 Effect of Aging on Endocrine System

There is little decrease in hormone secretion in aging with the exception of oestrogen and testoterone. The most common disorders associated with the endocrine system are thyroid dysfunction and diabetis mellitus. They thyroid gland produces thyroxine (T4) and triiodothyroxine (T3). The three most important condition 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 aging charges and thus go undiagnosed. Among these symptoms are fatigue, loss of intiatives, depression, myolgia, constipution and dry skin. In addition, some fragile older adults may develop mental confusion, anorexia, functional incontenence and arthralgia. Hyperthyroidism in the elderly may go

undiagnosed because the symptoms are vastly different than in the younger population. Common atypical presentation in the elderly are weakness and apathy, weight loss, congestive heart failure with atrial fibrilation, angina, bowel disturbance such as diarrhea or constipation, dyspepesia, abdonminal distress, mental confusion and depression.

2.3.4.0 SUMMARY; The elderly may have decreased absorption of essential nutrients like iron, vitamin and foliate resulting in anaemia. All these may lead to malnutrition. The knowledge of the effect on the aging on the body system helps the student to understand how to care for the elderly.

2.3.5.0 CONCLUSION: The effect of aging on GIT and urinary system has ben presented to you. These information will help you as a nurse to care for the elderly

2.3.6.0 SELF-ASSESSMENT EXERCISE:

Self-Assessment Exercise:
Describe the effect of aging on the urinary system.

2.3.7.0 TUTOR MARKED ASSESSMENTS:

(1) Discuss the effect of aging on the genitourinary system

(2) Differenciate effect of aging on sexual functions of elderly men and women

(3) Describe the effect of aging on the endocrine system.

2.3.8.0 REFERENCES

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

Eliopoulos, C. (2014). *Gerontologic Nursing* (3rd ed.). Philadelphia: TB Lippincott.

MODULE THREE: CARE OF THE ELDERLY

UNIT ONE: HOME CARE OF THE ELDERLY

UNIT TWO: INFECTION CONTROL IN HOME CARE

UNIT THREE: HELPING THE FAMILY WITH ELDERLY

UNIT FOUR: NURSING DIAGNOSIS AND CARE PLAN FOR HOMECARE

UNIT FIVE: INSTITUTIONAL CARE OF THE ELDERLY

UNIT ONE: HOME CARE OF THE ELDERLY

3.1.1.0 INTRODUCTION

Home Care nursing consist 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 elderly but it is new for developed countries where people are too busy that no provision is made for the elderly in homes. Home care

nursing blends 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.

3.1.2.0 LEARNING OUTCOME:

On complition of this unit you should be able to:

(1). Discuss the goals for health promotions and maintainance of elderly.

(2)Explain the role of the nurse in home care of elderly.

(3) Examine the role of the family in home care of elderly.

3.1.3.0 MAIN CONTENT:

3.1.3.1 Philosophy of 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 bases. Of importance in home care are the caregivers in home and family enviornment (which includes community resources). The cooperation of the elderly and his/her caregivers and the self-determination for optimal health are of importance to achieving successful self-care management at home. Home care nursing of the elderly represent all that the elderly is and want to be and it is based within a relation-centered ethics.

3.1.3.2 HEALTH MAINTENANCE AND PROMOTION IN ELDERLY

Health Maintenance and Promotion in elderly is the overall goal of gerontological nurse. Causes of death and disabilities can be reduced by early recognition. Screening and early recognitions for illness are more likely to reduce their impacts at the old age. Gerontological nurses must incorporate

screening, health maintenance, preventive and ehalth promotion approach into daily practice.

The goals of health maintenance and promotion of health of elderly from 6-74 years are:

1. To prolong the period of optimum physical/mental/social activities.
2. To maximize handicapping and discomfort from oneset of chronic conditions.
3. To prepare in advance for retirement.

The goals for 75 and above are:

a. To prolong the period of effective activity and ability to live independently and to avoid institutionalization as far as possible.
b. To minimize inactiviting and discomfort from chronic conditions.
c. When illness is terminal, to assure as little physical and mental distress as possible and to provide emotional support to patient and family.

3.1.3.4 The Role of a Nurse in Home Care of the Elderly: The Home Care nurse function as a case manager through a multidisciplinary approach. They formulate the care plan based on the nursing process of assessing, diagnosing, planning, implementing and evaluating. The role of the nurse include:

1. Providing health rehabilitative and palliative therapies. Health promotional behaviour are viewed as a very important consequence of these therapies.
2. Educating the patient and caregivers about the illness or disability and mutually identified healthcare 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 judgement in self-care management at home.
4. Faster positive patient and caregiver adjustment to coping mechanism for change lifestyle, role and self-concept as a result of illness or disability.
5. Reintegrating the patient and caregiver back into the family, community and social support system.

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

3.1.3.5 The Role of Family in a Home Care of the Elderly: in home care of the elderly, the client must be viewed as a member of the family unit that are 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 are usually needed. The objective of the homecare 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. When this is no longer possible, hospital resources should be used.

The home care given to an elderly person at home depend greatly on the willingness of the family members to cooperate in achieving a 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 person 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/she has high level of dependency due to illness and disability.
iii. Provision of safetyenviornment is of cardinal importance in the home care of the elderly. This is to prevent accident due to ongoing body system.
iv. In modern time, the elderly suffer for social isolations. 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 can permit.
v. The elderly may never complain of any problem or when they complain, they try to play it down. So any complain made by an elderly should be investigated. Their health conditions can change very fast.
vi. The elderly love to be respected in all ramifications.
vii. The care of the elderly requires interdisciplinar actions and the financial burden is carried by the family.

The Roles of the family include:

(i) **Provision of physical comfort**: The physical comfort may include helping the elderly met the needs of activities of daily living. This include daily bath, oral, care and other body grooms. The comfort provided to the elderly enhances his/her living, sleeping, cooking, laundering activities etc. Where the elderly has a lot of money care provided are 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 person's disability. Environmental adjustment includes provisionof physical structures that enhances 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 be involved 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 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 play significant role in rehabilitation of elderly. The family helps in speech therapy and physiotherapy.

3.1.4.0 SUMMARY: We have discussed health promotion in elderly people, the role of a nurse in home care as well as the role of the family in home care of the elderly.

3.1.5.0 CONCLUSION: This unit provides you the knowledge to care for the elderly at home and ways you can help the family with an elderly.

3.1.6.0 SELF-ASSESSMENT EXERCISE:

Self-Assessment Exercise:
Describe the role of the family in home care of elderly

3.1.7.0 TUTOR MARKED ASIGNMENTS:

(1). Discuss the goals for health promotions and maintainance of elderly.

(2)Explain the role of the nurse in home care of elderly.

(3) Examine the role of the family in home care of elderly.

3.1.8.0 REFERENCES/FURTHER READING

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

Eliopoulos, C. (2014). *Gerontologic Nursing* (3rd ed.). Philadelphia: TB Lippincott

UNIT TWO: Infection Prevention and Control in Home Care of the Elderly

3.2.1.0 INTRODUCTION: Elderly are susceptable to infections due to degenerative diseases and reduced immune system activities. Every effort must be taken to prevent in fection transmissin in elderly.

3.2.2.0 LEARNING OUTCOME:

Derentiate the levels of prevention in care of the elderly.

Discuss the application of universal precautions in care of the elderly.

3.2.3.0 MAIN CONTENT:

3.2.3.1 LEVELS OF PREVENTIONS

There are three types of preventive activities:

1. **Primary Prevention**: This level attempts to keep condition from ever occuring. This include: immunization, health education and promotion, teaching and encouraging healthy habit such as regular exercise, use of automobile seat belts and avoidance of cigarettes.

2. **Secondary Prevention:** This include in an asymptomalic, early stage which allow treatment to reduce condition, its progression and complications. This includes screening. Screening is the application of history-taking, physical examination and other tests and procedures to detect risk factors, asymptomatic disease and unreported condition. Screening is the first step of a preventive programme allowing subsequent intervention.
3. **Tertiary Prevention:**This is the detection of symptomatic but unreported condition, their complications and management to prevent further suffering or functional decline.

3.2.3.2 UNIVERSL PRECAUTION:

The universal precautions stipulate the general guideline for infection control in home care in general. These guidelines are designated to reduce the transmission of blood born 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 emphasize that the environment is a potential source of infection. They contain recommendation to prevent droplet, direct or indirect contact and true airborne 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 mast whenever there Is a reasonable expectation that droplet infections transmission may occur.

(iv) Sharp objects and needless should be placed in protective disposable containers that can be sealed with lid.

(v) Wear gloves when handling specimen and handle all specimens carefully to minimize spillage.

(vi) Clean all equipment thoroughly to remove organic material before disinfection or sterilization.

(vii) Although, home care nurses should primarily use an aseptic technique when performing most procedures. Clean techniques are usually taught to the client caregiver. The information should be enough that they can safely manage infectious diseases of 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 other evocation of boweln or bladder and before handling foods.

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

3.2.4.0 SUMMARY: In this unit you have been presented the levels of preventions as well as the universal precautions and other ways to contrl infections in the elderly.

3.2.5.0 CONCLUSION: The environment is a potential source of infection. The precaution contain recommendation to prevent droplet, direct or indirect contact and true airborne transmission of infectious diseases. It is a way to prevent infection in elderly.

3.2.6.0 SELF-ASSESSMENT EXERCISE

Self-Assessment Exercise:
Describe the level of preventions in elderly care.

3.2.7.0 TUTOR MARKED ASIGNMENT:

Derentiate the levels of prevention in care of the elderly.

Discuss the application of universal precautions in care of the elderly.

3.2.8.0 REFERENCES/FURTHER READING:

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

Eliopoulos, C. (2014). *Gerontologic Nursing* (3rd ed.). Philadelphia: TB Lippincott.

UNIT THREE: HELP TO THE FAMILY WITH ELDERLY

3.3.1.0 INTRODUCTION

Family members play a crucial role in the well-being of their elderly loved ones. Families play roles in both home care and institutional care of elderly. It is important that the nurse understand the impact of an elderly on the family and on the caregiver. The nurse provides information and support to the caregivers and the family in general. In

our society, the family primary care=givers women, wives, daughters and daughter's-in-law, provide the care as unpaid resources.

3.3.2.0 LEARNER OUTCOME: At the completion of this unit, you should be able to:

(1). Identify the care need knowledge of the care-giver.

(2). Discuss how the care-givers could be helped.

(3). Describe the community resources and facilities needed for the care of the elderly.

3.3.3.0 MAIN CONTENT:

3.3.3.1 Assisting caregiver

The nurse must understand whom the primary caregiver is, the aspects of care that are most burdensome and what the caregiver think is wrong with the elderly.

The nurse assists caregiver by;

1. Educating caregiver: In educating the caregiver, the nurse should aim at improving communication and understanding by

- Use of simple language
- Start from known to unknown
- Reinforce, restate and repeat so that they can understand.
- Be patient specific. Note that problems of elderly are individualized, so teach the caregiver focusing on the problems of the patients they are caring for.
- Teach them the treatment options if any.
- Help caregivers to understand and cope with behavior problems.
- Help the caregivers to reach and implement end-of-life care.
- Help the caregiver find community resources.
- Help caregiver maintain emotional and physical well-being.

3.3.3.2 Community Resources for the Care of the Elderly

Home care of the elderly requires multi-disciplinary that include family unit, nurse, medical personnel, social workers, clinical pschyologists and rehabilitation therapist. Apart from the therapuetic benefits of such approach, there is research gains from having access to 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 specialized 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 centres. 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.
- The home visit has long been recognized as an essential 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 a deceptive. Home visiting offers the nurse the chance to assess the elderly in their natural environment. A much more realistic view is obtained from the patient's home where moreover, the observed presence of social stresses or 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 very essential community resources needed for 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.

3.3.3.3 COMMUNITY FACILITIES

1. **Adult day care centres**: They provide activities for the elderly. They also provide health supervision and recreational activities to the elderly.
2. **Assisted living facilities**: They provide home facilities and supervision of the use of the facilities.
3. **Nursing homes**: They provide housing and medical supervisions.
4. **Meal on wheels**: These are home delivered meals. They make sure that food is made available to the elderly throughout the day.
5. **Home healthcare aides**: They assist in basic hygiene.

6. **Homemaker services**: They assist in cleaning. Laundry, shopping and meal preparation.
7. **Geriatric psychiatry**: They provide assistance for the care of patients with difficult behavior.
8. **Community physician**: They ensure that community health care is of the standard.
9. **Environmental health officers**; The ensure that wastes are well disposed.

3.3.4.0 SUMMARY: The method the nurse help the care-givers f the elderly in the community has been discussed. The community resources and facilities needed to care for the elderly have also be explained to you.

3.3.5.0 CONCLUSION: This unit is to help you to identify how you as a nurse can help care-givers of elderly as well as how you will direct them to community resources.

3.3.6.0 SELF-ASSESSMENT EXERCISES:

Self-Assessment Exercise:

OUT line the community facilities needed to care for the elderly

3.3.7.0 TUTOR MARKED ASSESSMENTS:

(1). Identify the care need knowledge of the care-giver.

(2). Discuss how the care-givers could be helped.

(3). Describe the community resources and facilities needed for the care of the elderly.

3.3.8.0 REFERENCES/FURTHER READING:

Eliopoulos, C. (2014). *Gerontologic Nursing* (3rd ed.). Philadelphia: TB Lippincott.

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

UNIT FOUR: NURSING DIAGNOSIS AND CARE PLAN FOR HOME CARE

3.4.1.0 INTRODUCTION: Nurses caring for elderly are expected to make nursing diagnosis and care plan. The unit is to enable nurses understand the application of nursing diagnosis in care of elderdly.

3.4.2.0 LEARNING OUTCOME: At the end of this unit you should be able to: Discuss the conditions that should be present for the nurse to make the following nursing diagnosis (a). Impaired home maintance (b). Caregiver role strain (c) Compromised family coping

3.4.3.0 MAIN CONTENT:

3.4.3.1 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 individal or family needs specific support or instruction to manage home care of a family member or activities of daily living.

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

(i) Difficulty in maintaining home hygiene
(ii) Difficulty in maintaining a safe home
(iii) Inability to keep up home
(iv) Lack of sufficient finance

The following may or may not be present:

i. Repeated infection
ii. Accumulated wastes
iii. Over-crowding
iv. 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 the elderly demonstrate the ability to perform skills necessary for the care at home.

Nursing Intervention:

(i) Determine with the person and family the information needed to be taught and learn

(ii) Determine the type of equipment needed, considering availability, cost and durability.

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

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

Evaluation:

(i) Identify factors that restrict self-care and home management.

(ii) Express satisfaction with home situation.

4.4.3.2 Caregiver Role Strain: This is a state in which an individual is experiencing physical, emotional, social and/ or financial burden in the process of given care to another. It represents the burden of caregiving on the physical and emotional health of the caregiver and its effects on the family and social system of the caregiver and care receiver.

The situation is characterized by the caregiver:

i. Report insufficient time or physical energy

ii. Has difficulty performing caregiving activities required.

iii. Caregiving responsibilities interfere with other important roles (e.g. work, spouse, friends and parents).

iv. Apprehension about the future for the care receiver's health and ability to provide care.

v. Apprehension about care receiver's care when caregiver is ill or decased.

vi. Depressed feelings and anger.

Courses of caregiver role strain many related to complex care requirements secondary to:

(a) Debilitating conditions in elderly
(b) Progressive dementia in elderly
(c) Disability in elderly
(d) Chronic mental illness
(e) Addiction

The objective care is the caregiver report a plan to decrease his/her burden.

Interventions

(i) Assess for causative or contributing factors that may be;
   a. Poor insight into situation
   b. Unrealistic expectations
   c. Inability to access help
   d. Social isolation

(ii) Provide empathy and promote a sense e,g, 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 elderly's 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 caregiver

- Benefits of listening without giving advice
- The importance of emotional support

(vi) Identify all possible sources of volunteer help in family
- Friends
- Neighbours
- Religious group
- Community group

(vii) Identify community resources available
- Support group
- Social service
- Home-delivered meal
- Counselling
- Transportation
- Day care

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

3.4.3.3 Compromised Family Coping: This is a state in which 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 other's response to his/her.

(ii) The caregiver describes preoccupation with personal reactions (e.g. fear, anticipatory grief, guilt, anxiety) to elderly person's condition.

(iii) The home caregiver confirms an inadequate understanding or knowledge base that interferes with effective assistance or supportive behaviours.

(iv) The home caregiver withdraws or enters into limited or temporary personal communication with the client in times of need.

(v) The home caregiver display protective behaviour disaproportionate (no little or too much) to the client's abilities or need for anatomy.

According to Watison (2001) caring in the home is a pure care in that it is in non-institutional, real-living situation. It is the most authentic and yet demanding aspect of personal-professional caring is manifested. This is true for the family members as well as any professional care providers. The foundation of home care must be based on trusting relationship that the nurse brings to the situation. The nurse must greet and sustain relationship-centered caring as the basis of all that occur during the care period.

3.4.4.0 SUMMARY: The conditions that will help you make some nursing diagnosis like impaired home maintainace, and has been discussed. These will help you prepare nursing care plan for the care of the family with elderly.

3.4.5.0 CONCLUSION: This unit presented to you conditions that are found in families that are having problems in coping with the care of elderly among them. Proper understanding of the unit will help you to care for elderly people.

3.4.6.0 Self-Assessment Exercise:

Outline the conditions that must be present in the nursing diagnosis of compromised family coping.

3.4.7.0 TUTOR MARKED ASSIGNMENT:

Discuss the conditions that should be present for the nurse to make the following nursing diagnosis

(a). Impaired home maintance

(b). Caregiver role strain

(c) Compromised family coping

3.4.8.0 REFERENCE/FURTHER READING:

Eliopoulos, C. (2014). *Gerontologic Nursing* (3rd ed.). Philadelphia: TB Lippincott.

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

UNIT FIVE: INSTITUTIONAL CARE OF THE ELDERLY

3.5.1.0 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 "blocking the bed" in the acute care setting in the hospitals. These difficulties encountered are due to poor utilization 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.

3.5.2.0 LEARNING OUTCOME: At the end of this unit you ar expected to:

(1). Discuss the role of nurses in the institutional care of elderly.

(2). Examine the prospect of institutional care in Nigeria

3.5.3.0 MAIN CONTENT:

3.5.3.1 The Role of a 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 adults are usually called Nursing Homes. Nurses working in such homes restore health and alleviate sufferings of the elderly. Unlike the acute care setting where the client are sent home when they get better, in case of nursing homes, the elderly is still retain in the homes. The reason being that there is no facility or a committed caregiver at home. The roles of the nurse in these institutional cares setting are not different from the fundamental roles of the nurse which include the following roles:

1. 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 formulate the plan of care and make sure that the care is carried out as and when due. The nurse makes sure that the elderly person's appointment with the physician, for laboratory investigations, with the physiotherapist are kept. The work of homekeeper are checked and ensures that the catering staff service enough and adequate food to the elderly.
2. Provision of care-nurses provide continuous care to the elderly 24 hours a day. "When others have gone, Nurses stay". 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 nurses take care of the elimination needs and help them to avoid the harmful consequences of being immobile that are common in the elderly. Nurses use the nursing process to continually evaluate the conditions of the elderly and also plan for their care. The care of the physicians are called when the nurse identify a problem that requires medical treatment. The nurses carry out the prescribed treatment for the elderly in the care getting.
3. Protection of the Elderly: Elderly persons are more 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 housekeepers are supervised to ensure that the rooms are clean, needles and other materials used for procedures are sterile, soiled materials are kept away from elderly. Sharp objects are placed in safety containers after use. The nurse washes hand with soap and water before and after care and ensure that the soap and water before and after care and ensure that the elderly maintain a good hand washing habit. The nurse protects the elderly's dignity and tries to save the elderly from embarrassement or shame. The nurse makes sure that the elderly is physically safe in bed or when ambulating. The nurse protect the elderly against anything that might be harmful in the institution's environment.
4. **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 minimize disability to maintain beat quality of life.

5. **Advocate for the Elderly:** Nurse spend all times with the elderly once admitted to the institution. The elderly share the most 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. Advancating is all about speaking on behalf of the elderly person and interceding when necessary. This advocacy is a part of the nursing care.

3.5.3.2 Practice and Prospect of Institutional Care

There are social arguments against institutionalizing elderly persons. The desire to return indepedence 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 along 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 Counci 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 institution care of the elderly.

Additionally, well organized nursing and home-help provision well 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 elderly's home and family as possible and should be supported by a wide range of community services. In all instances of care, the service provision for elderly person should be based on the promise that elderly people's level of dependency changes over time.

3.5.4.0 SUMMARY: The role of a nurse in the institutional care of the elderly has been discussed to enable you understand your roles. The prospect of institutional care in developing countries were also discussed.

3.5.5.0 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 getting 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.

3.5.6.0 SELF-ASSESSMENT EXERCISE:

Self-Assessment Exercise:

OUT line the community facilities needed to care for the elderly

3.5.7.0 TUTOR MARKED ASIGNMENTS:

(1). Discuss the role of nurses in the institutional care of elderly.

(2). Examine the prospect of institutional care in Nigeria

3.5.8.0 REFERENCES/FURTHER READING:

Eliopoulos, C. (2014). *Gerontologic Nursing* (3rd ed.). Philadelphia: TB Lippincott.

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

MODULE FOUR: GERIATIC NUTRITION

UNIT ONE: GUIDE TO MEAL PLANNING FOR ELDERLY

UNIT TWO: NUTRITIONAL ASSESSMENT OF ELDERLY

UNIT ONE: GUIDE TO MEAL PLANNING FOR ELDERLY

4.1.1.0 INTRODUCTION:

Aging is part of living. The choice of food has a far reaching implication on the choice of an individual to age healthy fuly or age with sickness and poor quality of life. Human aging is becoming one of the biggest challenges that face man continually increasing but good nutrition can help to combart the challenges.

4.1.2.0 LEARNING OUTCOME: At the end of this unit, you are expected to:

(1). Examine the importance of nutrition in care of the elderly.

(2). Disscuss the guide for meal planning for elderly.

(3). Describe the mealtime nursing care of the elderly.

4.1.3.0 MAIN CONTENT:

4.1.3.1 IMPORTANCE OF GERIATRIC NUTRITION

Healthy nutrition is needed to increase the age of onset of chronic degenerative disease and to maintain healthy functional living in elderly.

Nutrition 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 “anorexia of aging” due to hormones (lapin and ghrelin) that are higher in elderly and lead to prolonged satuity 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 use to treat diseases common in 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.

Achieving adequate fluid consumption in older adults is sometimes difficult because with advancing age, thirst decreases and voluntary fluid intake is impaired. It is important to maintain adequate hydration because water serves several purposes, including the maintenance of body temperature, a diluent for medications and as a solvent for nutrients waste products and electrolytes.

People over the age of 60 have much less of the “friendly” 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.

Aging 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 triggers them up must be eliminated, such foods as conventional fats, fried foods, transfat, 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 oxidize fats. When the fat is oxidized, it forms plaque deposites in the blood vessels leading to atherosclerosis proper dietary interventions to stimulate bone formation must be 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 diabetis mellitus, it is important to choose carbohydrates with low glycemic index and low

glycenic load. Glycenic index is the amount of sugar in a food. It ranged from 0-100. Complex carbohydrates from vegetables have low glycenic index. Glycenic load is an indication of how fast a carbohydrate is converted to glycose in the body. The faster a food is turned into glucose, the worse it is for blood sugar balance. Vegetables have low glycenic load and are recommended for the reduction of metabolic degenerative disease in elderly.

Cataract is present in thirty percent of elderly person above 75 and worldwide; 50 million people are blind due to cataract. Many research studies show that antioxidants, particularly vitamin C, vitamin E and Carontenoids can reduce the risk of cataracts. A recent Canadian study revealed that people who were on low vitamin E diet had a 2.5 fold greater risk of cataracts and thoseon low vitamin C had a four fold greater risk.

Aging process lead to a lot of physiological changes that have far reaching implications to the dietary needs of the individuals. In prescribing a diet for the elderly, care must be taken to provide dietary intake of energy and essential nutrients adequate in type 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 for the elders will be examined.

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 organizm ingest, digests, absorbs, transport, utilize and excretes food substances.

For the maximum benefit from the foods, the needs of an elderly must be well planned. Meal planning for the elderly is not different from that of the middle-age 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 favourite foods with minimum modifications to take care of their new physiological and disease conditions.

4.1.3.2 The guide for meal planning: This includes:

1. The intake of protein by the elderly should be increased for about 1.5g-2g per kilogram body weight in order to maintain normal nitrogen balance since catabolism of protein increase in old age.

Excessive protein intake should be avoided since this puts a lot of stress to the liver and kidney whose efficiencies are reduced by the aging process.

2. Energy intake should be reduced in view of the reduced physical activities and metabolism. Excessive intake of calories reduces the life expectancy of the elderly by intiating metabolic disease 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.
3. Water and fluid intake of the elderly should be generous. About 1.5-2.5 litres a day provided not contradicted by medical conditions. These levels of hydration will ensure a urinary output of at least 1.5 litres a day.
4. Vitamins and mineral intakes by the elderly should be generous especially iron, calcium and vitamin C and B. sodium intake should be reduced because of high blood pressure and renal conditions common in elderly.
5. Joules derived from fat should be cut down to about 20% of the total joules. It should be mostly essential fatty acids.
6. The diet of the elderly should contain high fibre to prevent constipation.
7. Attention must be paid to the state of dentention of the elderly and their foods must be presented in form that can be handled by such dental state.
8. To satisfy the recommended intake of certain nutrients like vitamin C, B and A, it is necessary to introduce specific foods like fresh fruits and dark green vegetables and milk.
9. Empty calory foods should be avoided. Such foods include sugar, horny and oil. Foods with high nutrient density should be given considering the disease state of the elderly.
10. Food choice responds principal to learned conditioning which influence all the activities of the elderly. The elderly should be presented with food that they are families with.

4.1.3.3 MEALTIME CHALLENGES IN ELDERLY

Mealtime challenges must be addressed because the elderly are at risk for dehydration and malnutrition for many reasons. Elderly may forget to eat or may be distracted and leave the food unfinished. They may have problem of chewing due to dental problems. Some of them may have poor appetite due to side effect of drugs.

4.1.3.4 MEALTIME NURSING CARE

- The nurse should
- Adhere to mealtime routine by providing choir and tube.
- Follow former preferences and mealtime routines.
- Maximize vision and hearing by putting on light and serving food with clean utensils.
- Offer more frequent small regular meals.
- Keep healthy snacks visible and available.
- Maximize the amount of food provide at the time the elderly is most likely to eat. Largest meal at breakfast is encouraged.
- Minimize noise by turning off television.
- During meals chat with the patient about social themes, their early lives and what their mother uses to cook. This makes meals social occasion.

Where the patient needed assistance, the following should be done:

- Serve food into bite-size pieces before presenting to the patient.
- Do not cut the food in his presence to preserve his dignity.
- When feeding an elderly, sit alongside, rather than standing over the patient.
- Note that thick liquids are easier to swallow than thin ones.
- Use simple language such as "chew" and "swallow".
- Offer fluids between bites of food to facilitate swallowing and hydration.

4.1.4.0 SUMMARY: The importace of nutrition has been discussed as well as the things to help you plan the meal of the elders. The routine care of the elderly during mealtime is presented to you.

4.1.5.0 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. This unit will help you care for the elderly nutrionally. The reason for nutrition for the elders were highlighted and the application in planning the meal and method to help the elderly have adequet nutrient during mealtime explained.

4.1.6.0SELF.ASSESSMENT EXERCISE:

Self-Assessment Exercise:

OUT line the community facilities needed to care for the elderly

4.1.7.0TUTOR MARKED ASIGNMENT:

Examine the importance of nutrition in care of the elderly.

Disscuss the guide for meal planning for elderly.

Describe the mealtime nursing care of the elderly.

4.1.8.0 REFERENCE:

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.

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

Ndie E C (2019) Gerontology Nursing in Developing World. NOUN press

UNIT TWO: NUTRITIONAL ASSESSMENT OF ELDERLY

4.2.1.0 INTRODUCTION:

Like any other 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 care plan to take care of a client with nutritional problems.

4.2.2.0 LEARNING OUTCOME:

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

(1).Discuss different mathods used to diagnose nutritional problems of elderly.

(2) Derrentiate anthropometric method from laboratory methof of of nutitional assessments.

(3). Evaloate different mothod used inestimating nutritional requirments of elderly.

4.2.3.0 MAIN CONTENT:

4.2.3.1 Nutritional History: Nutritional histories identify the elderly who are or may be at risk for 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 nutrients.

The following are included in the nutritional history

1. Comprehensive review of usual dietary intake, including food allergies, food aversion and use of nutritional supplement including vitamin and alternative therapy.
2. Recent unplanned weight loss or gain
3. Chewing or swallowing difficulties
4. Nausea, vomiting or pains with eating
5. Altered pattern of elimination (constipation, diarrhea)
6. Chronic disease affecting utilization of nutrients e.g. malabsorption, pancreatitis, diabetes mellitus.
7. Recent trauma, surgery or sepsis
8. Use of medications e.g. laxatives, antacids, antibiotics, antineoplastic drugs and alcohol.

4.2.3.2 Physical Assessement: 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

4.2.3.2.1 Anthropometric Data: Anthropometric is the movement of the body or its part.

(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 useful in calculating body mass index. Change may reflect retention (odema) or dehydration.

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

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

SBMI values of 20-25 are 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) **Tricept Skinfold Thickness (TSF):** Measure of the midpoint surgical calipers are used to measure te skinfold. 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.

4.2.3.3 Laboratory Tests: No laboratory test specifically measure 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 – binding prealbumin (20-30mg/dl)
   (d) Retinol – binding protein (4.5mg/dl)

Albumin and transferrin have relatively long half-lives of 19 and 9 days, respectively whereas thyroxine-binding prealbunin 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 indicators of adequacy of protein intake and synthesis. During protein calories malnutrition however, the plasma, albumnin 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.

2. **Nitrogen Balance:** If more nitrogen is taken in them excreted nitrogen is said to be positive and an anabolic state exists. If more nitrogen is excreted than taken in, nitrogen balance is said to be negative and a catabolic state exist. Most nitrogen loss occurs through the urine with a small, constant amount loss via the skin and faces. Nitrogen balance study should only be performed by specialists because of the accurate measurement of 24 hour food intake and urine output is required.
3. **Creatinin-height index**: Comparison of a patient's 24 hour 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 occurrence in the urine collection procedure and a lack of age-referred norms.

4.2.3.4 Estiamting 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, specialized personnel are required to use 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 + (13.8 x W) + (5 x H) – (6.8 x A)

   BEE (female) = 66.5 (9.6 x W) (1.9 x H) – (4.7 x A)

   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 – 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 requirements of the BEE.

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

$$1.62m = +45 + \frac{(0.12 \times 2.3}{.03} = 4 \times 2.3 + 45$$

$$= 9.2 + 45$$

$$= 54.2kg$$

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 substract 10% of the resultant figure to determine the IBW e.g. 0.1.62m tall man should have an IBW of

$$1.62 = +50 + \frac{(.12 \times 2.3)}{0.03} = 50 + 4 + 2.3$$

$$= 50 + 9.2$$

$$= 59.2kf$$

The IBW of such woman is 59.2 + 10kg

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

4.2.4.0 SUMMARY: Different methods used in diagnosing nutritional problems in elderly has been discussed with you. They include history taking of clinical conditions, anthropometric measurements, and laboratory tests. The methods used in estimating the nutritional requirements of elderly has also been discussed.

4.2.5.0 CONCLUSION: This unit has presented to you the knowledge you need to identify nutritional problems in elderly. These information will help you to care for the elderly and also prevent malnutrition that is usually common in them.

4.2.6.0 SELF ASSESSMENT EXERCISES:

Self-Assessment Exercise:

OUT line the community facilities needed to care for the elderly

4.2.7.0 TUTOR MARKED ASSIGNMENT:

(1).Discuss different mathods used to diagnose nutritional problems of elderly.

(2) Derrentiate anthropometric method from laboratory methof of of nutitional assessments.

(3). Evaloate different mothod used in estimating nutritional requirments of elderly.

4.2.8.0 REFERENCES/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.

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

Ndie E C (2019) Gerontology Nursing in Developing World. NOUN press

MODULE FIVE: DRUG THERAPY IN ELDERLY PERSON

UNIT ONE: MEDICATION FOR ELDERLY

UNIT TWO: HEALTH EDUCATION ON MEDICATION AND CONSIDERATIONS FOR SELECTED MEDICATION FOR ELDERLY

UNIT ONE: MEDICATION FOR ELDERLY

5.1.1.0 INTRODUCTION:

Drug is any substance that can bring about a change in biological function of the body through the chemical actions. WHO also define 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 physiochemical activities in the body. For an elderly, the 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 here.

5,1.2.0 LEARNING OUTCOME:

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

(1). Discuss the physiological changes in elderly person that affect the drug actions and uses.

(2). Identify the special drug administration considerations for the elderly persons.

(3). Describe risk factors that contribute to medication problems in elderly.

5.1.3.0 MAIN CONTENT:

5.1.3.1 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 elderly. The age related changes that alter the therapeutic and toxic effect of drugs are as followed:

(i) **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. This change in the body composition affects the relationship between a drug's concentration and distribution in the body.

(ii) **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 shown 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.

(iii) **Hepatic Function**: The liver's ability to metabolize certain drugs decreases with age. The decrease is caused by diminished blood flow to the liver, which results from an age related decreased in cardiac output and from the lessened activities of certain liver enzymes.

Decreased hepatic function may result in more intense drug effects caused by higher blood levels, longer-lasting drug effect because of prolonged blood levels and a greater risk of drug toxicity.

(iv) **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 kidney's ability to excrete the drug is decreased (as found in elderly) high blood levels of the drug result.

(v) **Disease Conditions:** The physiologic decline in organ function in the elderly is usually worsened by a disease conditions. This lead to adverse drug reactions to drug as well as non-compliance.

5.1.3.2 Special Considerations in Drug Administration in Elderly

(i) Drug dosages are modified to compensate for age-related decrease in renal function. BUN and creation level serve as a guide for adjusting drug dosages so that patient receive therapeutic dose without the risk of toxicity.

(ii) 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 advice reaction in an elderly must be investigated.

(iii) Because the total body water content decrease 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.

(iv) Many elderly people experience light-headedness when taken antihypertensive drugs partly due to arthrosclerosis and decreased elasticity of the blood vessels. Antihypertensive can lower blood pressure too rapidly resulting in insufficient blood flow to the brain which causes dizziness and fainting. In 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 sorely in elderly than younger adults.

(v) **Non-Compliance:** In elderly patient, the factors that are linked with incompliance to drug regimen includes:

(a) Diminished visual acuity

(b) Hearing loss

(c) Forgetfulness

(d) The need for multiple drug use in elderly

(e) Socio-cultural factors

The elderly may fail to take prescribed doses or to follow the correct schedule. The nurse should review the elderly person's 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.

Age related changes that affect medication in the elderly. These changes are:

1. Decreased body water
2. Decreased lean mass in the body
3. Increased body fat
4. Decreased serum albumin levels
5. Decreased liver and renal function
6. Altered homeostatic mechanism
7. Altered receptor sensitivity

These changes result to:

1. Increased probability of adverse effects
2. Unpredictable therapeutic effect

3. Mental changes and other functional impairments

5.1.3,4 RISK FACTORS:

The risk factors that contribute to medication problems in elderly:

1. Disease processes
2. Functional impairment due to multiple organ dysfunction
3. Inappropriate prescribing practice
4. Polyphormacy due to multiple pathology
5. Inadequate monitoring of the drugs in elderly
6. Financial factors
7. Insufficient recognition of adverse drug effects some of the effect may be masked.

5.1.4.0 SUMMARY: The physiological changes in elderly that affect the medication use in elderly has been discussed as well as the special consideration for drug use. The risk factor that are present when drugs are given to the elderly are also discussed.

5.1.5.0 CONCLUSION: This unit present to you the method to prevent medication errors as well as adverse effect of drugs in elderly. These discussions will help you to care for the elderly.

5.1.6.0 SELF ASSESSMENT EXERCISES:

Self-Assessment Exercise:

Outline the physiological changes in elderly that affect their medication use.

5.1.7.0 TUTOR MARKED ASIGNMENTS:

(1). Discuss the physiological changes in elderly person that affect the drug actions and uses.

(2). Identify the special drug administration considerations for the elderly persons.

(3). Describe risk factors that contribute to medication problems in elderly.

5.1.8.0 REFERENCES/FURTHER READING

Ndie E.C (2019) Medication use in Nursing practice. NOUN press pp 27-34

Ndie E C (2019) Gerontology Nursing in Developing World. NOUN press

UNIT TWO: HEALTH EDUCATION ON MEDICATION AND CONSIDERATIONS FOR SELECTED DRUGS FOR ELDERLY

5.2.1.0 INTRODUCTION:

Elderly may be at a greater risk for adverse drug reaction arising from different factors like drug-drug interaction, incorrect dosage etc. Due to changes in the conditions of 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.

5.2.2.0 LEARNING OUTCOME:

(1). Prepare a medication education for a family with an elderly on multiple drugs.

(2). Discuss the important nursing considerations when giving the following medications to the elderly (a). Amilodepine (b) Captopril (c) Piroxican

5.2.3.0 MAIN CONTENT:

5.2.3.1 MEDICATION EDUCATION FOR ELDERLY

The nurse caring for the elderly both at home and in institutions must carefully review the elderly 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 effects become bothersome.

The following general guidelines will help to ensure that an elderly adult 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 given 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 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.
8. If the elderly must remove the tablets from their original container to use a daily or weekly “medication planner” as a reminder, instruct him/her to keep on index card with the planner that include the drug’s 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 travelling. He/she should carry the drugs with him in their original containers and not pack them in the luggage.

5.2.3.2 NURSING CONSIDERATIONS FOR SELECTED MEDICATION FOR ELDERLY

Here, some of the things a nurse should consider while administering some of the common drugs in 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 MI after initiation of

calcium channel blocker therapy or at time of dosage increase like novasc. The nurse should monitor blood pressure frequently during initiation of therapy. Because the drug may induce vasodilatation and a gradual onset of acute hypertension is not rare. Notify the doctor if sign of heart failure occur and this includes swelling of fingers and feet or shortening of breath.

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 patient who take better blocks or other anti-hypertension. The nurse should advise the elderly who is taking it as anti-angaina 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 grape fruit juice.
3. **Nitroglycerin:**Closely monitor vital signs during the course the drugs especially blood pressure in the patient with M.I. 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 minimize 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 bests/minimates 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 elderly with suspected thyrotoxicisis, withdraw beta blocker gradually to avoid thyroid storm. The nurse should teach elderly at home care how to take his/her pulse and to withhold drug if pulse is less than 60 beat/min.

5. **Captopril (ACE Inhibitor):** The nurse should monitor the BP of the elderly and must know that elderly patient may be more sensitive to drugs hypertensive effects. In elderly with impaired renal function or collagen vascular disease, the WBC and differential counts should be monitored before starting the drugs and every 2weeks for the first 3 months of the therapy.

   Advise the client to take the drug 1 hour before meals; this is because food in the GI tract may reduce absorption. Inform the client that light-headedness is possible, especially during first few days of therapy. Instruct the client to rise slowly to minimize this effect and to report occurrence to the nurse. If fainting occurs, he should stop. Advise the client to sue 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 differently 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 hypertensive response is not considered a contraindication to continued therapy. The elderly should be made to know that he/she is susceptible

to a first-dose effect. This effect is common with all alpha blockers. The client is advised to avoid driving and other hazardous activities until drug's effect 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 drug's hypotensive effects. The nurse should know that the CBC, lupus erythematosis 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 such as sore throat, fever, muscle and joint aches and rashes and this must be notified immediately to the doctor.

5.2.3.3 NONSTERIODAL ANTI-INFLAMMATORY DRUGS

These drugs include ibuprofen, indomethacin, piroxican etc. This group of drugs acts to inhibit prostagulandin synthesis thereby impeding cyclooxygenase – 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 CBC and hemotocrit is monitored. The client must be monitored for symptoms of G.I. 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 tending for GL bleeding. The client should be thought the signs and symptoms of GI bleeding which include 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 supravetricular tachycardia, arterial fibrillation and flutter. These conditions are very common in elderly. Dogoxin mode of action is by inhibiting sodium-potassium-activated adenosine triphosphate, promoting cytoplasm and strengthening myocardial contraction. It also acts on the central nervous system to enhance vergal tone, slowing conduction through sino-aterial and aterio-venticular nodes.

The nurse should know that digoxin-induced arrhythmias may increase the severity of heart failure and hypotension. Patient with hypothyrtiodism 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 heart beat. The toxic effect on the heart is life-threatening and requires 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 hence 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 the rate of about 5% to 20% between the ages of 35 to 70 years. To cater to these changes in requirement calorie intake should be reduced to maintain ideal body weight as per age and body attain ideal body working weight.

5.2.4.0 SUMMARY: The knowledge needed to be considered when planning for health education on medication for the elderly, has been discussed as well as precautionary measures relating to mast common drug of the elderly.

5.2.5.0 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 of the system of the elderly. The elderly must be monitored whenever they are on any type of drug because adverse reaction is common in them.

5.2.6.0 SELF ASSESSMENT EXERCISES:

Self-Assessment Exercise:

Outline the physiological changes in elderly that affect their medication use.

5.2.7.0 TUTOR MARKED ASIGNMENT:

(1). Prepare a medication education for a family with an elderly on multiple drugs.

(2). Discuss the important nursing considerations when giving the following medications to the elderly (a). Amilodepine (b) Captopril (c) Piroxican

5.2.8.0 REFERENCES/FURTHER READING:

Ndie E.C (2019) Medication use in Nursing practice. NOUN press pp 27-34

Ndie E C (2019) Gerontology Nursing in Developing World. NOUN press

MODULE SIX: SPECIAL CARE OF THE ELDERLY

UNIT ONE: FALL PREVENTION IN ELDERLY

UNIT TWO: SKIN CARE FOR ELDERLY

UNIT THREE: SLEEP AND REST IN ELDERLY

UNIT FOUR: TEMPERATURE CONTROL IN ELDERLY

UNIT FIVE: COGNITIVE AND AFFECTIVE CARE OF ELDERLY

UNIT ONE: FALL IN ELDERLY

INTRODUCTION

Mobility is essential for monitoring independence in the activities of daily living. It also plays a role in avoidance of fall. Fall is an age-related functional consequence. Fall is an unexpected event that resulted in a person coming to rest on the ground or other lower surface. Falls and mobility problems are caused by multiple, diverse and interacting factors. The role of a nurse is to identify the most likely causes and contributing conditions and to plan interventions that address these factors (Murdoch et al (1985).

LEANING OUTCOME

MAIN CONTENT:

AT RISK FACTORS FOR FALL IN ELDERLY

The risk factors for fall in elderly are:

1. Age –related factors like:
    a. Vision and hearing changes
    b. Osteoporosis
    c. Slowed reaction time
    d. Altered gait, increased sway
    e. Postural hypotension

f. Nocturia

2. Pathologic conditions and functional impairments
3. Medication effects and interactions
4. Environmental factors e.g.
    a. Physical restraints
    b. Glare
    c. Inadequate lighting
    d. Lack of handrails on stairs
    e. Slippery floor
    f. Thron rugs
    g. Cords
    h. Unfamiliar environment
    i. Highly polishing floors

NURSING DIAGNOSIS

The nursing diagnosis for a client having problem of mobility is “impaired physical mobility”. It is a state in which the individual experience is at risk of experiencing limitation of physical movement but is not immobile.

The nursing goals for an older adult with a nursing diagnosis of impaired physical mobility are to restore the person’s functional ability, to prevent further loss of function and to prevent full and other serious consequences of impaired mobility.

FALL PREVENTION IN ELDERLY

According to Miller (2009) fall can be prevented in elderly by:

1. Identification of elderly at risk for falling by;

a. Identify any risks for falling and fall-related injuries e.g. medication and medical conditions
b. Address any risk factor for full
c. Reassess the risks for fall at predetermined times

2. Education of staff, patient and family on fall by;
   a. Instruct the patient and family about fall prevention programmes and how to obtain help if fall occur.
   b. Use posters and fliers to heighten staff awareness of the fall prevention programmes.
3. Nursing intervention for all high-risk full patients;
   a. Keep the call bell within reach at all times
   b. Offer assistance with activities of daily living (ADL) and try to anticipate the person's needs before help is needed.
   c. Encourage the person to call for help when needed
   d. Frequently check all people who cannot be relied on to call for help.
   e. Make sure the bed is in the lowest position possible and the wheels are locked.
   f. Carefully and frequently assess the environment for factors that increase the risk of either falls or fall related injuries. Address all modified risk factors.
   g. Consider the use of a movement detection device
   h. Carefully evaluate the potential consequences of physical restraints, including bed rails.
   i. If restraints are used, reevaluate their use every shift

j. If appropriate, orientation of person, place and time every shift and as needed.
k. Document fall prevention interventions on the persons chart.

UNIT TWO: SKIN CARE IN ELDERLY

INTRODUCTION:

LEARNING OUTCOME:

MAIN CONTENT:

Age-related changes affecting skin and their health implication

1. Decreased rate of epidermal proliferation. This leads to delay wound healing and increased susceptibility of infection.
2. There is flattened dermal-epidermal junction, thinning of dermis and collagen. There is increased quantity but decreased quality of elastin. These changes lead to decreased resiliency, increased susceptibility to injury, bruising mechanical and blister formation.
3. There are reductions in dermal blood supply and the number of melonocytes and langerhim calls. These lead to decreased intensity of tanning, irregular pigmentation, diminished dermal clearance, absorption and immunological responses.

4. There are reductions in subcutaneous fat and dermal blood supply. These will lead to decreased sweating and shivering, increased susceptibility to hypothermia and hyperthermia.
5. There is decreased moisture content which leads to dry skin and discomfort.
6. There is decreased number of meissners which leads to diminished tactile sensitivity and increased susceptibility to burns.
7. There is slowed nail growth which lead to increased susceptibility to cracking healing.
8. There is a change in hair color, quality and distribution which leads to negative impact on self-esteem.

Health Promotion on Skin Care

1. Maintaining healthy skin care;
    a. Including adequate amount of fluid in the daily diet
    b. Use humidifiers to maintain environmental humidity level of 40% to 60%.
    c. Apply emollient lotion twice daily or more often.
    d. Use emollient lotion immediately after bathing when the skin is still moist.
    e. Avoid massaging over bony prominences when applying lotions. Do not use rubbing alcohol.
    f. Avoid skin care products that contain perfumes and isopropyl alcohol.

g. Avoid multiple-ingredient preparations because some activities may cause allergic response.

2. **Personal care practices;**
   a. When bathing use mild soap
   b. Water temperature for bathing should be about $90^{o}f – 100^{o}f$
   c. Make sure skin is well rinsed after soap use.
   d. Apply emollient products after bathing, rather than using them in the bath water, to minimize the risk for falls on oily surfaces.
   e. If emollient products are applied to the feet, use slippers or socks before walking.
   f. Make sure the skin is dried thoroughly especially between toes and in other areas where skin rubs together.
   g. When drying skin use gentle, pathing motions rather than harsh, rubbing motions
3. **Avoiding sun damage;**
   a. Wear wide – brimmed hats, sunglasses and long sleeved garments when exposed to the sun.
   b. Wear clothing made of cotton, rather than polyesters fabrics because ultraviolet rays can penetrate polyesters.
4. **Preventing injury from abrasive forces;**
   a. Do not use starch bleach or strong detergent when laundering clothing or linens.
   b. User soft terry or cotton washcloth

c. If plastic-lined pads are necessary, make sure that an adequate amount of soft, absorbent materials is placed over the plastic.

5. **Nutritional Consideration**: Include adequate intake of zinc, magnesium, vitamin A, B-complex, C and E in the diet.
6. **Prevention and managing pressure ulcers:** pressure ulcers is attributed to;
   a. Impaired circulation
   b. External pressure and the key intervention for preventing skin breakdown is to ensure adequate circulation and minimal external pressure. Change position at minimum of 2-hour intervals.
   c. Pressure relieving measures are instituted to relieve any external pressure areas.

SUMMARY:

CONCLUSION:

SELF-ASSESSMENT EXERCISES:

TUTOR MARKED ASSIGMENT:

REFERENCES/FURTHER READING:

UNIT THREE: SLEEP AND REST IN ELDERLY

INTRODUCTION:

About one third of a person’s lifetime is spent in sleep and rest activities. During periods of sleep and rest, many metabolic processes decelerate

production of growth hormone increases and tissue repairs and protein synthesis accelerate. During the deeper stages of sleep, cognitive and emotion is stored, filtered and organized, so physiological well-being are affected by the quality and quantity of sleep.

LEARNING OUTCOME:

MAIN CONTENT:

Age-Related Change in Sleep

There is increased number of shifts into non-rapid eye movement (NREM) in stage 1; there is steady increase of 10-20% of total sleep time (TSI) which is 5% of that of young adult. Stage II is 50% TST which is unchanged from young adults. Stage III is 10% TST which is also unchanged. Stage IV is very short or absent, especially in men while it is 10% TST in young adults. Rapid eye movement (REM) which is characterized by weak muscle tension, vivid dream is short, less intense, more evenly in adults where it is 25% TST.

Overall changes in sleep in elderly;

1. The required longer time to fall asleep
2. They have more frequent arousal.
3. They have different quality of sleep, with less time in deep sleep and spend more time in bed.
4. They have the same quantity of sleep during a 24-hour period as the younger adults.

SLEEP ALTERATION RISK FACTORS IN ELDERLY

1. Paints and discomfort from arthritis and other medical conditions
2. Alcohol which suppresses the REM sleep increase nightmares, early morning awakening

3. Medications like antidepressants antocholinergics, hypontics which suppresses REM, increase awakening secondary to open.
4. Environmental factors like noise, very hot or cold condition.
5. Lack of day time activity or stimulation
6. Systematic disease like dementia.

HEALTH PROMOTION ON SLEEP IN ELDERLY

1. Establish a bedtime ritual that is effective for the client and try to follow it every night e.g. going to the toilet and taking a warm bath.
2. Maintain the same daily schedule for walking, resting schedule for waking, resting and sleeping.
3. In the afternoon, avoid foods, beverages and medications that contain caffeine which include tea, coffee and some over the counter drugs, alcohol, refined sugar.
4. Take pre-bed time that promote sleep include milk (warm) light snacks of complex carbohydrate e.g. whole grains.
5. Use one or more of the following relaxation methods: imagery, deep breathing, progressive relaxation, passive exercise, reading non-stimulating materials, watching non-stimulating television.
6. Perform daily moderate aerobic exercise, preferably before the late afternoon but avoid vigorous exercise in the evening.
7. Provide adequate intake of zinc, calcium, magnesium, manganese, vitamin-complex and vitamin C. vitamin E and folic are helpful for restless leg syndrome.

The following should be avoided to promote sleep:

1. Do not drink alcohol before bedtime because it may cause early awakening.
2. Do not smoke cigarettes in the evening because nicotine is a stimulant.
3. If bedtime is temporary changed, try to keep the waking time as close to the usual time, as possible and avoid staying in bed beyond your usual waking time.
4. Do not use bed for reading or other activities not associated with sleep.
5. If awaken during the night and cannot return to sleep, get out of bed after 30 minutes and engage in a non-stimulating activity such as reading in another room.
6. Arise at the usual time even if you have not slept well.

SUMMARY:

CONCLUSION:

SELF ASSESSMENT FORM:

TUTOR MARKED ASSIGNMENTS:

REFERENCES/FURTHER READING:

UNIT FOUR: TEMPERATURE CONTROL IN ELDERLY

INTRODUCTION:

Age-Related Changes that Affect Thermoregulation in Elderly

The primary function of thermoregulation is to maintain a stable care body temperature in a wide range of environmental temperatures. With increased age, subtle alterations in the thermoregulation occur and these become important considerations in caring for healthy as well as frail older adults.

LEARNING OUTCOME:

MAIN CONTENTS:

The age-related changes in thermoregulation in elderly include:

1. Decreased subcutaneous tissue on the skin.
2. Inefficient vasoconstriction
3. Delayed and diminished shivering to generate heat
4. Decreased peripheral circulation
5. Improved ability to acclimatize to heat
6. Inefficient sweating mechanism

The above physiological changes result in the following changes in body temperature in elderly;

a. Lower “normal” temperature than younger age groups.
b. Increased susceptibility to hypothermia because they can not generate heat from adipose tissues from the body.
c. Increased susceptibility to heat-related illnesses
d. Diminished febrial response to infection

RISK FACTORS

Risk factors for alteration in thermoregulation in elder include:

1. Dehydration
2. Extremes in environmental temperature

3. Diseases like infection, diabetes cardiovascular disease etc.
4. Inactivity and immobility
5. Age of 75 and above.
6. Medications like antiholinergies
7. Alcohol

HEALTH PROMOTION ON THERMOREGULATION IN ELDERLY

1. Maintain room temperature as close to 28-30^{o}c in the tropical countries and 21.1^{o}C - 23^{o}C in temperate countries.
2. Put on close knit undergarment to prevent heat loss.
3. Put on a hat and gloves when outdoor, nightcap and socks for sleep.
4. Provide flannel bed sheets or blankets of night
5. Use fans to circulate the air and cool the environment
6. During hot weather, the elder should spend more time in shaded open space
7. Drink extra non-caffeinated non-alcoholic liquids even if you are not feeling thirsty.
8. Use umbrella to protect self against sun and rain when outside.
9. Eat small, frequent meals rather than heavy meals.

SUMMARY

CONCLUSION:

SELF ASSESSMENT EXERCISES:

TUTOR MARKED ASIGNMENTS

REFERENCES/FURTHER READING:

UNIT FIVE: COGNITIVE AND AFFECTIVE CARE OF ELDERLY

INTRODUCTION:

The age-related change in cognitive functions of the elderly is that elderly may show decline in some intellectual skills but they are capable of cognitive growth and intellectual development throughout adulthood.

LEARNING OUTCOME:

MAIN CONTENT:

COGNITIVE FUCTION:

The dysfunction in cognitive function includes:

1. Slight decline in short-term memory.
2. No decline in crystallized intelligence like wisdom, creativity, common sense and breadth of knowledge.
3. There is slight and gradual decline in fluid intelligence like abstraction, calculation, spatial orientation and inductive reasoning.
4. There is slower processing of information.

The risk factors for impaired cognitive function include:

1. Impaired sensory function.
2. Alcohol consumption
3. Medications like anticholinergics
4. Physiologic disorders like malnutrition.
5. Psychosocial influences like anxiety and depression.
6. Environmental distractions
7. Lack of motivation.

8. Lack of stimulation

Elderly people have minor changes in cognitive ability but as the age increases due to pathologic conditions, more serious cognitive dysfunction may occur. Impairment of cognitive functioning causes loss of abilities that affects all aspects of functioning. This is one of the most devastating losses that confront the elderly and their caregivers. The two major conditions that cause cognitive dysfunction in elderly are delirium and dementia.

ADAPTIVE TECHNIQUE FOR CARE OF ELDERLY WITH IMPAIRED COGNITIVE FUNCTION

1. Modify the environment to compensate as much as possible for sensory deficits and other functional impairments.
2. Use clocks, calendars, daily newspapers, radio and simple written cues for orientations.
3. Use simple pictures, colour codes for identifying items and places.
4. Place pictures of familiar people in highly visible places.
5. Turn light on as soon as or before it begins to get dark.
6. Avoid over stimulation.

TO ENSURE SAFETY

1. Make sure the person carries some form of identification along with the phone number of someone to call.
2. Adapt the environment for safety by using alarm devices for doors to prevent wandering.

3. Keep the environment uncluttered.
4. Keep medication, cleaning solutions and any poisonous chemicals in inaccessible places.
5. Enroll the person in a protective programme such as the Safe Return Program.

FACILITATE ACTIVITY OF DAILY LIVING

1. Keep all activities as simple and routine as possible.
2. Establish routines that allow for maximum independence and the least amount of frustration.
3. While keeping the routines as consistent as possible, it must be recognized that they will have to be changed as the person's level of function changes.
4. If the person need assistance with hygiene, use matter-of-fact statement, such as "it's time for your bath".
5. Arrange personal care items, such as grooming and hygiene aids, in a visible and uncluttered place, in the order in which the items are to be used.
6. Offer finger foods and nutritious snacks if the person will not sit at the table to eat a meal.

INCONTINENCE

One of the most challenges in care of the elderly is monitoring continence. Elderly patients may wet or soil themselves because they cannot find the bathroom in time or undress quickly enough.

NURSING INTERVENTION

- Make the bathroom visible: keep doors open and lights on.
- Use loose-fitting clothing that is easy for the patient to manipulate.
- Assist patient with hygiene after voiding, to prevent the risk for urinary tract infection.
- Males need routine prostate examination.
- Place the elderly on a toilet schedule. This involves taking the patient to the restroom every 2 hours.
- At late stage incontinence, products should be introduced. They should be referred to as "underwear" instead of diapers for they will resist the use of diaper.

AFFECTIVE CARE

The commonest impaired affective functions found in elderly are depression and it is the most undetected and untreated of the treatable mental disorders in elderly. The signs and symptom of late-life depression include;

i. Loss of appetite
ii. Weight loss
iii. Digestive system complaints, especially dysphasia, flatulence, constipation, stomach distress.
iv. Insomnia awakening, other sleep disorders
v. Fatigue
vi. Pains
vii. Blues

viii. Feel empty.

ix. Low self-esteem

NURSING INTERVENTION

1. Help the client develop a positive self-concept. Opportunities for success should be provided and they are helped to form new goals.
2. Encourage the elderly to express their feelings. Nurses should afford time to listen and guide patients through these feelings. In addition to verbalize feelings.
3. Avoid minimizing feelings. Avoid statements like "do not worry, things will get better". Or "do not talk that way; you have a lot to be thankful to God". These statements are not helpful to the client's feeling.
4. Ensure that physical needs are met. Good nutrition, activity, sleep and regular bowel movement are among the factors that enhance as healthy physical state, which in turn strengthen the patient's capacities to work through depression (Eliopoulos, 2010).
5. Offer hope to the elderly: The nurse by words and deeds convey the belief that the future will have meaning and that the elderly's life is of value.

DEMENTIA IN ELDERLY

Dementia is a global intellectual decline of sufficient severity to impair social and or occupational functioning that occurs in normal consciousness. According to Steel (2010) the elements to the dementia are;

- The impairment are global and affect reasoning, using and understanding language, coordinating learned motor movement.
- There is a decline from previous level of functioning.
- It interferes with normal functioning in everyday life.
- The patient is awake and alert. It occurs in 7% of elderly from 65years and 75-85 years.

Causes of dementia include:

- Alzheimer disease causes 50% of dementia. This is an incurable neurodegenerative disease.
- Front temporal dementia 15% of all cases of dementia. It affects the frontal and anterior lobes.
- Levy body dementia leads to 15% of all cases of dementia. It leads to progressive cognitive decline.
- Vascular dementia account for 10% of all cases of dementia. It results from impaired blood supply to the brain.

END-OF-LIFE CARE

- The last thing man like talk about is death because human can be very reluctant to accept their mortality. In reality, 100% of elderly we care for die sooner or later. So nurses who care for the elderly must understand how to handle the complex nature of end-of-life. Nurses offer humanistic approach to caring for the dying patient. The dying elderly is given holistic care by recognizing that family members and significant others play a vital roles in the dying process and are also considered.

- Dying process is unique for every human being, so individualized nursing intervention is required. The care involves interdisciplinary effort to address physical, emotional and spiritual needs of the individual and family.

SUMMARY

CONCLUSION:

SELF ASSESSMENT EXERCISES:

TUTOR MARKED ASIGNMENTS

REFERENCES/FURTHER READING: