



Definition

- Aging can be defined as the time-related deterioration of the physiological functions necessary for survival and fertility.
- Aging process is the process of growing old or developing the appearance and characteristics of old age



Classification of aging

- **Objectively**, ageing is a universal process that begins at birth and is specified by the chronological age criterion
- **Subjectively**, aging is marked by changes in behaviour and self-perception and reaction to biologic changes.
- **Functionally**, aging refers to the capabilities of the individual to function in society.

CONCEPTS OF AGING

- Chronologic aging
- Biologic aging
- Psychologic aging
- Social aging
- Cognitive aging

CHRONOLOGIC AGING

- Chronological age refers to the actual amount of time a person has been alive.
- In other words, the number of days, months or years a person has been alive

BIOLOGIC AGING

- Senescence or biological ageing is the gradual deterioration of function characteristic .
- Biological aging refers to the physical changes that "slow us down" as human get into middle and older years.
- For example: arteries might clog up, or problems with lungs might make it more difficult for us to breathe.
- This aging is also known as physiologic aging.

PSYCHOLOGIC AGING

- Psychological aging refers to the psychological changes, including those involving mental functioning and personality, that occur as human age.
- chronological age is not always the same thing as biological or psychological age.
- Some people who are 65, can look and act much younger than some who are 50.
- Psychological ageing may be seen as a continuous struggle for identity, i.e. for a sense of coherence and meaning in thoughts, feelings and actions.
- Success depends on a lucky synchronization of changes through life in different parts of the personal self.

SOCIAL AGING

- Social aging refers to changes in a person's roles and relationships, both within their networks of relatives and friends and in formal organizations such as the workplace and houses of worship.
- Social aging differ from one individual to another.
- It is also profoundly influenced by the perception of aging that is part of a society's culture.
- If a society views aging positively, the social aging experienced by individuals in that society will be more positive and enjoyable than in a society that views aging negatively.

COGNITIVE AGING

- Cognitive ageing is the decline in cognitive processing that occurs as people get older. Age-related impairments in reasoning, memory and processing speed can arise during adulthood and progress into the elder years.
- Cognitive aging is concerned with the basic processes of learning and memory as well as with the complex higher- order processes of language and intellectual competence or executive functioning.
- The concept of cognitive aging, a term that describes a process of gradual, longitudinal changes in cognitive functions that accompany the aging process.

Theories of aging

- Each theory of aging attempts to provide a framework in which to understand aging from different perspectives.
- Each theory is useful to the clinician because a framework and insight into differences among elderly patients are provided.

The theories of aging are classified into

- Biologic theories
- Psychosocial theories
- Developmental theories

BIOLOGIC THEORIES

Biologic theories of aging attempt to explain why the physical changes of aging occur.

- The programmed theory/ Biological clock theory
- The run out of program theory
- Gene theory
- Molecular theory
- Cellular theories

THE PROGRAMMED THEORY/ BIOLOGICAL CLOCK THEORY

- The programmed theory proposes that every person has a "Biologic clock" that starts ticking at the time of conception.
- In this theory each individual has a genetic program specifying an unknown but predetermined number of cell divisions.
- As the program plays out, the person experiences predictable changes such as atrophy of the thymus, menopause, skin changes and graying of the hair
- Aging has a biological timetable or internal biological clock.

THE RUN OUT OF PROGRAM THEORY

- Every person has a limited amount of genetic material that will run out over time.
- All events are specifically programmed into genome and are sequentially activated.
- After maturation genes have been activated there are no more programs to be played and as cells age there may be chance of inactivation of genes that cannot be turned on.

GENE THEORY

- The gene theory proposes the existence of one or more harmful genes that activate overtime, resulting in the typical changes seen with aging and limiting the life span of the individual.
- Organism failure occurs in later life because of the presence of imperfect genes activated over lengthy periods of time.
- Two gene types, one supports growth and vigor, and the other supports senescence and deterioration.

MOLECULAR THEORIES

The aging is controlled by genetic materials that are encoded to predetermine both growth and decline.

- **The error theory**
- **The somatic mutation theory**

1. THE ERROR THEORY

- The error theory proposes that errors in ribonucleic acid protein synthesis cause errors to occur in cells in the body, resulting in a progressive decline in biologic function.
- Error theory Aging is a result of internal or external assaults that damage cells or organs so they can no longer function properly.

2. THE SOMATIC MUTATION THEORY

- The somatic mutation theory proposes that aging result from deoxyribonucleic acid (DNA) damage caused by exposure to chemicals or radiation and this damage causes chromosomal abnormalities that lead to disease or loss of function later in life . Exposure to x-ray radiation and or chemicals induces chromosomal abnormalities.

CELLULAR THEORIES

- The cellular theories propose that aging is a process that occurs because of cell damage.
 - When enough cells are damaged, overall functioning of the body is decreased.
1. **The free radical theory**
 2. **The crosslink or connective tissue theory**
 3. **Clinker theory**
 4. **The wear and tear theory**

1. THE FREE RADICAL THEORY

1. The term free radical describes any molecule that has a free electron, and this property makes it react with healthy molecules in a destructive way.
2. Diet, lifestyle, drugs (e.g. tobacco and alcohol) and radiation

2. THE CROSSLINK OR CONNECTIVE TISSUE THEORY/ GLYCOSYLATION THEORY OF AGING

- Cell molecules from DNA and connective tissue interact with free radicals to cause bonds that decrease the ability of tissue to replace itself.
- The results in the skin changes typically attributed to aging such as dryness, wrinkles, and loss of elasticity.
- Fibrous tendons, loosening teeth, diminished elasticity of arterial walls and decreased efficiency of lungs and GI tract.
- It is the binding of glucose (simple sugars) to protein, (a process that occurs under the presence of oxygen) that causes various problems.
- Senile cataract and the appearance of tough, leathery and yellow skin.

3. THE CLINKER THEORY

- The clinker theory combines the somatic mutation, free radical and cross link theories to suggest that chemicals produced by metabolism accumulate in normal cells and cause damage to body organs such as the muscles, heart, nerves and brain.

4. THE WEAR AND TEAR THEORY

- Body is similar to a machine, which loses function when its parts wear out.
As people age, their cells, tissues and organs are damaged by internal or external stressors.
- Good health maintenance practices will reduce the rate of wear and tear, resulting in longer and better body function.

IMMUNOLOGIC THEORY

- The immunologic theory proposes that aging is a function of changes in the immune system.
- The immune system weakens over time, making an aging person more susceptible to disease, increase in autoimmune disease and allergies
- Over time, cells involved in immune function are less self-regulatory, resulting in cells being misidentified as foreign material and being attacked by the immune system's own defenses. Eg: rheumatoid arthritis (RA) and lupus.

THE MITOCHONDRIAL DECLINE THEORY

- The power producing organelles.
- Enhancement and protection of the mitochondria is an essential part of preventing and slowing aging.

THE MEMBRANE THEORY OF AGING

- It is the age-related changes of the cells ability to transfer chemicals, heat and electrical processes that impair it.
- As older the cell membrane becomes less lipid (less watery and more solid). This impedes its efficiency to conduct normal function and in particular there is a toxic accumulation.

PSYCHOSOCIAL THEORIES

- Psychosocial theories of aging attempt to explain changes in behaviour, roles and relationship that occur as individual age.
- This attempt to predict and explain the social interactions and roles that contribute to successful adjustment to old age in older adults.
 - ✓The disengagement theory
 - ✓The activity theory
 - ✓The continuity theory
 - ✓The subculture theory

DISENGAGEMENT THEORY

- Cummings and Henry(1961) states that aging people withdraw from customary roles and engage in more introspective, self-focused activities.
- The disengagement theory was developed to explain why aging process separate from the mainstream of society.
- This theory proposes that older people are systematically separated, excluded, or disengaged from society because they are not perceived to be of benefit to the society as a whole.
- This theory further proposes that older adults desire to withdraw from society as they age, so the disengagement is mutually beneficial.

THE ACTIVITY THEORY

- This theory proposes that activity is necessary for successful aging.
- Active participation in physical and mental activities helps maintain functioning well into old age.
- Purposeful activities and interactions that promote self-esteem improve overall satisfaction with life, even at the older age.
- The continuation of activities performed during middle age is necessary for successful aging (Lemon, Bengston and Peterson, 1972).

THE CONTINUITY THEORY

- The continuity theory (Neugarten, 1964) state that personality remains the same and the behaviours become more predictable as people ages.
- Personality and behaviour pattern developed during a life time determine the degree of engagement and activity in older adulthood.
- Personality is a critical factor in determining the relationship between role activity and life satisfaction.

THE SUBCULTURE THEORY

- Rose (1965) theorized that older adults from a unique subculture within society to defend against society's negative attitude toward aging and the accompanying loss of status.
- Older adults are a subculture with their own norms and beliefs. The subculture occurs as a response to loss of status.
- In the subculture, individual status is based on health and mobility, instead of on education, occupation and economic achievement.

DEVELOPMENTAL THEORIES

- Developmental theories or life-course theories
- These theories trace personality and personal adjustment throughout a person's life.
- Many of these theories are specific in identifying life-oriented tasks for the aging person.
- ✓ Erikson's
- ✓ Havighurst's
- ✓ Newman's
- ✓ Peck's
- ✓ Jung's theory

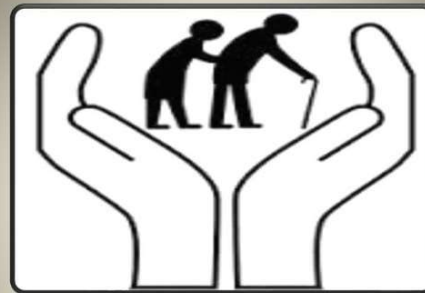
ERIKSON'S THEORY

Erickson's(1963) theory identifies eight stages of developmental tasks that an individual must complete throughout the life span:

- Trust versus mistrust
- Autonomy versus shame and doubt
- Initiative versus guilt
- Industry versus inferiority
- Identity versus identity confusion
- Intimacy versus isolation
- Generativity versus stagnation
- Integrity versus despair

CONT....

- The last of these stages is the domain of late adulthood, but failure to achieve success in tasks earlier in life can cause problems later in life.
- The stage pertaining to older adults is : Ego integrity versus Despair.
- The task of this stage is acceptance of one's life as meaningful and that death is part of life, versus despair, which is failure to accept the meaningfulness of one's life, along with fear of death.



'THANK YOU'