



CNS—Behavioral~2
Written by: Dr.Ali Abujaamil.

Human development refers to the continuous process that a person undergoes from conception to old age. This process includes physical, cognitive, emotional, and social changes that occur throughout different life stages. It is influenced by both genetic factors and environmental factors, leading to a complex interaction between nature and nurture.

Stages of Human Development:

- 1. Prenatal Stage: From fertilization to birth, zygote develops into a complex organism; Includes: Germinal Stage (0-2 weeks) fertilized egg (zygote) begins dividing and Embryonic Stage (3-8 weeks) organs start forming and Fetal Stage (9 weeks-birth) growth and organ development occur.**
- 2. Infancy and Early Childhood (0-6 years): Motor skills, such as crawling and walking, develop, brain development, particularly in the cerebral cortex, language and emotional bonding form.**
- 3. Middle and Late Childhood (6-12 years): Logical thinking improves, interactions with peers increase.**
- 4. Adolescence (12-18 years): Puberty leads to hormonal changes, identity formation abstract thinking and future planning develop.**
- 5. Early Adulthood (18-40 years): Independence, career, and relationships become priorities, brain development continues but slows down.**
- 6. Middle Adulthood (40-65 years): Early signs of aging appear, reflection on personal and professional achievements.**
- 7. Late Adulthood (65+ years): Cognitive abilities may decline and health challenges increase, but quality of life can be maintained with a healthy lifestyle.**

Factors Influencing Human Development:

- Genetic factors: Influence physical and mental traits.**
- Environmental factors: Include nutrition, education, and social relationships.**
- Gene-environment interaction: Determines how inherited traits develop in response to surroundings.**

Importance of Studying Human Development: Helps understand physical and mental growth and aids in designing age-appropriate education strategies also supports addressing developmental disorders like Autism Spectrum Disorder (ASD) and Attention Deficit Hyperactivity Disorder (ADHD).

Life events refer to significant changes or moments that influence human growth and development. These events can be expected, like puberty or graduation, or unexpected, like losing a loved one or facing a health crisis. They fall into three main concepts:

- 1. Developmental Milestones:** These are notable events, markers, or turning points in personal growth, vary across life stages, including physical, cognitive, emotional, and social achievements, examples: baby's first steps, say first word, starting school, graduating from university, securing a stable job.
 - 2. Developmental Tasks:** These must be mastered for optimal growth and adaptation in life, life stage has different challenges, and failing to achieve them can lead to difficulties later on, examples: learning to read and write in childhood, developing personal identity in adolescence, adjusting to sexual maturity, adapting to retirement in old age.
 - 3. Psychosocial Dilemma:** This refers to the conflict between personal desires and societal expectations, based on Erik Erikson's Psychosocial Development Theory, people go through a series of psychological and social crises, examples: child's struggle between dependence and independence, teenager's identity crisis versus peer pressure.
-

Erik Erikson's theory of psychosocial development describes eight stages that individuals go through from infancy to old age. Each stage presents a psychosocial challenge, and the way a person resolves it affects their personality and future development. Successfully overcoming these challenges leads to positive growth, while failure can result in psychological difficulties.

Stage One-Trust vs. Mistrust: Age birth to 1.5 years, in this stage, infants are completely dependent on their caregivers to fulfill their basic needs, such as food, warmth, protection, and affection. The way caregivers respond to these needs determines whether the child develops trust in the world or mistrust towards it so if the baby receives consistent, loving, and reliable care he develops trust, which leads to feelings of security and confidence in relationships while if care is inconsistent, neglectful, or cold he develops mistrust, leading to anxiety, insecurity, and difficulty forming healthy relationships.

Example: if a baby cries from hunger and the caregiver responds quickly with warmth and care, the baby learns to trust that their needs will be met. However, if the baby is often left crying without response, they may develop mistrust and fear of abandonment.

Stage Two-Autonomy vs. Shame and Doubt: age 1.5 to 3 years, at this stage, children begin exploring their independence, learning to walk, talk, eat, and control bodily functions. If encouraged to do things on their own, they develop a sense of autonomy. However, if they are overly controlled, criticized, or embarrassed for their mistakes, they may feel shame and doubt about their abilities so if encouraged and given freedom to try he develops autonomy and self-confidence while if restricted, scolded, or shamed for failures he develops shame and self-doubt, making them hesitant to take risks later in life.

Example: child who is allowed to dress themselves, even if they struggle, will gain confidence. However, if a parent constantly criticizes them for doing it "wrong," they may feel ashamed and insecure.

Stage Three-Initiative vs. Guilt: age 3 to 6 years children in this stage become more curious and imaginative, asking questions and engaging in creative play. If encouraged, they develop initiative, feeling confident in taking action. If constantly criticized or discouraged, they may develop guilt and hesitate to take initiative so if supported and encouraged he develops initiative, creativity, and leadership skills While if discouraged or scolded for exploring he develops guilt, making them hesitant to try new things.

Example: child who is allowed to ask questions and explore new activities will develop curiosity and confidence. However, if they are constantly told, Stop asking so many questions they may feel guilty for being inquisitive.

Stage Four-Industry vs. Inferiority: age 6 to 12 years, this stage focuses on academic, social, and practical skills. Children begin comparing themselves to others. If they receive praise and encouragement, they develop a sense of industry (competence). However, if they experience repeated failure or criticism, they may feel inferior and lack confidence, so If encouraged and recognized for achievements he develops competence, motivation, and a strong work ethic while if constantly criticized or made to feel inadequate he develops inferiority, leading to self-doubt and reluctance to try new things.

Example: child praised for their schoolwork will feel proud and motivated to learn. However, if they are mocked for struggling, they may believe they are not good enough.

Stage Five-Identity vs. Role Confusion: age 12 to 18 years (Adolescence), teenagers search for their identity, exploring values, beliefs, and career goals. If they successfully find a sense of self, they develop identity. If they remain confused about their purpose, they experience role confusion so If they explore different roles and are supported in their journey they develop a strong sense of identity and direction while If they lack guidance or feel pressured into an identity that doesn't fit them they develop role confusion, leading to uncertainty about their future.

Example: teenager who tries different activities and is encouraged to find their passion will develop confidence. However, if they are forced into a career path they dislike, they may struggle with identity issues.

Stage Six-Intimacy vs. Isolation: 18 to 40 years (Young Adulthood), in this stage, individuals seek close and meaningful relationships. If they can form deep emotional bonds, they experience intimacy. If they struggle with relationships or fear vulnerability, they may experience isolation so If able to form strong relationships that develops a sense of connection and belonging while If unable to connect with others will be experiences loneliness and isolation.

Example: young adult who builds deep friendships and romantic relationships will feel emotionally fulfilled. However, someone who avoids intimacy out of fear may struggle with loneliness.

Stage Seven-Generativity vs. Stagnation: 40 to 65 years (Middle Adulthood), this stage is about contributing to society, whether through raising children, mentoring, or meaningful work. If people feel they are making a difference, they develop generativity. If they are only focused on themselves, they experience stagnation, so If they contribute to the next generation

and their community will develop a sense of purpose and fulfillment while If they focus only on personal comfort, experiences stagnation and lack of purpose.

Example: middle-aged person who mentors young professionals or volunteers will feel fulfilled, while someone who is only concerned with personal gain may feel unfulfilled.

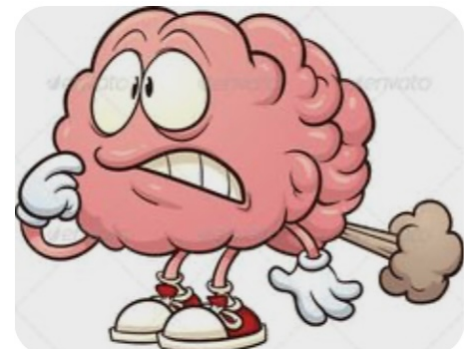
Stage Eight-Integrity vs. Despair: 65 years and older (Old Age), In this final stage, individuals reflect on their lives. If they feel they lived a meaningful and responsible life, they experience integrity and peace. If they regret past choices, they may feel despair so If they accept their life with pride and fulfillment will develops integrity and wisdom while If they have many regrets and feel life was wasted, experiences despair, sadness, and bitterness.

Example: elderly person who looks back with satisfaction will feel at peace, while someone who has many regrets may experience depression.

Erikson's theory highlights how each stage builds upon the previous one, shaping our personality and emotional well-being. Overcoming each challenge positively leads to a more fulfilling and meaningful life.

Childhood problems are common and often a natural part of development. However, some difficulties may indicate underlying physical or psychological concerns that require medical or psychological intervention. These problems can include toilet training difficulties, eating disorders, and unusual behaviors. Below is a detailed explanation of each issue.

1. Toilet Training Problems: Most children begin learning to control their bladder and bowel movements between 1.5 and 3 years of age. On average, toilet training is completed by 30 months (2.5 years), but some children may take six months longer or more. Strict or overly lenient training methods can delay this process, types of Toilet Training Problems:



1. Enuresis (Bedwetting): The inability to control the bladder, leading to bedwetting (nocturnal enuresis) or involuntary urination during the day, the possible causes: delayed maturation of the nervous system controlling the bladder or genetic factors (children are more likely to have bedwetting issues if one or both parents had the same problem) or psychological stress, anxiety, or emotional distress and physical conditions like urinary tract infections or diabetes; prevalence is more common in boys than girls.

2. Encopresis (Soiling): The inability to control bowel movements, leading to soiling of underwear, Causes: Chronic constipation, which can cause stool buildup and unintentional leakage and Behavioral or psychological issues, such as anxiety or resistance to toilet training the prevalence Less common than enuresis.

Importance of Early Intervention: If toilet training issues persist beyond age 5, consulting a pediatrician or psychologist is recommended to rule out medical or emotional causes.

2. Feeding Disturbances: Some children struggle with developing healthy eating habits, which can impact their physical and emotional well-being. Below are the most common feeding disturbances:

1. Overeating: Consuming more calories than the body requires, leading to excessive weight gain, **Causes:** eating high-calorie fast foods and processed snacks, using food as a coping mechanism for stress or emotional distress and unhealthy family eating habits; **Risks** Overeating in childhood increases the risk of obesity, which can lead to diabetes, high blood pressure, and heart disease later in life.

2. Anorexia Nervosa: severe eating disorder characterized by self-starvation, often due to psychological factors such as body image concerns; **Causes:** Social pressure to achieve an ideal body shape, especially among girls and **Distorted body image perception**, where the child sees themselves as overweight even when underweight; **Risks** severe malnutrition, weakened immune system, hormonal imbalances, and even life-threatening complications if left untreated.

3. Pica: disorder in which a child eats or chews non-food items such as lead, chalk, paint chips, clay, paper, or sand; **Causes:** Nutritional deficiencies (such as iron or zinc deficiency) or Psychological and developmental disorders, including autism or stress-related behaviors; **Risks** lead to lead poisoning, digestive blockages, and nutritional deficiencies; **Note** It is common for toddlers to explore objects by putting them in their mouths. However, if pica behavior continues beyond age 3, it may indicate an underlying disorder requiring medical attention.

Managing Childhood Problems:

For Toilet Training Issues: Avoid punishment or shaming for accidents, as this can make the problem worse and Use positive reinforcement, such as small rewards, to encourage proper bathroom habits and If the problem persists beyond age 5, consult a pediatrician or child psychologist.

For Feeding Disturbances: Encourage healthy eating habits from an early age and Monitor a child's eating behaviors, especially in adolescents, to detect early signs of eating disorders and Seek medical or psychological support if symptoms of anorexia nervosa or pica are observed.

Speech disturbances refer to difficulties in speaking fluently and clearly. These issues can affect a child's language development, self-confidence, and social interactions. The two most common speech disturbances in childhood are delayed speech and stuttering.

1. Delayed Speech: occurs when a child begins speaking significantly later than the expected age for language development. Typically, children start saying simple words between 12-18 months and should have basic vocabulary and short sentences by 2-3 years old the causes for that : **Biological** like hearing impairment or partial deafness, making it difficult for the child to learn and mimic sounds or **Brain development disorders** or neurological conditions such as autism spectrum disorder (ASD) or cerebral palsy and **Central nervous system issues** affecting the muscles responsible for speech production; **Environmental Causes** like Limited

verbal interaction with parents (for example, not being spoken to or read to frequently) or Exposure to multiple languages at an early age can cause a temporary delay but is not considered a disorder; Psychological Causes like Anxiety or stress, especially if the child is in an environment that discourages speech or Neglect or lack of linguistic stimulation.

Treatment & Intervention: If a child does not say words by 18 months or form sentences by 3 years old, consulting a speech therapist or pediatrician is recommended and Encouraging speech through daily conversations, reading, and singing can help stimulate language development.

2. Stuttering: is a speech disorder that disrupts the flow of speech, causing repetitions of sounds or syllables, prolonged pronunciation of words, or sudden pauses during speech.

Key Characteristics: Frequent pauses or hesitations while speaking (I... I want to go) and Prolonged sounds in words (ssssssssee the car) and Repetition of words or syllables (I want, I want, I want) and Tension while speaking, such as facial strain, hand movements, or frustration when trying to pronounce words; **possible causes:** Biological like Researchers believe stuttering is linked to speech timing mechanisms in the brain, which may affect the coordination of neural signals responsible for speech or Genetic Factors Stuttering often runs in families, indicating a possible genetic component or Psychological & Environmental Factors like Parenting styles do not cause stuttering, but stress and pressure can worsen it, may develop in children who experience social anxiety or emotional distress.

Treatment & Intervention: Speak slowly and calmly with the child to reduce speech anxiety also Avoid interrupting or finishing their sentences, as this can increase frustration and If stuttering persists for more than six months or causes the child to avoid speaking in social settings, seeking help from a speech therapist is recommended.

Learning disorders refer to difficulties in reading, writing, or math, despite having a normal or even high level of intelligence. These disorders are diagnosed when a child's academic performance is significantly lower than expected for their age and intellectual abilities; **Types of Learning Disorders:**

Dyslexia (Reading Disorder): is a learning disorder that affects a child's ability to read and understand written text. Children with dyslexia struggle with recognizing words, understanding written material, and linking letters to their sounds; the Characteristics it Reversing letters or words when reading or writing (writing b instead of d or was instead of saw) and Difficulty spelling words and reading fluently also Weak comprehension skills due to the effort needed to decode words; the Prevalence is Affects about 10-15% of school-age children and Possible Causes are Dyslexia often has a genetic component, meaning it can run in families plus It is linked to differences in brain processing of language information, rather than vision or hearing problems.

Treatment & Intervention: Using specialized educational programs to help children recognize letters and sounds and Practicing reading aloud regularly to improve fluency also Utilizing assistive technology such as audiobooks and educational apps.

Attention-Deficit Hyperactivity Disorder (ADHD) is a behavioral disorder characterized by difficulty maintaining attention, rapid speech, impulsivity, and trouble completing tasks. It is more common in boys than girls; Core Symptoms of ADHD:

- 1. Inattention: Difficulty maintaining focus for long periods, even in enjoyable activities and Frequently loses items such as books, school supplies, or toys also Appears distracted or not listening when spoken to and Struggles to follow instructions or complete tasks, such as homework.**
- 2. Hyperactivity: Constant movement, even when unnecessary (fidgeting, tapping fingers) and Difficulty staying seated for long periods, especially in classrooms and Talks excessively and interrupts conversations.**
- 3. Impulsivity: Acts without thinking, making hasty decisions and Has difficulty waiting for their turn in conversations or games and Frequently interrupts others while they are speaking or doing activities.**

Treatment and Intervention: Medication Therapy like Ritalin (Methylphenidate), stimulant that helps extend attention span and reduce impulsivity, Does not cure ADHD but helps manage symptoms, requiring careful medical supervision also we can use Behavior Modification like Uses learning principles to change undesired behaviors and reinforce positive ones Includes Positive reinforcement like Rewarding the child for successfully completing tasks and Establishing routines and schedules to help with daily organization and Teaching self-regulation strategies, such as pausing and thinking before acting.

Autism Spectrum Disorder – ASD: is a severe developmental disorder that affects a child’s communication, behavior, and social interactions. It is characterized by a range of symptoms, which can vary in severity. Individuals with autism may experience challenges in verbal and non-verbal communication, sensory processing, and often display repetitive behaviors; Core Symptoms of Autism:

- 1. Mutism (Silence): Many children with autism are non-verbal or have limited speech. Some may choose not to speak at all, even though they can understand language.**
- 2. Sensory Spin-Outs: Children with autism may become fixated on certain sensory experiences for extended periods. For example, they might watch a faucet drip for hours or focus on the spinning of a wheel without any awareness of the surrounding environment.**
- 3. Sensory Blocking: Unresponsiveness to sensory stimuli can occur. A child with autism may ignore loud noises, such as a siren or a baby crying, which would normally cause a reaction in others.**
- 4. Tantrums: children with autism may be triggered by changes in routine, sensory overload, or frustration from being unable to express their needs effectively. These tantrums can be intense and may include hitting, screaming, or self-harm.**
- 5. Unresponsiveness to Others: Children with autism may appear disconnected from others and may not respond to social cues such as eye contact or gestures. They may seem uninterested in playing with others or even in being physically near them.**

Key Behavioral Phenomena:

- 1. Echolalia:** is when a child with autism parrots back everything said, often like an echo. This behavior may be immediate (repeating words or phrases right away) or delayed (repeating words or phrases after a period of time), It is a common symptom in children with autism and may serve as a way to process and understand language or communicate needs.
- 2. Repetitive Behaviors:** Individuals with autism may engage in repetitive actions or rituals such as rocking back and forth, hand-flapping, or lining up objects. These behaviors often provide a sense of comfort or control in an environment that may otherwise feel overwhelming.

Famous Example: The film *Rain Man* portrays a character with autism, played by Dustin Hoffman, who has exceptional mathematical skills but struggles with social interactions and communication. The movie helped bring public awareness to autism and highlighted the diverse manifestations of the condition.

Child abuse refers to physical or emotional harm inflicted on a child due to violence, mistreatment, or neglect. It can have long-term psychological, emotional, and social consequences for the child.

Key Facts About Child Abuse:

- 1. Rates of Physical Abuse:** Between 3.5% to 14% of all children experience physical abuse by their parents.
 - 2. Reasons for Abuse:** Abusive parents often experience high levels of stress and frustration in their lives, making them more likely to mistreat their children.
 - 3. The Cycle of Abuse:** Studies show that about one-third of parents who were abused as children end up mistreating their own children. This suggests that abuse can be passed down from generation to generation if not properly addressed.
 - 4. How to Prevent Child Abuse:** by Changing attitudes about parenting is one of the most effective ways to prevent child abuse and Society must recognize that hitting or slapping a child is not a parent's right but a form of abuse that can cause severe psychological and physical harm.
-

Adolescence is a transitional stage between childhood and adulthood, culturally defined based on physical, psychological, and social changes. During this period, adolescents develop independence and form their identity, making it a time filled with challenges and opportunities for personal growth.

Physical Changes During Adolescence:

- 1. Puberty:** is a stage marked by significant hormonal changes that lead to rapid physical growth and sexual maturity, these changes include: Increase in height and weight due to accelerated growth and Hair growth in various areas such as the face, armpits, and pubic

region and Voice changes, particularly deepening in males and Development of reproductive organs, making individuals capable of reproduction.

2. Impact of Puberty on Body Image: Physical changes lead to increased awareness of body and appearance, Some adolescents may feel dissatisfied with their looks due to comparisons with others or societal beauty standards, This can result in psychological issues like anxiety or low self-esteem, especially if they experience criticism or bullying.

3. Growth Spurt: Adolescents go through a period of rapid growth, which usually happens earlier in girls than in boys, Growth may be uneven, with some body parts developing faster than others, causing a temporary sense of imbalance.

Social and Psychological Changes During Adolescence:

1. Social Markers: are visible or tangible signs that reflect a person's social status or role in society, examples include: Driver's license Symbolizes independence and responsibility or Wedding ring Represents commitment to marriage or Enrollment in college or entering the workforce Indicates transition into adulthood.

2. Imaginary Audience: Adolescents often imagine that others are constantly watching and judging them, This feeling makes them more sensitive about their appearance and behavior, explaining why some spend a lot of time worrying about how others perceive them; example teenager might think everyone notices a small pimple on their face, even though most people don't pay attention to it.

3. Influence of Peer Groups: Friends and social circles become a major influence in an adolescent's life, as they seek acceptance and belonging; Peer groups influence on Interests and hobbies (sports, music) and Values and behaviors, where they might adopt positive or negative habits from friends and Fashion and speech styles, as they adjust to the group's norms to avoid feeling isolated.

Moral development is the process through which individuals acquire values, beliefs, and cognitive abilities that guide responsible behavior. It is influenced by life experiences, social environment, and culture, Psychologist Lawrence Kohlberg developed a stage theory of moral development, dividing moral reasoning into three levels, each containing two stages, making a total of six stages. His theory is similar to those of Freud and Erikson in being a stage-based theory.

The Three Levels of Moral Development:

1. Preconventional Level: Moral reasoning is based on avoiding punishment or gaining rewards, This level is typical of young children.

Stage 1-Obedience and Punishment Orientation: Right and wrong are determined by whether an action leads to punishment, example child does not steal candy because they fear being punished by their parents.

Stage 2-Self-Interest Orientation: Actions are judged by whether they result in a personal benefit, example child helps a classmate only because they expect a favor in return.

2. Conventional Level: Moral reasoning is based on conforming to social norms and expectations.

Stage 3-Good Interpersonal Relationships: Moral behavior is defined by seeking approval from others, example teenager is kind to classmates to be seen as a good person.

Stage 4-Maintaining Social Order: Laws and social rules are respected as necessary for maintaining order, example citizen pays taxes because they believe it supports the community.

3. Postconventional Level: Moral reasoning is guided by self-chosen ethical principles rather than external rules.

Stage 5-Social Contract and Individual Rights: Laws should promote fairness and protect individual rights, example Civil rights activists opposing unjust laws.

Stage 6-Universal Ethical Principles: Actions are guided by universal principles like justice and human dignity, even if they oppose laws, example Gandhi or Martin Luther King fighting against injustice.

Psychologist Robert Gould proposed a theory of developmental challenges that individuals face throughout adulthood. He believed that psychological and emotional growth occurs through a series of crises that shape a person's identity, independence, and sense of fulfillment. These challenges are not necessarily problems but essential phases of personal development; Stages of Gould's Developmental Challenges:

1. Escape from Dominance (Ages 16-18): Adolescents begin seeking independence from parental control, They may question authority, challenge family rules, and experiment with different behaviors; This phase reflects a need for self-assertion and identity formation,example teenager refuses parental guidance about career choices to prove independence.

2. Leaving the Family (Ages 18-22): This stage is marked by moving out of the family home and establishing an independent lifestyle; Individuals must navigate responsibilities such as financial management, decision-making, and relationship building; Many experience mixed emotions of excitement and anxiety, example college student moves to a new city for studies and takes on a part-time job to support themselves.

3. Building a Workable Life (Ages 22-28): The focus shifts toward career development and forming stable relationships; Individuals aim to build a meaningful and sustainable life, often balancing work, personal aspirations, and social expectations; Some may start families or long-term partnerships, while others focus on professional growth, example young professional dedicates time to career advancement and starts planning for long-term stability.

4. Crisis of Questions (Ages 29-34): At this stage, individuals begin to reassess their life choices and question past decisions; They may experience doubt about their career, relationships, or overall direction in life; This phase can lead to significant personal reflection or major lifestyle changes, example 30-year-old corporate worker decides to shift careers to pursue a long-held passion.

5. Crisis of Urgency (Ages 35-43): This phase is characterized by a heightened sense of time and urgency to achieve personal and professional goals; Some individuals go through a midlife crisis, feeling pressure to make significant life changes; People often seek new experiences, change careers, or alter personal relationships, example man in his 40s purchases a sports car or starts traveling extensively to feel young and adventurous again.

6. Attaining Stability (Ages 43-50): Individuals begin to feel more emotionally and mentally stable after navigating earlier crises; There is a shift toward appreciating life, maintaining meaningful relationships, and securing financial stability, example father prioritizes spending time with family after years of focusing on career success.

7. Mellowing (Ages 50 and up): period of increased contentment, wisdom, and self-acceptance; Individuals focus on personal happiness, hobbies, and long-term well-being rather than societal pressures, example retired woman enjoys painting and gardening, embracing a relaxed lifestyle.

8. Empty Nest Syndrome: Occurs when children leave home, leading to feelings of loneliness or emotional emptiness, particularly in mothers; Some parents struggle to redefine their roles, while others find new interests or rekindle their relationships, example mother who has dedicated her life to raising children feels lost at first but later discovers new hobbies and social activities.

Middle age, typically defined as ages 40-65, is a period of significant biological, psychological, and social changes. Many individuals experience a mid-life crisis, a phase of self-reflection that can lead to doubts about life choices, career paths, relationships, and personal fulfillment. Two of the most prominent biological changes in middle age are menopause in women and climacteric in men.

Menopause in Women

1. What is Menopause? is the natural biological process marking the end of a woman's menstrual cycle, It usually occurs between ages 45-55, woman is officially in menopause when she has gone 12 months without a menstrual period, It signifies the end of natural fertility.

2. Hormonal Changes: The ovaries stop producing estrogen and progesterone, leading to various physical and emotional symptoms, may include: Hot flashes Sudden, intense feelings of heat in the face, neck, and chest and Night sweats Excessive sweating during sleep and Mood swings Emotional instability, irritability, and even depression and Weight gain Changes in metabolism can lead to increased body fat and Bone loss Lower estrogen levels increase the risk of osteoporosis.

3. Psychological and Emotional Effects: Some women struggle with feelings of loss, aging, or reduced femininity, while others embrace the transition as a new phase of life, example 50-year-old woman might feel liberated from menstruation and the possibility of pregnancy, but she may also experience anxiety over physical changes.

Climacteric in Men

1. What is Climacteric? refers to a period of gradual physical decline in men, usually occurring between ages 40-60; Unlike menopause, it does not result in complete infertility, but men may experience a drop in testosterone levels; Symptoms of Male Climacteric are: Reduced energy levels and increased fatigue also Loss of muscle mass and increased body fat also Decreased libido or sexual drive and Mood changes and increased irritability also Hair thinning or graying, contributing to self-image concerns.

2. Psychological and Emotional Effects: Some men experience a mid-life crisis, questioning their achievements and purpose, example man in his 50s might suddenly pursue risky adventures, like buying a sports car, changing careers, or seeking new relationships, as a way to reclaim youthfulness.

Gerontology is the scientific study of aging and its effects on individuals. Gerontologists examine the physical, psychological, and social changes that occur as people grow older. Aging is a complex process influenced by biological, cognitive, and environmental factors.

Intellectual Abilities in Aging; As people age, their intellectual abilities change, but not all abilities decline at the same rate. There are two main types of intelligence:

1. Fluid Abilities: The ability to think quickly, solve new problems, and process information rapidly, Based on perception and motor skills and Helps in reasoning, problem-solving, and adapting to new situations it Declines with age due to slower cognitive processing and reduced neurological efficiency, example older adult may struggle with learning a new smartphone interface as quickly as a younger person.

2. Crystallized Abilities: Knowledge and skills accumulated over a lifetime through experience and education, Includes vocabulary, general knowledge, and learned facts it Tends to remain stable or even improve with age, example older professor might have difficulty typing fast but can recall historical events or complex theories with great accuracy.

Theories of Aging; There are different perspectives on how aging affects a person's relationship with society:

1. Disengagement Theory: Suggests that as people grow older, they naturally withdraw from social roles and responsibilities, Considered a normal and desirable process and Allows society to function smoothly as younger generations take over responsibilities but Some researchers argue that withdrawal from society may lead to loneliness and depression, example elderly man retires from his job, stops socializing, and gradually reduces his interactions with the outside world.

2. Activity Theory: Suggests that staying active—physically, mentally, and socially—helps people adjust better to aging; Engaging in meaningful activities enhances life satisfaction and well-being and Encourages exercise, lifelong learning, and strong social connections, example retired woman joins a book club, volunteers, and exercises regularly, helping her stay physically and mentally sharp.

Ageism: Discrimination Based on Age

1. What is Ageism? refers to discrimination or prejudice based on age, especially toward older adults; Can manifest in workplace bias, social stereotypes, or healthcare discrimination.

2. Examples of Ageism: Employment Companies refusing to hire older workers due to assumptions about productivity or adaptability or Media Representation Movies and TV shows portraying elderly people as frail, forgetful, or unimportant Also Healthcare Doctors dismissing older patients' concerns as just part of aging instead of addressing real medical issues.

Death and Dying According to Elizabeth Kübler-Ross

Elizabeth Kübler-Ross was a thanatologist, a specialist in studying emotional and behavioral reactions to death and dying. Through her research and observations, she developed the Five Stages of Grief, which describe the psychological processes people go through when facing death—either their own or that of a loved one.

The Five Stages of Grief (Kübler-Ross Model); These stages generally occur in order, but not everyone experiences them in the same sequence, and some may skip or repeat certain stages:

1. Denial and Isolation: In this stage, the person refuses to accept the reality of death and isolates themselves from information confirming it; The person may believe that the diagnosis is wrong or that a mistake has been made, example cancer patient says, This can't be true. The doctors are wrong!.

2. Anger: After denial fades, the person starts asking, Why me? and experiences intense anger; This anger may be directed at doctors, family members, or even at life itself, example patient shouts, Why is this happening to me? Life isn't fair!.

3. Bargaining: At this stage, the person tries to make a deal with God or fate in exchange for more time; They may promise to change their behavior or become a better person if given a second chance, example If I can just live a little longer, I will dedicate my life to helping others.

4. Depression: As reality sets in, the person experiences deep sadness, hopelessness, and exhaustion, They may withdraw from others and lose interest in activities they once enjoyed, example patient refuses to talk, isolating themselves in their room.

5. Acceptance: In this final stage, the person comes to terms with death and reaches a state of peace; This is more common in those who have had time to process their emotions before passing, example terminally ill patient says calmly, I am ready. I have lived a good life.

Attitudes Toward Death; In addition to the Five Stages of Grief, there are key concepts related to the way people approach death and end-of-life care.

1. Hospice Care: A specialized medical service that provides comfort and support for terminally ill patients; To improve the quality of life in a patient's final days rather than trying to cure the disease, the Services Offered are Pain management, emotional support,

and assistance for family members, example hospital that offers palliative care for cancer patients, ensuring they spend their last days in dignity and comfort.

2. **Living Will:** A written document stating that a person does not want to be kept alive by artificial means if they have a terminal illness; To ensure that the patient's wishes are respected when they can no longer make medical decisions, like patient writes in their living will, If I fall into a permanent coma, I do not want to be resuscitated.
-

Bereavement and Grief

1. **Bereavement:** is the period of adjustment that follows the death of a loved one; It includes both the emotional suffering (grief) and the necessary life changes that occur after loss, example person who lost their spouse may take months or even years to adjust to life without them.
2. **Grief:** is the deep emotional pain, sorrow, and distress experienced after the loss of someone close; It affects a person mentally, emotionally, and physically, example grieving mother may cry daily and struggle with feelings of emptiness after losing her child.

Stages of Grief

1. **Shock:** The immediate reaction to loss, often characterized by emotional numbness and disbelief; People in shock may struggle to accept reality or feel disconnected from their emotions, example person might continue setting the table for their deceased spouse, as if they were still alive.
2. **Pangs of Grief:** These are intense emotional waves of sorrow, longing, and pain; Can be triggered by memories, objects, or anniversaries related to the deceased example widow may break down in tears when hearing her late husband's favorite song.
3. **Resolution:** The final stage, where the individual gradually accepts the loss and starts rebuilding their life; It does not mean "forgetting" the deceased but rather learning to live without them, example grieving father eventually finds purpose in supporting other families who have lost children.

Coping with Grief: Social Support-Talking to friends, family, or support groups helps in processing emotions or Therapy & Counseling-Professional help can assist those who struggle with prolonged grief or Rituals & Memorials-Honoring the deceased through funerals, anniversaries, or charity work can bring comfort or Self-Care-Maintaining physical and mental health through exercise, journaling, and mindfulness is essential.

Happiness and Well-Being

1. **Subjective Well-Being:** sense of happiness and well-being occurs when a person is satisfied with their life, experiences frequent positive emotions, and has relatively few negative emotions; Happiness is not only influenced by external circumstances but also by how an individual thinks and interprets events; Example: Two people might have the same job and

salary, but one is happy because they view their work as an opportunity for growth, while the other is unhappy because they focus on the negative aspects.

2. Factors That Make People Happier:

A. Marriage: Married individuals tend to be happier than those who are not because of the emotional support and sense of belonging a partner provides; Example: A spouse can be a source of support during difficult times, which reduces stress and increases happiness.

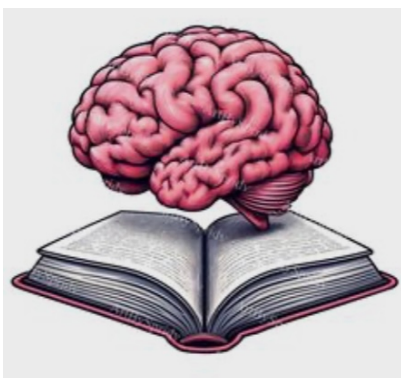
B. Job Satisfaction: Feeling comfortable and satisfied in one's job leads to greater happiness and productivity; Jobs that provide a sense of achievement and purpose result in higher levels of happiness; Example: A doctor who feels that their work helps people will likely be happier than someone working in a job they dislike.

C. Extraversion: Social and outgoing individuals tend to be happier because they engage more with others and enjoy social interactions; Example: A person who enjoys going out with friends and interacting with people is less likely to experience depression compared to someone who prefers isolation.

D. Religiousness: Religious individuals often have a deeper sense of purpose and feel supported by their religious community; Example: Practicing religious rituals and spiritual contemplation can provide inner peace and reduce stress and anxiety.

E. Optimism and General Life Satisfaction: People with a positive outlook on life and those who focus on the brighter side of things tend to be happier; Example: A person who fails a test may view it as an opportunity to learn and improve, while someone else might feel discouraged and give up.

How Can People Increase Their Happiness? Practice Gratitude: Focusing on the good things in life and appreciating them can increase happiness and Build Strong Relationships: Connecting with friends and family provides a sense of belonging and support and Exercise: Physical activity stimulates the release of happiness hormones like endorphins, improving mood and Set Meaningful Goals: Pursuing personal and professional goals can provide a sense of purpose and achievement and Manage Negative Thinking: Learning to reframe negative thoughts in a positive way can improve mood.



Even if the pain squeezes my heart, even if the losses break me, I will keep moving forward without hesitation, determined to achieve my dream. No matter how shattered my heart may be, I will gather my pieces and build my future, because I will be the best in neurosurgery and nothing will stop me from reaching the pinnacle of success.