

Behavioral Science

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Slide 3



***THE BEGINNING OF LIFE:
PREGNANCY THROUGH
PRESCHOOL***

Faculty of Medicine-Psychiatry

INTRODUCTION

- *As we journey through life-from womb to tomb-when and how we develop?*
- *Developmental Psychology* *is a branch of psychology that studies physical, cognitive and social changes through lifespan. Much of it research center on 3 major issues:*
 - 1. Nature/Nurture; from conception onward, we are the product of a cascade of interaction between our genetic predisposition and our surrounding environments, so forget nature versus nurture, think nature via nurture.*



CONTINUE;

- *2. Continuity/Stages; in stage theory, development passes sequentially through different predetermined phases, and there are critical or sensitive periods in development.*
- *3. Stability/Change; e.g., do our personality traits persist through life or do we become different person as we age?*
- *An important thing to remember is that people mature at different rates & reach developmental milestones at different points and age range are only average some people will be above or below.*



I. CHILDHOOD & THE POSTPARTUM PERIOD

- ***1. Premature Birth***
- ***Premature birth= birth following a gestation of less than 37 wk.***
- ***Very premature birth= birth following a gestation of less than 32 wk.***
- ***PMB carry a greater risk of dying in the 1st year of life (high mortality rates) ,and grater risk for:***
- ***Emotional, behavioral and learning problems***
- ***Physical disability, e.g., cerebral palsy***
- ***Mental retardation(Intellectual Disability)***



CONTINUE;

- *The Apgar score : A-Appearance (color), P-Pulse(heart beat), G-Grimace-(reflex irritability), A-Activity (muscle tone), R-respiration. The infant is evaluated 1 min. and 5 (or 10) min. after birth. Each of the 5 measures can have a score of 0,1,or 2.*
- *Score>7= no imminent survival threat.*
- *Score<4=imminent survival threat.*
- *2. Infant Mortality*
- *Low socioeconomic status is associated with prematurity (PMB)and high infant mortality.*
- *The high rate of infant mortality in the USA (7.2per 1000 live birth)compared with rates in other developed countries, is related in part to ethnicity, and to the fact that the US does not have a system of health care for all citizens paid for by the government through taxes. The rates in Japan and Sweden is =3.4,France=4.2, Germany=4.5,UK=5.8, Australia=5.7, new Zealand=5.6.*



Type	Incidence	Onset	Clinical Pict.
<i>Postpartum Blues</i>	<i>50%-80%</i>	<i>Within a few days after delivery. Often between the 3rd and 5th days. Last less than 2wk.</i>	<i>Mood Lability, Tearfulness, Irritability .In the majority it passes within a few hours or a day or two.</i>
<i>Postpartum Depression</i>	<i>5%-10%</i>	<i>Within 4 weeks after delivery. Edinburgh postnatal depression scale.</i>	<i>Clinically similar to MDD occurring at other times during a women life.</i>
<i>Postpartum Psychosis</i>	<i>01%-0.2% (500-1000)</i>	<i>Most often within the 1st two weeks.</i>	<i>In most cases it represent an episode of BPD</i>



- Points to remember:
- In Postpartum Blues ;
- 1st it lasts up to 2 weeks (not more, otherwise the diagnosis will be changed)
- 2nd is that changes in hormone levels, physical and emotional stresses of childbirth contribute to its development.
- In Postpartum Depression, and PPP history of previous attack after the birth of her other children is an important question since it is a predictor of further attacks.
- PPD&PPP carry the risk suicide and infanticide.



II. INFANCY: BIRTH TO 15 MONTHS

- *1. Bonding of the parent to the infant*
- *1st, Bonding between caregiver and the infant is enhanced by physical contact between the two.*
- *2nd, Bonding may be adversely affected if:*
 - ❖ *A. The child is low birth weight or ill, leading to separation from the mother after delivery.*
 - ❖ *B. Problems in the mother-father relation.*
- *3rd, Mother education preparing them for childbirth have shorter labors, fewer medical complications, and closer interactions with their infants.*
- *2. Attachment of the infant to the parents. It is the most important psychological task in infancy.*
- *Attachment is an emotional tie or connection that the infant form with a caregiver, usually the mother.*



- *The principal psychological task of infancy is the formation of an intimate attachment to the primary caregiver, usually the mother.*
- *Toward the end of the 1st yr. of life, separation from the primary caregiver lead to initial loud protests from the infant (Normal separation anxiety.)*
- *With continued absence of the mother , the infant is at risk of depression:*



- *A. Infant may experience depression even when they are living with their mothers if the mother is physically and emotionally distant and insensitive to their needs.(inadequate care).*
- *B. Depressed infants may exhibit “failure to thrive”, which include poor physical growth and poor health, and is potentially life threatening.*
- *C. The DSM-IV-TR term for disturbances in otherwise normal children owing to grossly pathological care is **Reactive Attachment Disorder** which is of 2 types;*
 - *1.Inhibited type-withdrawn, unresponsive.*
 - *2.Disinhibited type-the child approach and attach indiscriminately to stranger as though they were familiar to them.*



- **3. Studies of attachment**
- **A. Harry Harlow** : *infant monkeys reared in isolation by surrogate artificial mothers do not develop normal mating, maternal and social behavior as adults. Males affected more than females and young monkeys raised in isolation for <6mo. Can be rehabilitated by playing with normal young monkeys.*
- **B. Rene Spitz** : *children without proper mothering (e.g. those in orphanage) show severe developmental retardation, poor health and higher death rates in spite of adequate physical care. This led to establishment of “foster care system” in the US for those who do not have adequate home situations.*



- **4. Characteristics of the infant**

- **1st, Reflexive behavior:**

Reflex	Description	Age Disappear
<i>Palmer (Reflex) Grasp</i>	<i>Grasp objects placed in the palm</i>	<i>2 months</i>
<i>Rooting and Sucking reflexes</i>	<i>The child's turns the face toward the stimulus and making sucking motions with the mouth when cheek or lip is stroked.</i>	<i>3 months</i>
<i>Startle reflex</i>	<i>When the child is startled, the arms and legs extend.</i>	<i>4 months</i>



Reflex	Description	Age Disappear
<i>Babinski(Plantar) reflex</i>	<i>Dorsiflexion of the largest toe when the planter surface of the child is stroked.</i>	<i>12 months</i>
<i>Tracking reflex</i>	<i>The child visually follows a human face.</i>	<i>continues</i>
Stepping Reflex	The neonate will make walking motions with legs and feet wn held in upright position with feet touching the ground.	



- *2nd, Motor, social, verbal and cognitive development.*
- *A. Although there is a reflexive smile present at birth, the social smile is one of the first markers of the infant responsiveness to another individual.(can appear as early as 6wk, but generally babies smile readily by 12wk.)*
- *B. Crying and withdrawing in the presence of an unfamiliar person (**stranger anxiety**) is **normal** and begins at about 7 months of age. The infant can distinguish his/her mother from strangers.*
- *C. At about one year the child can maintain the mental image of an object without seeing it (object permanence).*



Age (months)	Motor	Social	Verbal, and cognitive
2-3	<i>Lift head up when lying prone</i>	<i>Smile in response to a human face (the social smile)</i>	<i>Coos or gurgle in response to human attention</i>
4-6	<i>Turn over (5-months) Sit without support (6m) Reach for objects Grasp with entire hand.</i>	<i>Form an attachment to primary caregiver. Recognize familiar people.</i>	<i>Babbles (repeat single sounds over and over)</i>



<p>7-11</p>	<ul style="list-style-type: none"> • Crawl on hands and knees • Pull self up to stand • Transfer toys from hand to hand(10mo) • Pick up toys and food using “pincer” (thumb and forefinger) grasp (10mo) 	<ul style="list-style-type: none"> • Show stranger anxiety • Plays social games <p>Wave “bye-bye”</p>	<ul style="list-style-type: none"> • Initial sounds • Uses gestures • Respond to own name. • Respond to simple instructions.
<p>12-15</p>	<p>Walk unassisted</p>	<p>Shows separation anxiety</p>	<p>Says first word Shows object permanence</p>





- *Theories of development*
- **1.Chess&Thomas**(*New York Longitudinal Study of Child Temperament=biologically based individual differences in emotion, motor, reactivity to stimuli, and self control that is consistent across situations and over time*)) found that there are 3 differences in the temperament of infants that remain stable for the first 25yr of life:
 - *Easy children; are adaptable to change, show regular eating and sleeping pattern and have a positive mood=generally cheerful and easy to calm.*
 - *Difficult children; slow to adjust to new experience, likely to react negatively and intensely to stimuli and events.*
 - *Slow-to-worm-up children; are somewhat difficult at first but become easier over time.*



- 2. Sigmund Freud; (1856-1939)
- *Personality (consist of the id, ego and superego which is established by age 5 yr. We developed through a series of childhood stages-oral, anal, phallic, latency, and genital, during which the pleasure seeking energy or libido (sexual drive or instinct) was described as the driving force behind behavior. If these stages are completed successfully, the result is healthy personality. If certain issues can not be resolved at the appropriate stage, fixation can occur and the individual will remain “stuck” in this stage.*



Stage	Age	Description
Oral	Birth-1year	Erogenous zone (EZ) is the mouth. Infants derive pleasure from oral activities such as sucking, chewing, biting. Too early, or too abrupt weaning will cause fixation; become overdependent.
Anal	1-3 yr.	Voluntary urination and defecation become the primary method of gratifying the sex instinct. Toilet Training is a major conflict between children and parents.
Phallic	3-6yr.	Pleasure derived from stimulating the genitals. Desire for parent of the opposite sex. Oedipus Complex for boys. Electra Complex for girls.
Latency	6-11yr	Sexual urges rechanneled into social work and vigorous play.
Genital	12-onward	Puberty triggers a reawakening of sexual urges. Adolescents must now learn how to express these urges in socially acceptable ways.



○ 3. Erik Erikson

- *Erikson psychosocial theory of development consider the impact of external factors, parents and society on personality development. He described development in terms of critical periods for the achievement of social goals; if a specific goal is not achieved at a specific age, the individual will have difficulty achieving the goal in the future, e.g. children must learn to trust others during the first year of life or they will have trouble forming close relationships as adults. According to Erikson, every person must pass through a series of eight stages*



- **4. Jean Piaget**

- *Described cognitive development in terms of learning capabilities of the child at each stage, we move through discrete stages of cognitive development; namely the sensorimotor stage (0-2yr.), the preoperational (2-7yr.), concrete operation (7-11yr.), and formal operations (12-adult).*

- **5. Margaret Mahler**

- *Described early development as a sequential phases of separation of the child from the mother or primary caregiver. She stresses the importance of consistent attentiveness especially from the mother during the child's first three yr., of life vital to the ultimate goal of raising children who grow to be successful, adaptable adults.*



- **III. Toddler Years: 15 Months to 2 1/2 Years**
- ***1. The major theme of the second year of life is to separate from the mother or primary caregiver, a process that is complete by about age 3.***
- ***2. Also, one of the central features that distinguish toddlers from infants is the use of language.***
- ***3. There is no compelling evidence that daily separation from working parents in a good day care setting has short or long-term negative consequences for children. However, when compared to children who stay at home with their mothers, those that have been in day care show more aggressiveness.***



○ IV. The Preschool Child: 3 to 6 Years

○ ①. Attachment

○ *After 3yr. Of age a child should be able to spend a few hours away from the mother in the care of others. (e.g. in day care).*

○ *If the child can not do this after age 3 is experiencing **separation anxiety disorder.***

○ *The do not understand that death is permanent, they expect they will come back.*

○ ②. characteristics

□ *Vocabulary increases rapidly.*

□ *Sibling rivalry may occur at the birth of sibling.*

□ *Sibling rivalry or other life stress may result in child's use of regression-a defence mechanism in which the child temporarily behave in a "baby like" way, e.g. start wetting the bed again.*

□ *Children can distinguish reality from fantasy.*

□ *Preschool children are normally active and rarely sit still for long.*



- **③. Changes at 6 years of age**
- *The child begins to understand that death is final and fears that his parents will die and leave him, but it is not until age 9, that the child understand that he also can die.*
- *At the end of the preschool years(age 6 yr.), the child conscience (the superego of Freud), and sense of morality begins to develop.*
- *After age 6, children develop empathy and behave in a caring and sharing way toward others.*
- *Morality and empathy increase further during the school-age years.*



TODDLER AND PRESCHOOL DEVELOPMENT

<i>Age(years)</i>	<i>Motor</i>	<i>Social</i>	<i>Verbal and Cognitive</i>
<i>1.5</i>	<ul style="list-style-type: none">• <i>Throw a ball</i>• <i>Stack 3 blocks</i>• <i>Climbs stairs one foot at a time.</i>• <i>Scribbles on paper</i>	<ul style="list-style-type: none">• <i>Moves away from and then returns to the mother for reassurance</i>• <i>(rapprochement)</i>	<ul style="list-style-type: none">• <i>Uses about 10 single words</i>• <i>Says own name</i>
<i>2</i>	<ul style="list-style-type: none">• <i>Kicks a ball</i>• <i>Balance on one foot for 1 second</i>• <i>Stack 6 blocks.</i>• <i>Feeds self with fork and spoon.</i>	<ul style="list-style-type: none">• <i>Shows negativity-no</i>• <i>Plays alongside but not with another child</i>	<ul style="list-style-type: none">• <i>Uses about 250 words</i>• <i>Speaks in 2-word sentences and uses pronouns</i>• <i>Names body parts and objects.</i>



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- Catches a ball with arms
- Dresses independently
- Grooms self
- Hops on one foot
- Draws a person
- Copies
- Play cooperatively with others
- Engage in role playing
- May have imaginary companion
- Curious about sex differences
- Have nightmares and transient phobias
- Shows good verbal self-expression
- Comprehended and uses prepositional sentences' often with mistakes.



<p>5</p>	<ul style="list-style-type: none"> • Catches a ball with tow hands • Draw a person in detail • Skips using alternate feet • Copies a square 	<ul style="list-style-type: none"> • Has romantic feelings about the opposite sex parent <p>(Oedipal phase)</p> <p>Over-concerned about physical injury</p>	<p>Shows further improvement in verbal and cognitive skills</p>
<p>6</p>	<ul style="list-style-type: none"> • Ties shoelaces • Rides 2 wheel bicycle • Prints letters • Copies triangle 	<ul style="list-style-type: none"> • Moral sense of right and wrong • Understand finality of death 	<ul style="list-style-type: none"> • Think logically • Read • 10,000 words vocabulary



SCHOOL AGE
&
ADOLESCENCE



LATENCY OR SCHOOL AGE: 7-11 YR.



I. Motor Development

The normal grade-school child, 7-11 years of age engages in complex motor tasks, e.g., playing football, skip ropes.

II. Social characteristics The school age child:

- 1. Prefers to play with children of the same sex; avoid and is critical of those of the opposite sex.***
- 2. Identifies with the parent of the same sex.***
- 3. Have relationships with adults other than parents(teachers, group leaders).***
- 4. Demonstrate little interest in psychosexual issues.(latent).***
- 5. Has internalized a normal sense of right and wrong (conscience) and understand how to follow rules.***



- *II. Cognitive characteristics. The school child*
- *1. Is industrious and organized (gather collection of objects-stamps).*
- *2. Has the capacity for logical thoughts and can determine that objects have more than one property (an object can be red and metal)*
- *3. Understand the concepts of conservation and seriation; both are necessary for certain types of learning:*
- *A. Conservation involves the understanding that a quantity of a substance remains the same regardless of the size or shape of the container it is in*



Age Range	Description of Stage	Developmental Phenomena
Birth-2 yr.	<p><u>SENSORIMOTOR</u> Infants know the world only through motor activities and sensory impressions- looking, touching, mouthing, grasping.</p>	<ul style="list-style-type: none"> • <u>Object Permanence</u> by 8-12 months OP develop. (objects continue to exist when they pass from view) • <u>Stranger anxiety</u>
2-6 or 7years	<p><u>PREOPERATIONAL</u> <i>Representing things with words and images; using <u>intuitive</u> rather than logical reasoning</i></p>	<ul style="list-style-type: none"> • <u>Animism</u>= everything that exist is living and endowed with a will. • <u>Egocentrism</u> (unable to distinguish their own perspective from that of others)



7-11 years

CONCRETE OPERATIONAL
Thinking logically about an object if they are able to manipulate it. While in FOS the presence of the object is not necessary for the thought to take place.

- ❖ Conservation
- ❖ Once conservation is learned, they learn reversibility=
- ❖ if things changed they will be the same.
- Egocentric thoughts and believe in animation decline.

12 through Adulthood (11yr-16yr)

FORMAL OPERATIONAL
Abstract reasoning (the capacity for deductive or propositional reasoning)

- ❖ Abstract logic
- ❖ Speculate about all possible solutions.
- ❖ Potential for moral reasoning .

ADOLESCENCE: 11-20 YEARS



- ***I. Early adolescence (11-14 yr. of age)***

Puberty is marked by:

- ***A. The development of secondary sexual characteristics and inc. skeletal growth.***

Because onset and progression of puberty are so variables, Tanner (satages of sexual development)has proposed a scale consist of 5 stages to describe the onset and progression of pubertal change.

- ***B. First menstruation (Menarche) in girls occur at 11-14yr age.***
- ***C. First ejaculation in boys occur at 12-15 yr. of age***
- ***D. Cognitive maturation and formation of personality.***
- ***E Sex drives, which are expressed through physical activity and masturbation.***

2. Early adolescents show strong sensitivity to the opinion of peers but are obedient.

3. Alteration in expected level of development (acne, obesity) may cause psychological difficulties.



II. Middle adolescence (14-17 years of age)

A. Characteristics :

- 1. Great interest in gender roles, body image, and popularity.***
- 2. Heterosexual crushes (love for unattainable person e.g. rock star) are common.***
- 3. Homosexual experience may occur.***
- 4. Efforts to develop an identity by adopting current teen fashion in clothing and music, and preference for spending time with peers over family are normal, but may lead to conflict with parents.***

B. Risk- Taking Behavior

- 1. Readiness to challenge parental rules and feelings of omnipotence may result in risk- taking behavior(smoking).***

C. Education about obvious short-term benefits rather than reference to long-term consequences of behavior is more likely to decrease teenager's unwanted behavior.



- *III. Late Adolescence (17-20 yr. of age)*
- *A. Development*
- *1. develop morals, ethics, self-control, and realistic appraisal of their own abilities. They become concerned with humanitarian issues and world problems.*
- *2.. Some, develop ability for abstract reasoning.*
- *B. In their effort to form one's identity, an identity crisis may develop. If the identity crisis not handled effectively, adolescents may experience role confusion – they do not know where they belong in the world, and may display behavioral abnormalities through criminality or an interest in cult.*



- Special Issues in Child development
- 1st Illness and death in child & Adolescence

A child's reaction to illness and death is closely associated with the child's developmental stage.

- 1. During the toddler years-hospitalized children fear separation from parents more than they fear harm, pain or death.*
- 2. During preschool years, the child's greatest fear when hospitalized-is bodily harm.*
- 3. School-age children (7-11yr.) cope well with hospitalization. Thus, this is the best age to perform elective surgery.*
- 4. At age 9 yr. children begin to understand that children can also die and begin to fear their own death.*
- 5. Ill adolescents may challenge the authority of doctors and nurses and resist being different than peers. Both of these factors can result in noncompliance with medical advice.*
- 6. A child with ill sibling or parent may respond by acting badly at school or home.(acting out DM)*



- *2nd. Adopted children should be told by their parents that they are adopted at the earliest age possible.*
- *Mental retardation: the most common genetic causes of retardation are Down's syndrome and Fragile X syndrome.*

Mildly (IQ=50-69) and Moderately (IQ=35-49) MR children and adolescents commonly know they are handicapped, and because of this they may become frustrated and socially withdrawn. They have poor self-esteem because of difficulty in communicating with peers.



EARLY ADULTHOOD: 20-40 YEARS



EARLY ADULTHOOD

- *1. At 30 yr. of age , there is a period of reappraisal of one's life*
- *2. The adult's role in society is defined, physical development peaks, and the adult become independent.*
- *Responsibilities and relationships*
- *1. The development of an intimate (e.g. close, sexual)relationship with another person occurs.*
- *According to Erikson, this is the stage of intimacy versus isolation; if the person does not develop and sustain an intimate relationship by this age of life, he/she may experience emotional isolation in the future.*



- *3. In the US, by 30 yr. of age, most Americans are married and have children.*
- *4. During their middle thirties, many women alter their lifestyle by returning to work or school or by resuming their careers.*



MIDDLE ADULTHOOD

40-65 YEARS

- *The person in middle adulthood possesses more Power and Authority than at other life stages.*
- *A. RESPONSIBILITIES: the individual either maintain a continued sense of productivity or develops a sense of emptiness (Erikson's stage of generativity versus stagnation.)*
- *B. 70% to 80% of men in their middle forties or early fifties exhibit a Midlife Crisis, this may lead to:*
 1. *A change in profession or lifestyle.*
 2. *Infidelity. Separation or divorce.*
 3. *Increased use of alcohol or drugs.*
 4. *Depression.*
- *B. Midlife crisis is associated with an awareness of one's own aging and death and severe or unexpected lifestyle changes (e.g., death of spouse, loss of a job, serious illness).*

- **C. Climacterium; is the change in physiologic function that occur during midlife.**
- **1. In men, although hormone levels do not change significantly, a decrease in muscle strength, and sexual performance occurs in midlife.**
- **2. In women, menopause occurs:**
- **1st The ovaries stop functioning and menstruation stops in the late forties or early fifties.**
- **2nd Absence of menstruation for one year defines the end of menopause.**
- **3rd Vasomotor instability, called hot flashes or flushes is a common physical problem seen in all women.in all countries and cultures , may continue for years.**



Trust vs. Mistrust Birth-1 year	Erikson believes that a basic attitude of trust or mistrust is formed at this stage. Trust is established when babies are given warmth, touching, love and physical care. Mistrust is caused by inadequate or inconsistent care and by parents who are cold, indifferent, or rejecting. Basic mistrust may later cause insecurity, suspiciousness or an inability to relate to others
Autonomy vs. Shame and Doubt 1-3 yr.	Children must learn to be “autonomous”-express their growing self control-to feed and dress themselves, and look after their own hygiene and so on. Failure to achieve the independency may force the child to doubt her/his own abilities and feel shameful about her actions.
Initiatives Vs. Guilt 3-6 years	During this stage, children are exploring the world around them by playing and interacting with others. Through play they learn to make plans and carry out tasks. Parents reinforce initiatives by giving children freedom to play, ask questions and choose activities. Feelings of guilt about initiating activities are formed if parents criticize severely, prevent play or discourage the child’s question.

**Industry
vs.
Inferiority
6-12 years.**

Many events in middle childhood are symbolized by the day when you first entered school. The “elementary” school years are a child’s “entrance into life”. In school, children begin to learn skills valued by society, and success or failure can affect a child’s feelings of adequacy. Children learn a sense of industry if they win praise for productive activities, such as reading, studying and painting. If a child’s efforts are regarded as messy, childish or inadequate, a feelings of inferiority result. For the first time, teachers, classmates, and adults outside the home become as important as parents in shaping attitudes toward oneself.

**Identity
vs.
Role
Confusion.
12-20
years.**

This is the crossroad between childhood and adulthood. The adolescent struggle with the question “Who am I?”
Adolescent must make a conscious search for identity. This built on the outcome and resolution to conflict in earlier stages. Identity is how you see yourself, and how you feel the rest of the world perceive you. Identity define who you are, what you value, and commitments to work, personal relationships ,sexual orientation and ideals.

<p>Intimacy vs. Isolation 20-40 yr. Young Adulthood</p>	<p>The primary task at this stage is to build deep friendships and to achieve a sense of love and companionship with another person. Intimacy=the ability to care about others and to share experiences with them. Feelings of loneliness or isolation are likely to result from an inability to form friendship or an intimate relationship. Key social agents are lovers, spouse and close friends (of both sexes)</p>
<p>Generativity versus Stagnation 40-65 yr. Middle Adulthood</p>	<p>At this stage adults face the task of becoming productive in their work and raising their families or by helping other children(as a teacher e.g.). These standards of generativity are defined by one's culture. Those who are unwilling or unable to assume these responsibilities will become stagnated and/or self-centred. Significant social agents are the spouse, children and cultural norms.</p>
<p>Integrity vs. Despair > 65 years.</p>	<p>The older adult will look back at life viewing it as either meaningful, productive and happy experience or a major disappointment full of unfulfilled promises and unrealized goals. One's self-experience, particularly social experience will determine the outcome of this final life crisis.</p>