Unit I

Introduction to Nursing of Children:

Physiological and Psychosocial

Cephalocaudal Growth

Factors Influencing Growth & Development

Growth & Development

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Growth & Development: Infant

Age: Birth to 12 months

Major Behaviors: Discriminates mother from others

Achievement of object permanence

Specific Task: Increasing interest in images

Preference for mother image (6 mo)

Attachment to others (7 mo)

Theorist: Erikson = Trust vs. Mistrust

Piaget = Sensorimotor

Problems: Separation Anxiety (4-8 mo)

Stranger Fear (6-8 mo)

Thumb-sucking & Pacifier

Teething
Fine Motor Development

Grasping object: 2-3 months

Voluntary grasp: 4-5 months

Transfer object between hands: 7 months

Pincer grasp: 10 months

Remove objects from container: 11 months

Build tower of 2 blocks: 12 months

Gross Motor Development

Head control while pulled to sitting position. A, Complete head lag at 1 month. B, Partial head lag at 2 months. C, Almost no head lag at 4 months.

Rolling over: 5-6 months

Sit alone: 7 months

Move from prone to sitting position: 10 months

Locomotion

Cephalocaudal direction of development

Crawling: 6-7 months

Creeping: 9 months

Walk with assistance: 10-11 months

Walk alone: 12 months

Language Development

Crying is first verbal communication

Vocalizations

3-5 words with meaning by age 1 year

**Piaget: Infant**

Object Permanence

Self-Image
Promoting Optimum Health during Infancy

Nutrition: breast milk is first choice only for first 6 months of life

Introduction of solid foods:

Introduce foods at intervals of 4-7 days to allow for identification of food allergies

Weaning from breast or bottle

**Measurements**

**Toddler**

**Biologic Development**

- Weight gain slows to 4-6 lb/yr
- Birth weight should be quadrupled by 2½ years
- Height increases about 3 in/yr
- Growth is step like rather than linear

**Sensory Changes**

- Visual acuity of 20/40 acceptable
- Hearing, smell, taste, and touch increase in development
- Uses all senses to explore environment

**Maturation of Systems**

- Most physiologic systems relatively mature by the end of toddlerhood
- Upper respiratory tract infections, otitis media, and tonsillitis are common among toddlers
- Voluntary control of elimination:
  - Sphincter control: age 18-24 months

**Gross and Fine Motor Development**

- Locomotion
- Improved coordination: between 2 and 3 years
- Fine motor development:
➢ Improved manual dexterity: 12-15 months
➢ Throws ball: by 18 months

**Growth & Development: Toddler**

15 mo – Walks alone

2 yrs – Runs & walks well

  Walks up and down stairs

End of 2nd yr – Jumps, stands on 1 foot, walks up & down stairs with alternate feet

12 mo – Grasps small objects

15 mo – Tower of 2 blocks

24 mo – Imitate circular stroke and vertical line

1 yr – 4 words

2 yr – 300 words

1 yr – One word sentences

2 yr – Multiword Sentences

**Domestic Mimicry**

**Concerns: Toddler**

**Assessing Readiness for Toilet Training**

 Voluntary sphincter control

 Ability to stay dry for 2 hours

 Fine motor skills to remove clothing

 Willingness to please parents

 Curiosity about adult’s or sibling’s toilet habits

 Impatience with wet or soiled diapers

 Ability to communicate need to void
Nutrition: Toddler

Promoting Optimum Health During Toddlerhood

- Sleep and activity
- Dental health:
  - Regular dental examinations
  - Removal of plaque
  - Fluoride
  - Low-cariogenic diet

Dental Health

Promoting Optimum Growth and Development

The preschool period—ages 3-5 years

Preparation for most significant lifestyle change: going to school

Experience brief and prolonged separation

Use language for mental symbolization

Increased attention span and memory

Biologic Development

Physical growth slows and stabilizes

Average weight gain remains about 5 lb/yr

Average height increases 2½-3 in/yr

Body systems mature and stabilize; can adjust to moderate stress and change

Gross and Fine Motor Behavior

Gross motor: walking, running, climbing, and jumping well established

Refinement in eye-hand and muscle coordination:

Drawing, artwork, skillful manipulation

Growth & Development: Preschooler
3 yr to 5 yr

Discovery, developing patterns of behavior, curiosity and inventiveness

Need & enjoy companionship of other children - (associative play)

Erickson – Initiative vs. Guilt

Piaget – Preoperational

Imaginary playmates

Many fears

Sexual Curiosity and masturbation

Speech Problems

**Growth & Development: Preschooler**

36 mo – Walk, run, climb, jump, rides a tricycle

4 yr – skips & hops proficiently, catches ball reliably

5 yr – skips on alternate feet, jumps rope, begins to skate and swim

3 yr – copies circles, cross, vertical and horizontal lines, holds crayon with fingers

5 to 6 yrs – Draws 6 body parts of a person, copies a triangle and a diamond

3 to 4 yrs – Telegraphic speech with multiple questions

  Names familiar objects

5 yr – Greater than 2100 words

4 to 5 yrs – Only able to respond to one request at a time

Psychosocial Development

Erikson: developing sense of initiative:

Chief psychosocial task of preschool period

Feelings of guilt, anxiety, and fear may result from thoughts that differ from expected behavior

Development of superego (conscience)

Learning right from wrong, moral development
Energetic learning

Cognitive Development

Readiness for school

Readiness for scholastic learning

Typically age 5-6 years

Piaget: Preoperational Phase

Spans 2-7 years

Divided into two stages:

Preconceptual phase: 2-4 years

Intuitive thought phase: 4-7 years

Shifts from egocentric thought to social awareness

Able to consider other viewpoints

Egocentricity still evident

Language continues to develop

Concept of causality beginning to develop

Concept of time incompletely understood

Use “magical thinking” frequently

Development of Body Image

Increasing comprehension of “desirable” appearances

Aware of racial identity, differences in appearances, and biases

Poorly defined body boundaries:

Fear that if skin is “broken” all blood and “insides” can leak out

Frightened by intrusive experiences

Development of Sexuality

Form strong attachment to the opposite-sex parent while identifying with the same-sex parent
Become concerned with modesty

Sex role imitation, “dressing up like Mommy or Daddy”

Sexual exploration more pronounced

Questions arise about sexual reproduction

Social Development

Individuation-separation process is completed

Overcome stranger anxiety and fear of separation from parents

Still need parental security and guidance

Security from familiar objects

Play therapy beneficial for working through fears, anxieties, and fantasies

Language

Major mode of communication and social interaction

Vocabulary increases dramatically between ages 2 and 5 years

Complexity of language use increases between ages 2 and 5 years

Play

Associative play

Imitative play

Imaginative play, imaginative playmates

Dramatic play

Imitative Play

Speech Problems

Stuttering

Stammering

Dyslalia: articulation problems

Denver Articulation Screening Examination (DASE) as tool for assessing speech problems
Promoting Optimum Health during the Preschool Years

Nutrition:

Caloric requirements approximately
90 kcal/kg

Fluid requirements approximately
100 ml/kg, depending on activity and climate

Food fads, strong tastes common

Promoting Optimum Growth and Development

“School age” generally defined as
6-12 years

Physiologically begins with shedding of first deciduous teeth; ends at puberty with acquisition of final permanent teeth

Gradual growth and development

Progress with physical and emotional maturity

Tooth Loss

Biologic Development

Height increases by 2 in/yr

Weight increases by 2-3 kg/yr

Males and females differ little in size

More elongated skeletal growth

Fat diminishes

Psychosocial Development

Relationships center around same-sex peers

Freud described it as latency period of psychosexual development

Growth & Development: School Age

6 to 12 years

Erikson
Industry vs. Inferiority

Ready to be workers & producers

Want to engage in task & activities they can carry through to completion

Goal is achievement

Learn to compete & to cooperate with others- learn rules

Positive – develop a sense of mastery & self-assurance

Negative – inadequacy or inferiority if too much is expected or too high standards set. Will learn to shun new activities

Ultimate achievement is ego quality is competence & completion of tasks

Growth & Development: School Age

6 to 12 years

Erikson (cont)

Industry vs. Inferiority

Accomplishment

Danger if placed in situations of feeling inadequate or inferior

Build self-esteem

Body image: acutely aware of physical attributes

Formalized clubs and groups; rigid rules

- Exclusiveness of groups
- Little league, girl scouts, boy scouts

Growth & Development: School Age

Piaget

Till 7 years still in Preoperational

Concrete Operations (7-12 yrs)

Thought increasingly logical & coherent

Sort, classify, order, and otherwise organize facts; use in problem solving
Learn conservation

Able to deal with a number of different aspects of a situation simultaneously

They do not have the ability for abstract thinking

Reasoning is inductive

Socialized thinking – less self-centered

**Growth & Development: School Age**

**Piaget**

Till 7 years still in Preoperational

**Concrete Operations (7-12 yrs) (cont)**

- Ability to understand another’s point of view
- Ability to relate a series of events mentally and verbally
- Learns to read and write
- Masters concept of conservation and classification
- Understand relational terms

Concrete operations:

Use thought processes to experience events and actions

Develop understanding of relationships between things and ideas

Able to make judgments based on reason (“conceptual thinking”)

**Play**

Involves physical skill, intellectual ability, and fantasy

Form groups, cliques, clubs, and secret societies

Rules and rituals

See need for rules in games they play

**Growth & Development: Adolescent**

Definitions
Puberty: development of secondary sex characteristics

Prepubescence: approximately 2 years before onset of puberty; preliminary physical changes occur

Postpubescence: 1-2 years after puberty; skeletal growth is complete, reproductive functions become established

Biologic Development

Primary sex characteristics:
External and internal organs necessary for reproduction

Secondary sex characteristics:
Result of hormonal changes: voice change, hair growth, breast enlargement, fat deposits
Play no direct role in reproduction

Sexual Maturation

Tanner stages of sexual maturity:
Stages of development of secondary sex characteristics and genital development
Defined as guide for estimating sexual maturity

Sexual Maturation: Girls

Thelarche: appearance of breast buds—age 9-13½ years

Adrenarche: growth of pubic hair on mons pubis—2-6 months after thelarche

Menarche: initial appearance of menstruation approximately 2 years after first pubescent changes—average age 12 years 9½ months in North America

Sexual Maturation: Boys

First pubescent changes: testicular enlargement, thinning, reddening, and increased looseness of scrotum—age 9½ to 14 years

Penile enlargement, pubic hair growth, voice changes, facial hair growth

Temporary gynecomastia in a third of boys; disappears within 2 years

Concept of Death

Adaption to Hospitalization

Interventions for Toddler and Preschooler
Adaption to Hospitalization – School Age

Interventions for School Age

Adaption to Hospitalization – Adolescence

Interventions for Adolescence

Communicating with Children

Vital Signs

Pain Assessment

Pain Management

I&O

Administration of Medication

Safe dosage for medication

3 yr old wt: 36 lbs

Dx. Meningitis

MD order: Ampicillin 500 mg IVPB q 6 hr

Drug research-
mild-mod. Infection- 50 to100 mg/kg/24 hr
severe infection - 200 to 400 mg/kg/24 hr

Safe dosage sit#1

Wt in Kg = 16.3

Pt allowed- 16.3 kg X 400 mg = 6520 mg

Pt receiving- 500 mg X 4 = 2000 mg

Dose is safe

Safe dosage Sit #2

Infant wt is 9 kg

Dx – sepsis
MD order - Gentamycin 32 mg IVPB q 12 hrs

Drug Research – 7.5 mg/kg/24hrs

Safe dosage Sit #2

Recommended dose-

7.5 mg X 9 kg = 67.5

Pt receiving – 32mg X 2 = 64 mg

Dose is safe

Safe dosage Sit #3

12 year old; wt 90.5 lbs

MD order – Cefotaxime 600 mg po q 4 hrs

Drug research- 50 – 200 mg/kg/day

Safe dosage sit #3

Wt is 41.1 kg

Recommended dose-

200mg X 41 kg = 8200 mg

Pt receiving – 600mg X 6 = 3600 mg

Safe dose

**PROCEDURES**

Urine Specimens

Monitoring Oxygen Levels