

Theories of growth and development in pediatrics: A review

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Abstract

Growth and development are the two important aspects for human life, especially among children these are fundamental requirement in assessing the normality and abnormality during stages of childhood. Hence various experts expressed theories of growth and development in which it can be referred for understanding the normal and abnormal findings of child. Moreover it is beneficial for appropriate, prompt and preventive management of abnormal children accordingly.

Keywords: Beneficial for appropriate, Prompt and preventive management of abnormal children accordingly.

Introduction

Biological, psychosocial and cognitive changes that begin during puberty and continue throughout adolescence directly affect nutritional status and nutrient needs. Adolescents experience dramatic physical growth and development during puberty. As children grow, their external dimensions increases, which in turn appreciably increases their requirements for energy, protein, and many vitamins and minerals. Early adolescence can be described as a period of life, in which youth undergo rapid physical, cognitive, and social transformation.

Adolescent patients present a unique set of challenges to pediatricians. A polite, compliant child can appear to transform into a surly, rebellious teen before a doctor's eyes. Adolescence can be a tumultuous time, even when it is unfolding in a healthy manner. For this reason, and because there is so much individual variation in adolescent development, it is usually referred to as a unit, expressed as the sum of the numerous changes that take place during the lifetime of an individual.

Growth- is an increase in number and size of cells as they divide and synthesize new proteins, results in increased size and weight of the whole or any of body part. Growth as a quantitative change.

Development- is a gradual change and expansion of the person. The all round expansion of the individual's capacities through growth, maturation and learning. Development as a qualitative change.

Normal physical growth and development

The beginning of biological growth and development during adolescence is signified by the onset of puberty, which is often defined as the physical transformation of a child into an adult. A myriad of biological changes occur during puberty including sexual maturation, increases in height and weight, completion of skeletal growth accompanied by a marked increase in skeletal mass, and changes in body composition. The succession of these events during puberty

is consistent among adolescents. However, there may be a great deal of deviation in the age of onset, duration, and tempo of these events between and within individuals. However, with increasing education needs, there is an increasing gap between physical maturation and the ability to take on adult responsibilities.

Therefore, it is vital that health care providers who provide nutrition education and counseling have a thorough understanding of adolescent physical and psychosocial growth and development.

Theories of development

1. Psychosexual development- Freud's theory
2. Psychosocial development- Erikson's theory
3. Cognitive/ intellectual development- Piaget's theory
4. Moral development- Kohlberg's theory
5. Spiritual development- Fowler's theory
6. Language development

Psychosexual development:(Freud's theory)

1. **The Oral Stage**(Birth to 1 Year): During this period, the sensory area of the mouth provides the highest sensual satisfaction for an infant by doing sucking, biting, chewing and vocalizing.
2. **The Anal Stage(1to 3 Years):**The toddler period, the second and third years of life, the greatest amount of sensual pleasure is obtained from the anal and urethral areas by defecating. At this stage the climate surrounding toilet training.
3. **The Phallic Stage (3 to 6 Years):**During this stage, children become more interested about the genitalia and sensitive area of the body. They recognize difference between the sexes and become curious about dissimilarities. The oedipal stage occurs in the later part of phallic stage, during this time the child loves the parent of opposite sex as the provider of satisfaction.
4. **The Latency Stage(6 Years to Puberty):**During this stage, children elaborate on previously acquired traits

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and skills and also form close relationship with others of their own age and sex.

5. **The Genital Stage(Puberty to Death):**During puberty, secondary characteristics appear in both sexes with maturation of the reproductive system and production of sex hormone.

Psychosocial development (Erikson's theory)

Adolescents experience dramatic biological changes related to puberty; these biological changes can significantly affect psychosocial development. An increased awareness of sexuality and a heightened preoccupation with body image are fundamental psychosocial tasks during adolescence. Peer influence is a dominant psychosocial issue during adolescence, especially during the early stages. Young teens are highly cognizant of their physical appearance and social behaviors, seeking acceptance within a peer group. The desire to conform can influence food intakes among teens. The broad chronological age range during which biological growth and development begins and advances can become a significant source of personal dissatisfaction for many adolescents as they struggle to conform to their peers.

Erikson, a psychologist wrote on Emotional or personality development. He said in each stage of a child's emotional development, a central problem exists for which a solution should be found. Erikson's life span approach to personality development relating to childhood included here;

1. **Trust vsMistrust (Birth to 1 Year):** Infant learn to trust the adults, usually the parents' who care for them and are sensitive to their needs. Loving care by a mothering person is essential for development of trust and bonding relationship. 'Mistrust' develops when trust promoting experience is deficient or lacking or when basic needs are inadequately met. The favorable outcomes are faith and optimism.
2. **Autonomy vsShame &Doubt (1 TO 3 Years):**The development of autonomy during the toddler period is centered on children's increasing ability to control their bodies, themselves and their environment. If they do not succeed, they will doubt their own worth and that of others and will have a sense of shyness, doubt and shame. The good results are self-control and will power.
3. **Initiative vsGuilt (3TO 6 Years):**At this age, children want to learn what they can do for themselves. They have active imaginations, imitating their parents, teachers and wanting to share in adult activities. During some activities they are in conflict withparents it makes to feel that their activities or imaging are bad produces a sense of guilt. The lasting outcomes are direction and purpose.
4. **Industry vsInferiority (6 to 12 Years):**Children in this age group have a strong sense of duty. They want to engage in tasks in their social world that they can carry out successfully, and they want their

success to be recognized by adults and by peers. The danger this period is the development of a sense of inferiority if the parents or the school expect a level of achievement that children are unable to attain. The ego quality development from a sense of industry is competence.

5. **Identity vsRole Confusion (12 to 18 Years):**The sense of identity develops during adolescence. Success in this period brings self-esteem, an attitude towards the self. Inability to solve the core conflict results in role confusion. The outcome of successful mastery is devotion and respect to others and to values.

Cognitive or intellectual development (Piaget's theory)

The early stage of adolescence is a time of great cognitive development. At the beginning of adolescence, cognitive abilities are dominated by concrete thinking, egocentrism, and impulsive behavior. The ability to engage in abstract reasoning is not highly developed in most young teens, limiting their capacity to comprehend nutrition and health relationships. Young adolescents also lack the skills necessary to problem solve in an effort to overcome barriers to behavior change and the ability to appreciate how current behaviors can affect future health status. Much of modern thinking about cognitive development in adolescence has its roots in the work of Jean Piaget (1896 to 1980). According to Piaget, maturation and growth have certain signposts and adolescence marks a shift from the rule-bound, concrete methods of problem solving during the concrete operations stage characteristic of younger children to the greater capacity for abstraction and flexible problem solving that characterizes formal operations. Children are born with inherited potentials for intellectual growth, but they must develop that potential through interaction with the environment. Upon entering what he labeled the "formal operations stage," early adolescents, Piaget believed, developed the ability to think more scientifically; to design and test multiple hypotheses; and to manipulate objects, operations, and future outcomes in their minds without having to actually interact with physical objects. This view of cognitive development in early adolescence has played a major role in the sequencing of curriculum in schools

Four major stages of emotional development are;

1. **Sensorimotor (Birth to 2 Years):**In which children are primarily concerned with learning about physical objects. Children progress from reflex activity through simple repetitive behaviors to imitative behavior. They develop a sense of cause and effect as they direct behavior towards objects.
2. **Pre-operational (2 to 4 Years):**The predominant characteristic of the preoperational stage of intellectual development is ego centrism, which in this sense doesn't mean selfishness the inability to put oneself in the place of another. Children are preoccupied with symbols in language, dreams and fantasy.
3. **Intuitive phase (4to 7 Years):**Children begin to elaborate concepts and to make simple associations

between ideas. They are only beginning to deal with problems of weight, length, size and time. Reasoning is also transductive because 2 events occur together, they cause each other or knowledge of one characteristic is transferred to another.

4. **Concrete operation(7 to 11 Years):**In this, children move into the abstract world, mastering numbers and relationships. At this age thought becomes increasingly logical and coherent. Children are able to classify sort, order, and otherwise organize facts about the world to use in problem solving.
5. **Formal operation (11 to 15 Years):**In which they tackle purely logical thought, thinking about their own thinking as well as that of others. Formal operational thought is characterized by adaptability and flexibility. Adolescents can think in abstract terms, use abstract symbols and draw logical conclusion from a set of observations.

Moral development (Kohlberg's theory)

The study of moral development is somewhat controversial because it places morality under a scientific lens, implying a social and biologic basis for moral behavior.

Moral development described by Kohlberg is based on cognitive developmental theory. He observed, not every individual reaches the same end. Kohlberg postulates 6 stages of potential moral development which is organized in 3 levels:

1. **Pre-conventional Level:**The pre-conventional level of normal development parallels the preoperational level of cognitive development and intuitive thought. They avoid punishment and obey without question those who have the power to determine and enforce the rules and labels.
2. **Conventional Level:**At the conventional stage children are concerned with conformity and loyalty. They value the maintenance of family, group or national expectation regardless of consequence. One earns approval by being nice, obeying the rules and maintaining the social order are the correct behavior. This level is correlated with the stage of concrete operation in cognitive development.
3. **Post-conventional Level:**At the post conventional level the individual has reached the cognitive stage of formal operation. Correct behavior tends to be defined in terms of general individual rights and standards that have been examined and agreed by the entire society.

Spiritual development (Fowler's theory)

According to Fowler, faith is a human universal that is expressed through beliefs, rituals and symbols specific to religious tradition. It is multidimensional and a way of learning about life. Spirituality affects the whole person mind, body and spirit. The stages of development of faith are;

1. **Stage '0'- Undifferentiated:** This stage of development encompasses the period of infancy during

which children have no concept of right or wrong, no beliefs and no convictions to guide their behavior.

2. **Stage '1'-Intuitive Projective:**Toddlerhood is primarily a time of imitating the behavior of others. Children imitate the religious gestures and behavior of others without comprehending any meaning or significance to the activities.
3. **Stage '2'-Mythical Literal:**In this period, spiritual development parallels cognitive development and is closely related to children's experiences and social interactions. Good behavior is awarded and bad behavior is punished.
4. **Stage '3'-Synthetic Convention:** As children approach adolescence, however they become increasingly aware of spiritual disappointment. they recognize that prayers are not always answered and may begin to abandon or modify some religious practices.
5. **Stage '4'-Individuating Reflexive:**Adolescence becomes more aware of the emotion, personality, patterns, behaviours, ideas, thoughts and experience of self and others. They begin to compare the religious standards of their parents.

Self-concept is how an individual describes himself or herself. The term self-concept includes all the notions, beliefs and convictions that constitute an individual's relationship with others.

Language development

1. The ability to communicate is a significant factor in a child's intellectual, emotional and social development. Language is a complex system of grammatical and semantic properties. Children are able to understand language before they are able to speak it.
2. The steps of prelingual speech are the same for all children. Reflex, vocalizations, babbling, imitation of sounds and verbal utterance.
3. The child's articulation or ability to pronounce words correctly so that they are understood develops along with language ability. Articulation skills require the co-ordination of the tongue and lower jaw.
4. Vocabulary or semantic development, progresses from infancy throughout life. The most dramatic vocabulary development takes place between 18 months & 3 years of age.
5. A single child develops language earlier than those with siblings. Girls learn language and speak earlier than boys.

Conclusion

Adolescence is a complex developmental process that varies substantially, both individually and culturally and the divisions of development are arbitrary. They are psychosocial, psychosexual, moral, cognitive and spiritual. They all usually progress together in the process of maturation and learning. Knowledge of growth and development is important to the nurse to observe the sequence of developmental behavior of each child and also helps to plan better care to the baby. In addition, it is

significant for nurses and caretakers to find out any delay in growth and developmental milestones of children, So that early detection of abnormalities can be rectified with prompt therapy. As, when adolescent development is successful, the result is a biologically mature individual equipped with a sense of an independent self, the capacity to form close peer and group relationships, and the cognitive and psychological resources to face the challenges of adult life.

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References

1. Marlow A D, Redding A B. Textbook of Paediatric Nursing. 6th ed. New Delhi: Elsevier; 2010.
2. Wong L. Donna, Wilson David. Whaley and Wong's Nursing care of infants and children. 5th ed. Missouri: Mosby publications. 2005:78-82.
3. Neeraj K P. Textbook of Growth and development for Nursing students. 1st ed. New Delhi: Jaypee publications. 2006; pp 15-21
4. Tambulwadkar R S. Paediatric Nursing. 2nd ed. Bombay: Vona Medical Publisation. 2009:10-5.
5. Litt IF. Pubertal and psychosocial development: implications for pediatricians. *Pediatr Rev* 1995;16:243-7.
6. Noam G. The psychology of belonging: reformulating adolescent development. *Adolesc Psychiatry* 1999;24:49-68
7. Kohlberg L. Moral stages and moralization. In: Lickona T, ed. *Moral Development and Behavior*. New York, NY: Holt, Rinehart, and Winston; 1976:31-53
8. Berndt, T.J. Developmental changes in conformity to peers and parents. *Dev Psychol* 1979;15:608-16.
9. Newman B, Newman P. Development through life. A psychosocial approach. 7th ed. Wordsworth Publishing Co., Belmont, USA. 1999
10. Paus T. Mapping brain maturation and cognitive development during adolescence. *Trends CognSci* 2005;9:60-8
11. Steinberg, L. Cognitive and affective development in adolescence. *Trends CognSci* 2005;9(2):69-74
12. Barnes HV. Physical growth and development during puberty. *Med Clin North Am* 1975;59:1305-17.
13. Douvan E, Adelson J. *The Adolescent Experience*. New York, NY: John Wiley and Sons. 1966
14. Litt IF. Pubertal and psychosocial development implications for pediatricians. *Pediatr* 1995;16(7):243-7.
15. Slap GB. Normal physiological and psychosocial growth in the adolescent. *J Adolesc Health Care* 1986;7(6 suppl):13S-23S

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