

Growth And Development

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Factors Affecting Growth and Development

- ☒ Hereditary or genetic factors e.g. hereditary disease ,gene abnormalities
- ☒ Environmental factors: General health and maternal age, parity, socio-economic status and substances such as smoking affect birth weight and growth

Pre-natal environment

1-Factors related to mothers during pregnancy:

- Nutritional deficiencies: vitamin, mineral ,iron ,folic acid
- Mother with chronic disease :DM,HT
- Exposure to radiation or chemical substance
- Exposure to Infection disease e.g. rubella or TORCH
- Smoking and alcoholism
- Use of drugs e.g. epileptic drugs

2-Factors related to fetus and child

- **Mal-position** in uterus
- **Faulty placental** implantation or placenta problems
- **Endocrine regulation** :child growth is affected by biochemical products such as hormones. Hormones are regarded as growth promoting substance. Probably all the endocrine glands influence growth. Most of the hormones are secreted by the endocrine glands

and play a significant role in regulating the pattern of growth and development . The most important hormone controlling growth from birth up to adolescence is growth hormone .

- **Birth weight and Prematurity** : lower birth weight is associated with higher risk or morbidity
- **Gender of child** :boys are heavier and taller than girls at birth until 11 years .Pre pubertal growth spurt occur earlier in girls. Once again the boys grow taller than girls once they reach the pre pubertal growth spurt. Girls mature earlier than boys. Bone development is more advanced in girls than in boys . eruption of permanent teeth occur earlier in girls
- **Child's Nutrition**: zinc plays a part in protein synthesis and is a constituent of certain enzymes; a deficiency of zinc causes stunting. Iodine is needed for the manufacture of the thyroid hormones. Bone will not grow properly without an adequate supply of calcium, phosphorus and other inorganic constituents such as magnesium and manganese. Iron is required for the production of haemoglobin. Vitamins play an important part in growth. Vitamin A is thought to be control the activities of osteoblasts. In vitamin C deficiency the intercellular substance of bone is inadequately formed. Vitamin D deficiency is the cause of rickets.
- **Child health condition**: have direct impact on child growth and development many children with illness or with chronic disease have delay on growth and development

Post-Natal Environment

- **Socio-economic** status of the family : Socioeconomic influence on human growth is also a well-known factor. Children from different socioeconomic levels differ in average body size at all ages that

have been investigated. The upper groups being always more advanced along the course to maturity. Common socioeconomic factors :

- ❖ **parent education**
- ❖ **Family structure** (single parent or extended family ...)
- ❖ Parent-child relationship
- ❖ Family income
- ❖ Parent occupation
- ❖ Loss of parent
- **climate and season** : There is a well-marked seasonal effect on velocity of growth visible in most human growth data. Growth in height is on average fastest in spring
- **Ethnicity and race**: It was traditionally believed that different ethnic groups show different patterns of growth; on average African-Caribbean groups are taller and heavier, and Asian and Chinese groups are shorter and lighter when compared with Caucasians

Child's Ordinal Position in the family

- ❖ First child :get more attention
- ❖ Only child: develop more rapidly and more intellectually
- ❖ Middle child :less attention and less achievement
- ❖ Youngest child :more oriented less achievement ,less intellectually .get more love and attention and high self-stem