

4002

राष्ट्रीय मानसिक विकलांग संस्थान
NATIONAL INSTITUTE FOR THE MENTALLY HANDICAPPED
SECUNDERABAD
पुस्तकालय LIBRARY 4042
पुस्तक संख्या ACC. No.

**BASICS ON DEVELOPMENT
AND
GROWTH OF A CHILD**

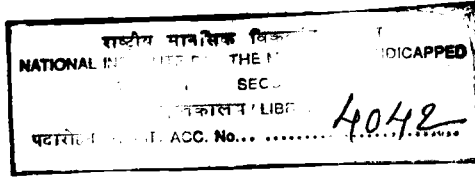
**BASICS ON DEVELOPMENT
AND
GROWTH OF A CHILD**

Poonam Sharma



Reliance Publishing House

New Delhi (India)



© Author

First Published 1995

ISBN : 81-85972-70-2

All right reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording otherwise, without the prior permission of Reliance Publishing House.

This book is sold subject to the conditions that it shall not, by way of trade or otherwise, be lent, re-sold, hired out or otherwise circulated without publisher's prior consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

Published by :

Dr. S.K. BHATIA (Life Member I.L.A., INSA & FEPI)

Reliance Publishing House

3026/7H, Ranjit Nagar

New Delhi-110008 (India)

Ph. 5722605/5737377/5786889

Composed by :

Ideal Computers (P) Ltd.,

2/11, Roop Nagar, Delhi -110007

Ph. 2910909

Printed at R.S. Printers, B-85, Naraina Industrial Area, Phase II,
New Delhi-110 028. Phone : 5706039

'TO MY HUSBAND'

Preface

In this book much attention has been paid to the personal and objective aspect of the child's life. The Psychology of self has a distinctive tradition. The concept of self is emphasized in the branches of psychology and psychiatry, but in this book the child's personal life has been dealt with great detail. More attention has been paid to the basic principles, including the philosophy of growth and a discussion of the psychological current in the world in which the child is born. Chapter on birth of the child gives detail knowledge of the emotions, of the new born and the psychology of pregnancy.

This work will be of great use to teachers, parents, and the others who are dealing closely with children such as social and anganwadi workers. It would be of much value to Home-Science and Psychology, graduate students and other working on child development and child psychology.

My husband has helped me in making it possible to undertake the task.

The task of writing a book dealing with both internal and external dimension of a child's world is not easy. My children interact and their friends, with whom I from day to day, hold out to me more wisdom than I have the capacity to absorb. I continue to learn much from them. They also baffle and perplex me and remind me of the limitation of my knowledge.

POONAM SHARMA

CONTENTS

<i>Preface</i>	vii
CHAPTER-I DIMENSIONS OF DEVELOPMENT AND GROWTH	
Introduction	1
Disorders of development and growth	2
Principles of development and growth	4
Maturity	6
Learning and growth	7
Importance of the study of child development	9
CHAPTER-II BIRTH OF THE CHILD	
Introduction	12
Psychology of pregnancy and child birth.	13
World surrounding the new born	14
Physical development at birth	15
Emotions of the new born child	16
CHAPTER-III THE PHYSICAL CHILD	
Trends in physical growth	17
Changes in height and weight	17
Development of bones, muscles and nervous system	18
Motor development	19
Principles of motor development.	19
Trends in motor development	20
Factors controlling motor development	21
Emotional development during early years	21
Childhood emotions	23

CHAPTER IV THE THINKING CHILD

The development of language in children	27
Course of language development	27
Course of language development	27
Individual difference in language development	28

CHAPTER V THE SOCIAL CHILD

Personality	32
Development in relation to heredity and environment	33
Personality development-biological and socio-cultural	34
Socio-cultural effect on personality development	36
Development of social relationship	37
Socialization in early years of life	37
Socialization in the family	38
Socialization outside the family in early years	40

CHAPTER VI BEHAVIOR DISORDERS OF CHILD

Common behavioral disorder in childhood	43
Toilet problems	48
Management	49

CHAPTER VII CHILD GROWTH AND NUTRITION

Details of Nutrients	50
Energy	51
Protein	52
Fats	53
Carbohydrates	54
Mineral	55
Vitamins	57
Common nutritional defeciciencies among Indian children	61

Bibliography

67

Dimensions of Development and Growth

Introduction

Human development and growth can be thought of as a process of continuous change through time. (Development is achieved through the process of growth which has several meanings.) There is growth in a physical and physiological sense as it appears in changes in size, in dimension and in physical properties of muscular strength and capacities.) There is growth as a process of maturation which brings a change in the functions a person can perform, changes in ability and brings about expansion in scope of living. Such growth may continue as long as there is life.) Development of the child can be defined as the emergency and expansion of his capacities to provide great facility in functioning. This development is achieved through the process of growth, maturation and learning, which has two aspects of change—quantity and quality. Growth which refers to quantitative change in size and structure, refers to an increase in magnitude—in body size, in muscular strength, and in intellectual ability. Growth is also an integrated, unitary process.) For instance, the various parts of the body have their own growth rates. The head grows rapidly in fetal and infant life and at a diminishing rate during the next ten years. A serious disturbance of this growth may affect development of the brain, resulting in delay in the acquisition of such skills, as walking, social adaptation and speech. Furthermore the speed at which the growth occurs is not the same at various age periods. In the first six months, it is exceedingly rapid, so that a 6-months old baby is twice its birth weight. By the end of first year, birth weight is up by three times and a child of 2 years weighs four times its birth weight. In the following years until puberty, growth is at a slower pace.

Development is more than a concept which can be easily observed and appraised. The development can be measured in three areas-anatomic, psychologic and behaviour. The changes may be in size, proportion,

disappearance of old features and acquisition of new features. Physical and mental traits develop partially from an intrinsic maturity of those traits and partly from exercise and experience. Development follows a pattern which is continuous, orderly, progressive and predictable. Within this pattern there is considerable correlation between types of development. For example physical growth affects motor development after one type of development waits on another. If a baby concentrates on walking he may learn no new words for months.

Development is not limited to growing big. Instead, it consists of a progressive series of changes of an orderly, coherent type towards the goal of maturity. The term "progressive" signifies that the changes are directional leading forward rather than backward. The term "orderly and coherent" suggests that development is not of a haphazard and casual type. There is a definite relationship between each stage in the development sequence. Each change is dependent upon what preceded it, and in turn affects what will come after.

According to Gesell (1952) "Development is more than a concept. It can be observed, appraised and to some extent even measured in their major manifestations"—

- a) Anatomic
- b) Psychologic
- c) Behaviour signs, This constitutes a most comprehensive index of development status and developmental potential. Development results in new characteristics and new abilities on the part of the individual. It consists of a transition from lower to higher stages of activity or function. While there is some development at an early stage in the life span of the individual, more development occurs in the early years of life than after maturity has been attained

Disorders of development and growth : The most common disorders which are observed in the children can be discussed as below :

Short Stature : If the length or height of the child is below the 3rd percentile or less than the standard mean, he or she is considered to have short stature. This disorder of growth is the result of many abnormalities. The causes of this can be—

Constitutional delay in growth : is a frequent cause of or short stature in childhood usually, if one of the parent has short stature in childhood. With delay in onset of puberty the child is also likely to adopt the same pattern and such children lag behind their peers. It is normally observed that these children show delayed pubertal spurt in growth. The bone age or skeletal maturation is also lower than their chronological age but is consistent with their height age equivalent. The ratio between the upper and lower segments is normal. The average growth velocity is normal and ultimate growth potential is adequate.

Nutritional dwarfism is also the prime cause of short stature. Nutritional dwarfism results from protein energy malnutrition and iron deficiency anemia. In this condition the child gains the weight very slowly and muscles are wasted. If this persists for a larger period, it results in the muscles waste also. Deficiency of zinc has also been incriminated as a possible cause of growth retardation in children.

Several *Chronic diseases* are also associated with failure of growth. Chronic infections such as tuberculosis, malaria, syphilis, etc. The growth retardation is attributed to impaired appetite, diminished food intake, increased catabolisms, poor utilisation of food, vomiting and diarrhoea, which are often associated with these illness.

Chronic recurrent infective diarrhoea, and milk allergies and diseases like diabetes mellitus and diabetes insipidus also are the cause of growth retardation. This retardation is seen frequently among children having congenital heart disease, and abnormalities of urinary and nervous system.

The *endocrine disorder* in children are also the cause of growth disorders. The children having endocrine disorders appear normal in height and weight at birth. The delay in growth is observed usually after one year. Growth is regular but slow. They gain less than 4cm height per year.

Genetic disorder is another prime cause of growth retardation. In these children the height is below the mean. The parents are of short stature and the height can be related to the mean parental height. However for these children the gain in height is more than 4 cm per year and the velocity of growth is within the normal range for the age and body proportions are normal. Certain inherited metabolic disorders are also associated with short stature.

Emotional deprivation also leads to dwarfism children who lack security and emotional warmth of a home like those brought up in orphanages and broken homes, may remain small in size. Inappropriate psycho-social environment, adversely affects the food intake, absorption and utilisation of nutrients and such children may also feel physically neglected. Among the children suffering from emotional deprivation, the synthesis of growth hormones may also suffer and the body proportions of such children are observed normal. When proper emotional warmth and security is given to these children, they tend to catch up growth and with proper emotional security the level of growth hormone also returns to normal.

Principles of development and growth Development is a continuous process that begins with life at conception. This event occurs at

the moment the egg in the mother is fertilized, its wall being penetrated by a sperm cell from the father. Immediately following conception, the process of mitosis or cell division is initiated. The fertilized ovum—a single cell, divides and subdivides rapidly until millions of cells have been formed. As development proceeds, the new cells assume highly specialized functions, becoming parts of various body systems—nervous, skeleton, muscular and circulatory. The fetus (foetus) as a child is called before it is born, begins to take shape.

In this study it is instructive to look at facts regarding particular phases of growth and also to consider principles that help us to see the process of development in a larger perspective.

The human being is never static. From the moment of Conception until death, the individual is constantly changing. Biologically, life begins at the moment of conception. Birth is merely a break in the path of growth and development that has been going on for about nine months. During these nine months before birth, growth and development are more rapid than at any other time of life. There are certain features which are characteristic of human development, and which greatly influence the form it takes. Growth and development follow certain principles :—

1. *Development follows a pattern* : Every species whether animal or human follows a pattern of development peculiar to the species. The rate and limits of development are similar for all members of the species. In the case of human beings, development is in an orderly pattern. The relatively helpless, unskilled uncontrolled infant achieves the succession of development tasks by an orderly sequence of acquisitions. For example the child who is born prematurely may lag behind in development for about a year, but may catch up with the norms afterwards and follow the same pattern as other children.

2. *Every child passes through every stage of development* : Each stage has certain characteristics some of which stand out more conspicuously than others. Since there are individual differences in the rate of growth, age limits for different states can be regarded as merely approximate and suggestive. The total period of development can be divided into the following stages :

- Pre-natal period—from conception to birth
- Neo-natal stage - from birth -two weeks
- Infancy- from two weeks to one year
- Babyhood - from one year to two years
- Childhood* : from two to 12 year
- Adolescence - From 13 years onward

3. *General to specific* : In all the phases of development, whether motor or mental, the child's responses are of a general nature before becoming specific. For example the baby starts waving his arms in general movement before making any specific movement such as catching an object. The baby babbles before speaking.

4. *Continuous*: The development is a continuous process from the moment of conception to death. There is no discontinuity. The baby learns to control the body before taking the first step and thereafter he keeps mastering these.

5. *Constant* : The rate of growth is constant in most of the individuals. Those who have a faster growth in the first year, continue to develop in the same manner in the later years too. On the other hand the children whose rate of growth is slow, have the same growth even in later years. Children who are tall at one age develop in a similar manner. Measurement of weight and height at half-yearly intervals for boys and girls upto 13 years, who had been grouped according to birth weight revealed that the direction of differences noted at birth was maintained during childhood.

6. *Parts of the body* : All the parts of body do not have the same rate of development. All aspects of mental growth do not proceed equally. The different phases of mental and physical growth occur at their own individual ratio and reach maturity at different times. In some parts of the body, the growth is rapid, while in others, the growth may be slow. Thus the pattern of relative size of the organs of the body changes from time to time.

7. *Co-relation* : The popular assumption that compensation is a general rule in the development of a child is not borne out by experimental studies. It is not true that the child who is above average in one trait will be below average in other as a means of equalising his capacities. Gesell observed that there is a relationship between the development of physical and mental traits. Development of language, for example, is related to development of speech organs. It is difficult to find a child who is above average in one trait but below the normal in another trait. Genetic studies have shown that desired traits go together.

8. *Predictable* : It is observed that the rate of development for each child is constant. It is possible to predict at an early age the range within which the mature development of the child is likely to fall. The advance assessment of child's ultimate mental development helps in the planning of his future education and training in the type of work which will be best suited to carry out for him.

9. *Traits characteristic* : Each stage of development has some trait characteristic of its own. Some traits develop more rapidly and more conspicuously than others. Each phase is distinguished by a dominant feature a leading characteristic which gives the period its coherence and unity upto the age of 2 years, for example, the baby concentrates on his environment, growing control over his body, and learning to speak. From the age of three to six years (early childhood) his development is concentrated on making him a more social creature.

10 *problem behaviours* : At every age the child shows certain undesirable forms of behaviour which outgrow as he passes on to the next stage of development. For example lying is commonly found in children as they enter school age. Hence the child's behaviour is to be predicted and understood against the expected behaviour of his age.

Maturity

Along with development goes a process of maturing. Maturity is not an end point or final outcome but a quality or characteristic that can be attained relative to any state in the life span. It is well established by all the psychologists that to understand the child and his possibilities at any age, it is more important to examine his potentialities and his resources, and the manner in which he uses these, than to measure how much or little he has of this or that trait compared with other children of the same age. Maturity, in this sense, is not a distant goal but a present reality. A child is mature to the extent that he has realized, or is in process of realizing, his capacities for doing, thinking and feeling for participating in life at any given phase of the life span. A three years old who is living up to his promise as a three year is more mature than a thirteen years old who can achieve much more but who is not making use of the resources he has at the age of thirteen.

The term 'maturation' is usually used to designate qualitative changes, that is changes in the complexity of structure which make it possible for a structure to begin functioning, or to function at higher levels. It refers to externally determined patterns of change as body size, shape and skills that begin at conception and continue until death. Maturationally determined development, in its pure form occurs regardless of practice or training. For example most of the growth of the foetus in the womb is governed by maturation; changes in the body shape, the development of organs, and so on which occur without intervention from outside. Moreover, maturational development does not stop at birth. The development of skills in crawling, walking, running and climbing are also acquired in sequence and as the result of internal psychological changes.

On the other hand actions such as swimming, cycling, skating require training or practice. Thus maturation occurs with time, and over which the child has only slight control. They push the child towards adulthood. The effect of such changes fail unless there is an appropriate environment.

Maturation is often used as a synonym for the word growth, which does not mean exactly the same thing. Growth is a sign of life. It refers to some kind of step by step change in quality as in size. A child's body may increase in size because his diet has changed through an external influence or because of changes in the size of his bones and muscles, governed by the internal maturational time table.

Learning and growth

Throughout the period of a child's development two factors are at work—growth and learning. These are independent of each other and cannot be isolated in pure form, yet they can be separated for purpose of discussion. When we say a child has grown in a physical and physiological sense, we refer to changes that normally occur in a healthy child with the passage of time which have such results as an increase in height, weight and length of bones and change in the parts of the nervous system. Against this "learning" represents a modification of behaviour that has come about by virtue of experience, use or exercise. Learning refers to the acquisition of a new behaviour or modification of the previous behaviour through some kind of practice, exercise or effort by the individual. The term "maturation" on the other hand has many general as well as special meanings and denotes in a developmental setting, the process of ripening, of moving towards a fuller development of the potential of the organism. This clearly indicates that growth and development have a meaning in common. These two processes usually go on.

The internal changes that will have an influence on behaviour may be the effect of learning or exercise or use or practice. Through learning, the child acquires competence in using his heredity resources. He must however have some opportunity to learn. A child may have mechanical aptitude but if in the environment he does not get a chance to play and manipulate different mechanical activities then his mechanical aptitude will not develop. But in many studies it has been found that it is not possible to get a child to skip a grade in development by giving him additional or unusual opportunities. In many studies it has been found that the gain a child gets from opportunities to practice, use, or exercise a particular skill is determined by his level of maturity. Some learning comes from practice or repetition of an act. Such learning may consist of

limitation, in which the child consciously copies what he sees others do or it may consist of identification, in which he attempts to adopt as his own—the values, attitudes, motives and behaviour of those he admires or loves. Learning may also come through training i.e. from selective, directed and purposive activity in which the child is directed in his behaviour by adults or older children. Most forms of learning cannot take place until children are 'ready' both in general bodily development of muscles, nerves, and physical proportions, and in interest and willingness to learn.

Learning in relation to maturity level : A child at a certain level may not be ready for learning one form of activity but ripe for learning another. The influence of the child's level of maturity is revealed not only by the fact that he can or cannot profit from practice or can learn much or little at a particular time. The influence is seen also in the nature or quality of what he learns. Before a child can walk, he can learn to play ball but only the kind of ball play of which a child at that level of development is capable of. Accordingly some skills learned at one level of maturity may need to be relearned to a certain degree at least, when a child, after a period of disuse tries to perform them again.

Maturation is an orderly sequence of events determined by the growth of neuro-muscular structure. Learning, on the other hand, is acquisition of new skills, due to environmental stimulation. The development during the pre-natal period comes mainly from maturation and is very little dependent upon activity, resulting in foetus which are well developed and active and which acquire skills more readily in post-natal life than those which were less active. However, post-natal maturation and learning are closely inter-related. Maturation and practice go hand in hand. Without sufficient maturation practice is ineffective. Without practice the ability which has matured may disappear.

The child learns many things from society and the neighbourhood where he lives. If he is physically and mentally well developed, he assimilates and accommodates more from experiences than one who does not have a well developed structure. Development thus depends on the interaction of heredity-environment and social and cultural forces of the environment.

Piaget has said that, the child tries to adopt himself to the environment and in doing so he acquires new behaviour in a coordinated sequence. This concept of coordinated sequence automatically confirms the notion of physiological maturation of the organism. Learning helps in acquisition of new behaviour, but the sequence in which different developments occur

depends upon the maturation or aging. Maturation sets the limits, beyond which development cannot go even when learning is encouraged. Gesell has said : "The intrinsic growth is a gift of nature. It can be guided, but cannot be created, nor can it be transcended by an educational agency."

The relationship between maturation and learning can also be examined from the point of view of readiness. The developmental cognitive theorists like Piaget and Kohlberg believe that a child cannot learn unless he is ready to learn. Whether one talks of motor activities, sensory conditioning, or higher form of learning, maturational readiness of the physical and mental apparatus of the child is a must. Many studies show that until a child has readiness to learn, training in any particular activity is useless and may even establish negative feeling towards the activity which will retard learning. On the other hand, if he is ready he may display this fact by showing an interest in the activity. At such a point he will benefit greatly from practice and teaching in the activity. He will, in fact, be eager to learn and will practice the newly developing skills.

Importance of the study

A study of psychology of childhood, if consciously and intelligently pursued, provides a rich background of information about children behaviour and psychological growth under a variety of environmental conditions.

The study of child development provides information about psychological scale for appraising a child's developmental status and provides certain "norms" of behaviour and growth for comparative purpose; provides understanding of basic psychological process like learning, motivation, maturation and socialization. It helps parents to plan activities and experience for their children and to take proper care of their children by developing a proper understanding with them thus fulfilling their needs.

It provides knowledge of the general principle of development with which critical evaluation of new trends and "fads" in child care and training becomes easier. It supplies suggestions for guiding the psychological growth of children who experience difficulties in adjusting to adults, children and other personal and natural components of their culture.

The teachers and parents can have the knowledge of the pattern of development of a child. For example, neither all parts of the body nor all aspects of mental growth take place together. Memory for concrete objects develops during the early years, whereas memory for abstract materials develops in the later years. The power of learning is highest in the early years.

Furthermore, extended study of this scientific area promotes a better understanding of adolescent and adult behaviour. It gives detailed knowledge about the relationship of heredity and environment. These two are responsible for human growth and development. The child gets his mental and physical qualities from his parents, but development of these qualities is affected by his environment.

Child development also explains problem behaviour of children which are expected at various stages and suggests various ways to handle these. Thus, a mother can understand better what behaviour is the characteristic behaviour at what stage and which behaviour is the problem behaviour of that particular stage. It also provides knowledge about the nutritional pattern and nutritional needs of children. The parent-child relationship is one of the most important factors of child development. Many individuals in society show evidence of maladjustment and serious emotional disturbance, causes of which lie in an unhealthy relationship between parents and children.

In addition to the above knowledge, child psychology is important for every individual as it gives additional information about character formation, personality development, health and sanitary rules, simple diseases and immunisation to develop the child into a healthy and balanced youth.

It therefore seems important to understand the child because every stage of childhood is itself important and also because an understanding of the child gives a better understanding of all the effective characteristics the adult, as well as the foibles and idiosyncrasies of later years.

Disorders of genetic development

Chronic recurrent infective diarrhoea and milk allergies and diseases like diabetes mellitus and diabetes insipidus also are the causes of growth retardation. This retardation is seen frequently among children having congenital heart disease and abnormalities of urinary and nervous system.

The endocrine disorders in children are also the cause of growth disorders. The childrens having this disorder appear normal in height and weight at birth. The delay in growth is observed usually after one year. Growth is regular but slow. They gain less than four cm height per year.

Genetic disorder is another prime cause of growth retardation. In these children the height is below the mean. The parents are of short stature and the height can be related to the mean parental height. However for these children the gain in height is more than 4 cm per year and the velocity of growth is within the normal range for the age and body proportions are normal. Certain inherited metabolic disorders are also associated with short stature.

Emotional deprivation also leads to dwarfism. Children who lack security and emotional warmth of a home, like those brought up in orphanages and broken homes, may remain small in size. Inappropriate psycho-social environment, adversely affects the food intake, absorption and utilisation of nutrients and such children may also feel physically neglected. Among the children suffering from emotional deprivation, the synthesis of growth hormones may also suffer. The body proportions of such children are observed normal. When proper emotion warmth and security is given to these children, they tend to catch up growth and with the proper emotional security the level of growth hormone also returns to normal.

The Birth of the Child

Introduction

After approximately 10 lunar months in the protection of his sheltered pre-natal environment, the newly developed individual is born. Birth means the coming of a human being who few months earlier was no more than a single cell. Life does not begin at birth but at the time of conception. Birth is just an interruption in the normal development of the child caused by the change in environment from that of the mother's body to that of the world outside the mother's body. At birth he looks helpless and most of his activities seem to be aimless. But the changes come quickly, even within the first few hours of birth. Some of his earliest activities are well directed. As short time, shows sucking movement as though ready to take his first meal. This is called a natural instinct which a child has.

Gradually his movements change into countless skills. No two new born infants are exactly alike in size, in appearance or in the stage of development.. Many of the personal characteristics that set a child off as a distinct and unique personality, different from his other brothers and sisters are established within a few months and probably within few weeks or days after birth.

There are few steps in the process through which a child comes into being. The first step is conception, the next step is the process of being born and the third step is the phase during which a child comes into being a separate or aware of his existence and his identity. This phase begins after a child is born. Sign of self awarness appear during the first year or two of life. The process of becoming a distinct self and finding one's self, discovering what one can do, and who and what one is might be an important feature in the life of the young child, and it is not limited to childhood. The phase of development continues as long as a person lives. The third phase unveils the child's existence as known and planned by himself and as realized through his direct personal experience. It includes the process through which a child discovers his resources and properties, his reaches and limits and seeks to shape his ways.

Psychology of Pregency and child birth

In the environment that surrounds a new born child there is much that is obvious to the eye but also much that can not be seen. There is invisible environment consisting of the thoughts and feelings, the attitudes, desires, hopes and expectation of members of his family. If all goes well with the mother, the composite of thought and feeling will offer the child a comfortable place. His mother will be drawn to him with the feeling of pride in his role as one who has brought forth a child, and she will be drawn, to him with sentiments that no man can know until he has had the experience of being a father.

There are many traditional beliefs about the mother's activities and about the different conditions within her body which are believed to influence either mildly or seriously, the child developing within her body. It is believed that the psychology of mother during pregnancy has considerable effect. on the personality of the child. The environment which surrounds a child before and after birth determines his personality. There have been theories to the effect that a woman during pregnancy is likely to become little odd, that she is more susceptible to insanity, that she may develop peculiar cravings and make irrational demands. Actually, the psychology of a pregnant woman is likely to show a continuation of the psychological tendencies and traits which she possessed before she became pregnant. The pregnancy may give added intensity or new emphasis to emotional tendencies. If a mother has a warm welcome for motherhood, and is a realistic person with healthy attitudes towards herself and others, pregnancy will be quite a trial at times. If there are such special difficulties as financial problems, heavy duties in the home. complications due to the fact that other members of the family become "difficult", pregnancy will be a real bad experience. Pregency involves a process of growth and also taking a chance with one's own role in life and with the destinies of other person. Pregency is a chance a woman very definitely takes when she brings a new human being into the world. This, like any other period of life, is likely to be accompanied by some struggle and apprehension and pain. Normally the woman enters this phase of life with some fear and foreboding but on the other hand she has in mind that it is also something challenging and rewarding in experience and the prospect.

It is experienced that a mother having healthy attitude towards herself probably views her pregnancy in the same manner. On the other hand a mother who ordinarily blames herself quite severely, one who suffers from feeling of guilt, is likely to have guilt feeling in connection with pregnancy. This types of mother worries she has not done the right thing she has

forebidings that the child will turn out to be deformed or subnormal because of something she has done or not done. She blames herself in advance for something that will never happen. Such feelings of guilt are normally more intense when the mother has misgivings about having a child or when she resists the idea of being a mother.

The mother may bring added burdens if she is very prudish and squeamish about the physical condition of her body. On the other hand a mother who bears a child is content with her role as a woman and accepts herself as a woman, the bearing of a child is a way of confirming and expressing her womanhood. If the mother is contented in her relationship with her husband, the bearing of a child may be a happy outcome and expression has an effect on this. Thus in simple words the mother's emotional experiences have an effect on the growth of the foetus. Some go so far as to hold that if the prenatal period is a happy one for the mother, the disposition of the baby will be made cheerful and happy. A prenatal period, on the other hand marked by emotional disturbance, fears and worries will result in a morbid, sad, introverted personality of the baby. If the emotional experiences of the mother influence the developing foetus in any way, it is through the glandular changes which take place in her body during pregnancy. It is also seen that the women who are not happy about their pregnancy usually experience more nausea and vomiting than those who are happy.

Pregnancy may add a happy quality to good relationship that already exists between husband and wife or aggravate difficulties that already prevail in other cases. The more fully a woman accepts herself and the more fully the father and mother accept each other, the more the condition of pregnancy represents something that is welcomed.

World surrounding the new born

According to medical standards, the period of the new born extends from birth to the end of the second week. Throughout the entire span of life, the individual is required to make adjustments to new environmental conditions and to the new conditions which take place in his body. The major change, or adjustment is at the time of birth when he has to adjust from the state of being a parasite to being an independent individual. While these adjustments are being made, the new born infant usually loses weight. This continues for about a week and after that he regains the weight as he adjusts to the new environment. The important adjustments which a new born is expected to make are the adjustments to temperature change, adjustment of breathing, taking of nourishment through the mouth and adjustment to elimination. The ability of a new born to adjust to all

this depends mainly upon the type of birth he has experienced, the length and severity of labor and the type of pre-natal environment specially during the last few months. The pre-natal environment likewise plays a role of major importance in the early adjustment of life. Intense and prolonged nervous and emotional disturbances of the mother during the last months of pregnancy have been found to cause a hyperactive phase in the foetus. This hyperactivity may lead to feeding difficulties, irritability, sleep problem, and many gastro-intestinal disfunctions.

The birth is an ordeal for the human infant as well as for the mother. The child is thrust from the warmth and protection of the womb where nourishment flowed through him and where he was not even called upon to breathe. He now must exert effort to obtain food, draw his own breath and at times gasp and cough and struggle to obtain it. He is exposed to changes in temperature, rays of light strike his eyes, and sound waves that beat upon his ears. Instead of floating in fluid, he now lies loose, naked and unenclosed, free to move as his limbs thrash in empty space. His head sags if not supported. If the child who is being delivered has the ability to sense these changes, we might expect that the process of moving from the womb into the world would have a staggering psychological effect.

There have been many conjectures about this situation. It is believed that the birth cry is not just a noise mechanically brought about by the first intakes of air, but a cry of pain or protest or fear. The child who is born is a very immature and unfinished creature. His higher brain centers and the rest of his nervous systems are not capable of functioning as those of an older person. His equipment for sensing and feeling is not fully developed. In the development process from birth to the end of life there is striving and struggle.

Physical development at birth

Adjustment must be made to the post-natal environment by the new born as discussed earlier. Not all new born infants are capable of survival. No two new born infants are exactly alike in size, in appearance or in the stages of development, they have reached in all areas of their physical, mental and behavioral growth. However the pattern of development is similar for all.

Size. The average weight of the new born infant is 7.5 pounds and the average length is about 19.5 inches. Weight ranges from 3 to 16 pounds. Male infants are generally slightly larger than female infants. Variability in birth size is dependent upon many factors like maternal diet, economic status of the family and ordinal position. The mother's diet during the last months is specially important. The economic status of the

family affects the quality and quantity of diet and this in turn affects the infants size. Ordinal position also affects the birth size of the infant, with the first born infant averaging less than the later born. Fetal activity especially when excessive, may cause the infant to be considerably under weight for his body length.

Loss of weight occurs during the first few days. It is also seen that the first born infants generally lose less than those born later. After the third and seventh day the infant normally regains the weight.

Infantile features: The eyes are normally grey but gradually this changes to the natural colour. The eyes show uncontrolled motion and roll in meaningless fashion, without relation to one another. Due to inactive tear glands the crying normally is not followed by tears. Neck is weak and short.

The muscles of the new born are small, soft and uncontrolled. The bones are composed chiefly of cartilage, skin is soft and pink in colour. The head of the infant is about one fourth of the entire body length. The face appears broad and short because of lack of teeth. Arms, legs and trunk are small in relation to the head. The abdominal region of the trunk is large and bulging.

Emotions of the new born child

The child's awareness of his existence comes partly through the sensory experience like sight, sound, touch, taste and other sensations. Feelings comprise essential elements in his awareness of himself. Most infants manifest what seems to be a great deal of emotions. They cry, squirm, wiggle, kick and thrash about in a manner which can easily be interpreted as sign of great excitement or distress.

Freud and many of his followers are of the view that the young infant is subject to profound emotional experience. According to few other psychologists, the new born is equipped with a well developed set of emotional responses. These groups can be divided into two sets 'pleasant' or positive response, and the 'unpleasant' or negative response. Pleasurable responses are elicited by patting, rocking, warmth, snug holding and allowing the baby to suck. Unpleasant responses, on the other hand are elicited by changing the infant's position abruptly, by sudden loud noises, by hampering his movements in or undesirable position. The child, at birth has only a status of diffuse excitement.

At this time the new-borns' emotions are diffused and lack in differentiation. By the end of the first year the baby develops fear, anger, jealousy, envy, curiosity, joy and affection.

The Physical Child

Trends in physical growth

At an early age and throughout life a child's image of his body and its properties are important features of the conception of himself. A young child is especially reminded of his body size and his physical strength. Being small has much the same meaning as being older and having more knowledge and self directive. Much of the child's first groping in the process, discovering who and what he is takes place in connection with a process of exploring the contour of his body, fingering and toying with his limbs, testing his reach and strength, turning and twisting and struggling to manipulate things. In early years the child's physical and mental activities and abilities are closely interwoven. The popular idea is that the relationship between physical and mental growth is one of compensation.

During the period of physical growth, continuing changes in the proportion of body take place. The young child's head, for example, is comparatively very large at birth and does not increase nearly as much in size as does his total stature. There is considerably larger increase in the length of the trunk, an even greater increase in the length of the arms and by the time full stature is attained, a still greater increase in the length of the legs.

Changes in height and weight

Growth of a child is considered rhythmic, not regular. A child does not grow a given number of pounds annually or a given number of inches in height. Growth comes on the contrary, in cycles or waves, the 'periods' or 'phase' of growth. The study of growth cycles of children have revealed that there are four distinct periods, two characterized by slow growth and two by rapid growth. From birth to two years, there is rapid growth. This is followed by a period of slow growth upto the time of puberty or sexual maturing, being usually between 8th and 11th year. From then on until fifteen or sixteen years, there is rapid growth.

The body proportions change systematically. In an adult for example, the head is about one eighth or one tenth height. But on the other hand for toddlers the head is about one quarter of the total body length. The development of different body parts is uneven. Hands and feet grow to their full adult size earliest, followed by the arms and the legs. The trunk is usually the slowest part to grow.

Development of bones, muscles and nervous system : The development of bones leads to their increase in number, size and hardness. The hands, wrist, ankle and foot, show the greatest increase in number of bones. In the first year old child there are only three bones in the wrist and hand while by adolescence there are 28 separate bones. These 25 bones develop over the period of childhood. During infancy, some of the bones are mostly cartilage and softer, with a higher water content. This process of bone hardening is called ossification. This process varies for different parts of the body. This process helps the baby to set up or hold up his head. As the bones stiffen, the baby is able to manipulate his body more surely. He becomes less floppy. Before this process starts the baby can wish himself in all sorts of postures (he can suck on his toes or put his foot behind his head). With the change in composition of the bone and the increase in number, the shape also changes. This is noticeable in the long bones of legs and arms.

The baby is born with all the muscle fibers which he will have throughout his life time. Like bones and muscle tissues also increase. An adolescent is quite strong, which clearly shows the rapid increase in muscle tissues. This change is clearly marked in boys than girls. But both the sexes do get significantly stronger.

The changes in the height, weight or change in muscles and bones can be seen easily or measured, but there are two important types of changes in the body that are not so easy to perceive. These are the changes in nervous system and changes in hormones secretion of the various endocrine glands.

The development of brain or nerves are not finished at birth. At birth the parts of the brain that are most fully developed are those contained in what is called a "mid brain". This part of the brain helps only in regulation of basic things like attention, habituation, sleeping, walking and elimination. These are the things which a new born is required to do. Cortex the grey matter that wraps around the mid brain which controls bodily movement, thinking, language is the least developed part at birth. This part is present at birth but cells are not well connected. During first two years the new cells are added to this part and the existing cells become

The body proportions change systematically. In an adult for example, the head is about one eighth or one tenth height. But on the other hand for toddlers the head is about one quarter of the total body length. The development of different body parts is uneven. Hands and feet grow to their full adult size earliest, followed by the arms and the legs. The trunk is usually the slowest part to grow.

Development of bones, muscles and nervous system : The development of bones leads to their increase in number, size and hardness. The hands, wrist, ankle and foot, show the greatest increase in number of bones. In the first year old child there are only three bones in the wrist and hand while by adolescence there are 28 separate bones. These 25 bones develop over the period of childhood. During infancy, some of the bones are mostly cartilage and softer, with a higher water content. This process of bone hardening is called ossification. This process varies for different parts of the body. This process helps the baby to set up or hold up his head. As the bones stiffen, the baby is able to manipulate his body more surely. He becomes less floppy. Before this process starts the baby can wish himself in all sorts of postures (he can suck on his toes or put his foot behind his head). With the change in composition of the bone and the increase in number, the shape also changes. This is noticeable in the long bones of legs and arms.

The baby is born with all the muscle fibers which he will have throughout his life time. Like bones and muscle tissues also increase. An adolescent is quite strong, which clearly shows the rapid increase in muscle tissues. This change is clearly marked in boys than girls. But both the sexes do get significantly stronger.

The changes in the height, weight or change in muscles and bones can be seen easily or measured, but there are two important types of changes in the body that are not so easy to perceive. These are the changes in nervous system and changes in hormones secretion of the various endocrine glands.

The development of brain or nerves are not finished at birth. At birth the parts of the brain that are most fully developed are those contained in what is called a "mid brain". This part of the brain helps only in regulation of basic things like attention, habituation, sleeping, walking and elimination. These are the things which a new born is required to do. Cortex the grey matter that wraps around the mid brain which controls bodily movement, thinking, language is the least developed part at birth. This part is present at birth but cells are not well connected. During first two years the new cells are added to this part and the existing cells become

bigger. This process is half complete by six months and seventy five percent complete by the end of second year.

Then change in the hormone secretion of the various endocrine glands take place. Thyroid hormone is present about the fourth prenatal month. Growth hormone is produced by the pituitary. It starts secreting as early as ten weeks after conception. The rate of growth from birth to adolescence is governed largely by the thyroid hormone and by the pituitary growth hormone. Thyroid hormone is secreted in greater quantities for the first two years of life. The sex related hormone (secretion from testes and ovaries) remains at extremely low level during nine to twelve years after birth as it is not of any particular importance.

Motor development

The new born can display a variety of complex motor reflexes, some of which are necessary for survival. Two basic trends describe the child's motor development, especially during the first few years :-

The development moves from the head downward is called CEPHAL-CAUPAL

The development from the trunk outward is called PROXIMQDISTAL.

The most important development of children in the first year is the ability to control many muscles and the coordination of different maturing systems. The new born is helpless to the extent that he cannot move his body and is unable to grasp anything placed near him. By the end of first year the child is able to coordinate different parts of his body and controls different muscles. The child's abilities to sit, stand, walk exemplify the influence of maturation development. Each of this activity occurs in sequence during the first two to three years of life as a result of child's use of his limbs in coordination with maturation of certain tissues and the growth of bones and muscles. The motor ability of the child helps him to cope with his environment, and modify his physical health.

Principles of motor development

1. *Motor control comes from maturation and learning* : The pattern of motor control is the same for all children, but comes mainly from maturation and learning. Maturation is a primary factor in the appearance of various motor skills such as vision and other motor movements which will later branch off into running, jumping and skipping. Jumping over a fence or catching ball or playing marbles which require bending become more effective with maturation and learning.

2. *Motor development follows a pattern* : Motor development follows a predictable pattern. The baby can first raise his head before he can raise his shoulders; can move his shoulders before he can lift his stomach, and so on.

3. *Motor development proceeds from the mass to the specific* : As practice proceeds, mass responses become progressively displaced by more specific responses. For example, stimulation of the food at first evokes activity from the entire body and, a few weeks later, it evokes merely a purposeful withdrawal of the food.

4. *The rate of motor development is different for individuals* : The rate of reacting at every stage is different for every individual. For example, the vast majority crawl before they walk, however, some walk before they crawl.

Trends in motor development

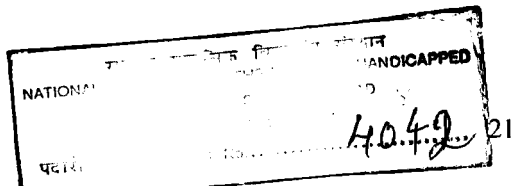
As already discussed motor development adopts two directions and occurs in four major areas :- the head region, the trunk, the arms and hands and legs and feet.

The head region : There is always an upward head movement when the new born is placed on his stomach. At the age of three to four months the child learns to coordinate the movements of his eyes and moves his eyes in the direction of an object slowly. Slowly the control comes over the lips and he learns to smile, spit and make simple sounds. When the child reaches the age of five months he learns to raise his head when lying on his back and can even hold his his head up when sitting with support.

The Trunk region : After the development of head region the control over the trunk muscles develops. The child learns to turn his body to a side at the age of two months. At six months he gains control over his body and now can turn his body completely around and also tries to pull his body to a sitting position with help. Slowly with age comes the bowel and bladder control.

Arms and hand control : A two weeks old child can make many defensive movements. At the age of three months the child tries to hold a toy or tries to grasp by bringing his both hands in front of the body. This kind of grasping is called 'Primitive grasp'. But as the age advances, the child gets a better grip and can grasp an object more securely and can even pass his toys from one hand to another and tries to bring every object close to his mouth. By 12 to 15 months the grasp is much better and he tries to scribble with a pen or pencil.

The physical child



Leg Control : The most meaningful leg control comes when the child is six months old. He learns to crawl now. The next step is pushing the body forward on hands and knees. At the age of ten months he can stand with support and by the time he completes his first year he can walk with little support and quickly gets control over leg muscles and soon walks without support. By 18 months he can even climb steps on hands and knees.

Factors controlling motor development

Sex : During infancy no sex difference are seen in activity level. But as the child enters social play age, these differences can be seen. The girls are seen playing passive games as compared to boys who indulge in blocks building etc.

Poor physical status : Motor development to a great extent is controlled by physical status of the child. It is generally observed that the child with sound physical health has better motor coordination as compared to the one having poor physical health. The reason for this can be considered as poor physical exercise or practice needed to develop skills. The physically unfit child does not get full opportunities to do the proper exercise.

Culture : Many studies show that culture plays an important role in the development of motor skills. Each parent has its own concept of bringing up the child. The hunter trains the child to walk first.

Intelligence : Intelligence plays an important role in the development of motor activities specially during the first year of life. The dull children or less intelligent take longer time to sit, stand or walk.

Individual differences : The maturity rate of each child is different which creates individuality in motor development. Most of the children crawl before they walk, however, some walk before they crawl.

Emotional development during early years

From the 'beginning of life' infants are social beings. Children's social relationship and emotions are central aspect of early development. During most of this century, psychologists have emphasized children's relationship with people who care for them and regarded this interaction as the major basis for emotional and cognitive development. Only during the last decade scientists have studied the influence of father, siblings and other characters as well as children's own temperament or development. Infants develop close attachments to the people who were frequent source of pleasure either because those people soothed and played with them or because they reduced the discomfort of pain, cold, hunger or psychological distress. The emotion covers conditions of both positive and negative

conditions. The condition in which a child feels disturbed or distressed is known as negative emotion. While on the other hand a positive condition is the one when a child feels zestful or happy. The emotions play an important role in the life of a child contributing to the social and emotional expression.

The child is capable of profound emotional expression even before birth. At the time of birth the child has simple emotions but as he grows, more complex emotions are developed through maturation and learning. The newborns have diffused types of emotions. The number and kind of emotions are different for different age groups. The young children express their emotions in direct ways, and with maturation show the emotions in less direct ways.

Infants' emotions : The emotional state of infants differ from those of adults. Partly because infants do not consciously evaluate their feelings the way adults do. The adults are aware of their internal feeling states, they evaluate them and in doing so, create emotional states that are not possible in the infant.

During the first, three to four months, infants display many reactions suggesting emotional states. One is characterized by motor quieting and change in heart rate in response to an unexpected event. On the other hand the change is characterized by increased motor movements, closing of eyes, increased heart rate and finally crying. These changes are in response to cold, hunger and pain.

During the period between four and ten months, new emotional reactions appear. One of these is fear of the unfamiliar. This emotion is seen when they encounter with a strange person or an unfamiliar event. Eight months old infant reacts with a facial expression that is perceived as fearful, along with these expressions noticed at this age is 'anger to frustration, which is signalled by crying and resistance when an activity is interrupted or an interesting object disappears. During the first year of life the infant starts showing sign of anger or happiness in another person. The one year old becomes upset and moves away when some one shows anger and display. The affectionate or jealous behavior is also seen at this age.

As discussed earlier the emotions of infants also mature as the child matures. For example, when the child is old enough and is physically and psychologically able to move further away from adults' supervision, his fear of the unfamiliar gradually declines. The emotional expression of a child is also influenced by learning.

Childhood emotions

Fear : Fearfulness has been defined by the psychologists as “inhibition to the unfamiliar”, an initial timidity, quietness and withdrawal in response to unfamiliar people, place or objects. On the other hand fear can also be defined as a form of defensive flight and circumstances which threaten a child’s well being.

The source of fear : The sign of fear in a child appears in clearest form around the first birthday. Children of this age are susceptible to fear of strangers. The fear of unfamiliar or fear without prior conditioning are also results of exposure and learning. Which means that in the course of child’s experiences, there are fears which arise by virtue that are not generally fear producing. The fear of unfamiliar objects or loud noise is very common, in the first two years. These decline slowly and practically disappear by middle childhood. As the child passes from pre-school to the elementary school age, he develops courage and skill and learns to fear less.

Children of six years show fear of the supernatural such as ghosts and witches and of the elements such as thunder, rain, wind and fire. By seven years children show fear for war, spies, burglars and person hiding under the bed. Along with these the other fears like fear of failure and of not being liked by people are also visible. As they grow the types of emotion also change. At the age of 10-12 years, the children are fearful of things as being in the dark, animals, crowds and heights. fourteen years old shows fear of low grades at school, world conditions and not being liked by parents.

Imitation is a simple learning process through which the child develops many fears. The mother who is afraid of dogs, thunder and lightning, unwillingly displays more of her anxiety to the child. Children who have been ill, frequently seem to exhibit more fear than healthy children. The reason being that physically weak children lack physical strength and may also feel anxiety of parents that they may die.

Anger : Anger, like fear is a response to threatening circumstances. But here the impulse is to move against, rather than to move away from the source of the disturbance. The circumstances which provoke anger range from those in which a person is restrained from bodily movements to circumstances in which he perceives or believes that he might be under attack. Every individual has different intensity of experiencing anger. Some children can withstand anger provoking stimuli better than others.

Source of anger : At the early stages anger responses are direct and primitive. As the children grow these responses become less violent and more symbolic. A child's susceptibility to anger at any given maturity level is influenced by the limitation and learning. Interference with physical activities, restraints connected with physical (bathing, dressing) gives rise to anger.

During the first few months the child shows his anger at his inability to make himself understood through his babbling sounds, particularly when there is some change in his body routine. At the age when the child's physical habits are getting established, the interruption of play arouses anger and they tend to indulge in play conflicts with other children. At the age of two the child shows his anger by throwing himself on the floor or screaming or tantrums and even by hitting or biting other people. But as he grows his expression of anger changes into language expression e.g. calling names, bragging or boasting, making sarcastic or hurtful remarks and even by excluding the friends from their social group. At seven to eight years of age the child has his relations with people other than his own family. At this stage his pride, his independence and self respect are the most important causes for anger.

Aggression : Psychologists have described aggression in many ways. Some have defined aggression as behavior that hurts or has the potential to hurt another person or an object. It may be physical attack, (hitting, kicking, biting, or taking away objects forcibly). But if a child throws open a door, hitting a person standing on the other side, we would not ordinarily call it aggression unless the child knew the person was there.

According to the other group of psychologists, aggression is behavior that is intended to harm another person or object. This definition includes the behavior that is normally called aggressive. A child who pushes another off a swing because she wants to use the swing may not intend to hurt the other but here the behavior would be considered aggressive. By the combination of these two definitions the aggression can be considered as the behavior that is clearly harmful to other, particularly when the child is probably aware of its potential for hurting someone. Or in a simple language, intentionally hostile actions are defined as aggression. Aggression must be distinguished from assertiveness. Assertiveness includes defending property or rights for example refusing to allow someone to take a toy. In popular language we often define an assertive person as aggressive.

Source of aggression : When the child reaches the age of 12 months, he begins to exhibit instrumental aggression—a behavior which he shows when he is with other children. This time most of his aggression concerns

with toys, children of his own age group, and parents or older children occasionally.

At pre-school and elementary years aggressive actions become less frequent and the form of this is also changed. At this age verbal aggression also increases. Now when they attack someone physically or verbally, they are more apt to have a hostile intent. Although a certain amount of aggressive behavior may be acceptable in each society, extremes of aggression lead to problems in the family, in school and in relations. Extremely aggressive children show more frequent aggressive actions and their behavior is quantitatively different from that of other children. They show more intense and prolonged aggression. The highly aggressive children also tend to persist and escalate their physical and verbal attacks when they get in a fight.

There are consistent individual differences in proneness to aggressive behavior that persists over time. It is generally observed that the children who are highly aggressive in early years are likely to be aggressive when they reach adolescence and adulthood. The non-aggressive children show temporary periods of increased aggression with the stresses, but extreme aggression that persists for more than a few months often presents a long lasting pattern of behavior. Moderate aggression is less cause of concern.

The intensity of aggression is different for both sexes. Boys are considered more aggressive than girls in almost all ages. Boys use physical aggression more frequently than the other sex. This difference is obvious from only the second year of life. Television is another source from which children, especially boys may learn aggressive behavior. Parents of aggressive children are often hostile and aggressive.

TABLE
PHYSICAL GROWTH OF CHILDREN

AGE	BOYS		GIRLS	
	Ht. in cms	Wt in kgs.	Ht. in cms	Wt in kg
Birth	45.9 - 51.7	2.4 - 3.4	45.9 - 50.6	2.2 - 3.3
1 month	51.2 - 55.6	3.1 - 4.77	48.1 - 56.6	3.2 - 4.5
2 months	53.2 - 60.6	3.7 - 5.7	52.0 - 59.1	3.5 - 5.2
3 months	57.1 - 63.8	4.7 - 6.8	53.8 - 61.6	4.5 - 6.2
6 months	61.5 - 68.4	5.5 - 8.3	59.7 - 67.7	5.5 - 7.9
9 - 1 Year	65.3 - 78.3	6.5 - 10.8	64.0 - 76.6	6.48 - 10.5
1 - 2 Year	69.6 - 84.4	7.2 - 11.6	69.0 - 81.4	6.8 - 10.9
2 - 3 Year	82.5 - 94.2	10.2 - 14.5	81.9 - 91.2	10.5 - 13.6
4-5 Year	92.2 - 110.8	11.4 - 21.8	92.5 - 108.8	12.9 - 19.4

The data are based on growth and dev studies conducted by the deptt. of peditrieries (All India Industries of medical science, New Delhi.)

The Thinking Child

Development of language in Children

Language is not just a collection of sounds. Young babies make different sounds, but we do not consider that they are using language. Usually linguists call this period the prelinguistic phases. Within this phase, there is evidence that development occurs in rough stages or steps. The language learning in children takes no endless hours of careful training by parents. It happens naturally and rapidly in the course of the first few years of life.

The possession of the ability to speak is one of the most distinguishing characteristic which sets man apart from the lower animals. The language word has a wide variety of meanings. The forms of language are also different. It can be written, spoken or sign and gestures. The relationship between language and thought is very complex. The words and sentences play significant role in our everyday reasoning, in problem solving and in coding and storing knowledge. The language is closely related with learning and memory. Language development closely parallels other developments in the child related to postural control, feeding behavior and dentition. A very young child learns to differentiate his mother's voice and also learns to understand the meaning of crossness in her voice.

To communicate effectively the child requires more than following grammatical rules and knowing the meaning of words. Without specific instruction, children somehow acquire a working knowledge of the rules of grammar or syntax. They also need to learn how to use language in interaction with others, to make clear their intentions and to accomplish goals. Language is acquired with amazing rapidity, particularly after children speak their first word, usually sometimes around the end of the first year.

Course of language development

The basic units of a language are words. Each word is made up of phonetics. Individual speech sounds that correspond roughly to the letter

of the alphabet. Each language has its own rules governing the combinations of phonetics, permitting some combinations and prohibiting others. In order to understand and communicate, children must be able to hear and produce the particular sounds and combination of sounds of their language as adults do.

Crying: From birth to about one month of age, very nearly the only sound an infant makes is a cry. Much of the helplessness of the newborn infant stems from his inability to communicate. He is unable to express his needs and wants. At this time infants may have several different cries with somewhat different sound pattern, and those different sounds may well signal different kinds of discomforts or problems. But most of the time listeners have a hard time linking a specific pattern to the baby's particular problems. such as hunger or pain.

Cooing: Starting at about one month, the body begins to add some non-crying sounds to his repertoire, of which a kind of cooing sound is the most common. The vowel uuu is heard sometimes for longer stretches. This sound seems to be associated with pleasurable time. It may at times, signal social encounters between the parents and the baby, where whole conversions take place.

Babbling: At about five to six months, babbling begins. Infants combine vowel and consonant sounds in strings of syllabus like ba ba ba or da da da that sometimes sounds like a real speech. Babbling generally increases until the child is nine and twelve months of age and then decreases after the first real words are produced. Many children continue to babble when communicating with parents or talking to their dolls. The amount and frequency of babbling do not predict later linguistic achievements.

Maturation rather than learning determine the onset of babbling. Deaf children who can not hear their own or other sounds begin to babble at the same age that hearing children do and the form of their babbling is similar. However, in children who can hear, this babbling continues and increases in frequency over time. It gradually declines in deaf children, which suggests that this babbling depends on feedback.

In the second half of the first year, babies begin to exhibit clear intentions of communicating before the first real word emerges at about the age of eight to twelve months, At this stage the child can give examples of sounds which he appears to understand.

First word: Infants know and understand more words than they actually utter. That is, comprehension develops earlier and more rapidly than production. According to one study children understand 50 words,

on the average before they are able to produce. First words are generally spoken around the time of the child's first Birthday. On an average the vocabulary a child uses by the age of 18 months included about 50 words.

Adding new words : The first word is an event that is eagerly awaited. The rate of acquisition of the early words is fairly slow. It is found in a study that most of the children took three to four months after the first words to achieve a ten word vocabulary. Each child's selection of words is difficult, but each vocabulary seems to contain great many tables for things the child can play with or manipulate, that makes interesting noises.

Later vocabulary : Beyond the first 50 words, as any parent knows, vocabulary growth continues at a rapid pace. Mere addition of words to the child vocabulary is the growing ability to string these words into sentences. The first two words usually appear at about 18 months. For some months after this, the child continues to use single words as well as two-words sentences. As the child grows his one-word utterances drop out almost completely, and he begins to use three and four word sentences and tries to create more complex combinations of words.

Later language development : By the age of five or six a child's language is remarkably like that of an adult. The child can construct most kinds of complex sentences and can understand most. Despite this excellent skill, however there are some specific kinds of 'errors' that still occur and some systematic changes that take place over elementary school period. At this age children have difficulty with passive sentences.

Individual difference in language development : The rate of development differs considerably from one child to the next. The first word usually is heard when the child is somewhere around one year old. Yet it is not at all uncommon for the first word to be delayed until 14 or 16 months. Few children don't speak a word until they are 18 months old. These children with delayed speech are normal, not retarded or brain damaged.

Sex difference : The general concept about women is that they are more talkative more 'verbal'. Among infants and young children, there are relatively few sex differences, and few people disagree about these differences. In early research the results showed that girls were considerably superior in language development in the first few years of life. Among adolescents, girls seem superior on the average. But this definitely does not mean that every female is better than every male.

Social class difference : The usual assumption is that poor children have less good language. These poor children seem to know fewer words. The clear reason for this is that middle or rich class children get to talk

more from the earlier days of life and are exposed to many more words. These children score higher practically on all standard measures of linguistic ability—vocabulary, sentence structure, sound discrimination and articulation. The reason for this difference may be different types of speech used by mothers in these social-class groups. Lower-class mothers, use a restricted language code, talking to their children in short, simple and easily understood sentences.

Early verbal exchange : In conversation initiated by adults, two year olds often simply repeat what the adult says. Three-year olds take turns with an adult conversational partner and about half of their responses add new and relevant information to what the adult has said.

Intelligence : The intellectually gifted child usually speaks earlier and more effeciently. While the mentally defective child speaks later and articulates poorly. Children of high IQ show marked superiority both in size of vocabulary and in length and correctness of sentence structure. Most psychologists agree that intelligence advances are fundamental for language development. Cognitive understanding is related to the production and comprehension of words in different ways.

Maturation : As the child gains control over his various communication mechanisms his helplessness is reduced rapidly. As the control of tongue and lip proceeds and dentition provides the frontol wall of the oral cavity, cortical control of speech sound begins, and the infant voluntarily imitates the speech of others and immitates his own speech sounds. This readiness to imitate occurs at about the age of 12 months and between the ages of one to five years, the child masters the spoken language normally. Babbling which begins at about seven months coincides approximately with standing up, and first real word comes with standing.

Hearing : Babbling sound which is produced at about five to six months is to an extent determined by maturation. Deaf children who can not hear their own or other. sound begin to babble at the same age that hearing children do. It seems probable that infants think before they talk, but once they talk, speech influences thought. The babbling of a deaf which is like a normal child gradually declines. This suggests that the continuation of babbling , depends on feed-back children hearing themselves) and on social stimulation (hearing others and responding to them).

Health : The first two years of a child's life are considered most important from the language point of view. Cognitive development directs language acquisition, the development of language depends on the development of thought. The severe and prolonged illness during the first two years of life delays the begining of speech and the use of sentences. Most of the needs are readily fullfilled by the adults around him, thus he has little incentive to talk.

Family relationship : One of the most important function of language is communication, Babies communicate before they speak, using actions and gestures to express emotional states and to get help in gratifying needs. The child needs to communicate sufficiently with more mature speakers to obtain information. The mother is usually the child's first language teacher. It is her voice that is echoed and her talks that elicit cooing. The babies normally use the same language of the adults and try to copy the full sentences too. Father also plays an important role in language development among infants.

Personality : A shy withdrawn child, who avoids communication with others speaks less than the one who is a mixing kind and promotes communication with everyone around him. A bright but impulsive child seems to make more grammatical mistake and uses incorrect pronounciations than a less bright one who is calm, deliberate and precise in speech.

Other media. Television, radio etc have increasingly affected the languagee development of the young child. This medium exposes the child to many new conditions which help to increase the vocabulary.

The Social Child

Personality

By personality of a child we mean the sum-total of an child's properties as a distinct and unique human being. The outer dimensions of personality include a child's measurable characteristics. When we speak of a child's personality, we refer to the total quality, organisation and integration of his make-up and conduct. Many definitions of personality have been offered variously stressing the totality of a child's behavior as shown in his conduct, his reputation, temperament and character as judged by others and the inner organisation of his drives, purposes and attitudes. Among the component features of personality are a child's objectives, observable or measurable characteristic and abilities, his physical characteristics his bodily size and physique, and factors in the mechanics and chemistry of his body that influence the energy and speed of his movements and the nature and strength of his drives. These physical features influence not only what others see in a child but also what a child sees in himself, for an individual's conception of himself is affected by the physical properties of his body. The other features that are included in totality of a child are his aptitudes and talents, his intellectual abilities, his artistic skill and imaginative capacity.

To understand the personality it is important to take into consideration the inner components. This includes a child's image of himself, concept of his physical appearance and the importance of all parts of his body to his behavior and to the prestige they give him in the eyes of others. The psychological self-image is composed of traits that play a role of importance in his adjustment to life such as honesty, independence and helplessness. This self-image determined largely by the nature of child's relation with others. The concept of self which is acquired first by a child is most important and basic. This is acquired in family group environment. Other concepts of self are acquired later, in other group environment outside the home.

Development in relation to heredity and environment

According to psycho-analytic-theory the child's personality is largely structured in early infancy. Psychological development can be appraised in terms of inter reaction of a child's natural instincts and environmental factors.

The child's personality is the product of inter-play between influences in the environment and forces of heredity. It is believed that the foundation of personality come from the maturation of hereditary traits, but these are influences partly through learning in connection with direct social contact and partly through conditioning. As the effect of both heredity and environment are apparent in child's physical and intellectual development, in the same way the effect of both also appear in the aspect of child's personality. According to Shirley(1933) personality has its physiological basis in the structure and organization of the nervous system and of the physical-chemical constitution as a whole.

At the time of birth the personality of the child is not developed but the potential qualities are there. During the first ten days of life, difference in behavior are apparent in different babies. These differences mark the beginning of personality differences. As no two individuals have the same social environments, even if they have the same physical environment, they tend to show increasingly different personality patterns as they grow older. While certain personality traits change as the child passes through certain kind of experiences but each personality preserves, certain stability which does not change. In young children core are not well established, it can therefore be changed without much disturbing the total personality balance. The personality becomes less flexible as the child grows older because of the large and more fixed core of habits and attitudes. Favourable influence in pre-natal period, early infancy and childhood leads to the development of normal personality. Any unfavourable circumstances are bound to hamper. physical, mental and emotional development and thus making personality abnormal. It is apparent from the studies that the circumstances of a child's life can profoundly influence his personality environment no matter what his heredity may be. The inter-acting forces of heredity and environment are difficult to assess. It was noted in many studies that some children developed unexpectedly well even though they had an unfavourable heredity background and there were examples of some children whose mothers were close and warm but who were unable to respond to affection and disintegrated inspite of their mother's devotion. As in most aspects of development, there is always the question, which is more important for

personality-heredity or environment? According to the traditional views, the personality of child was believed to be a direct result of his heredity. This was believed because the people wear so certain that a child was born with a personality make-up that resembled one side of family or the other. Later it was believed that the growth of personality disorders were result of unhealthy environmental conditions and then major emphasis was laid on the role of environment. In our country where facilities for playing and recreation are minimal, the only and easily available source of entertainment for these young children becomes throwing stones at passing cars and making targets of street lamps. Should we consider these activities as behaviour problems, or are they the outlets of profound energy that these kids have? The answer to this question can not be given without giving weight to the environment.

Personality development-biological and socio-cultural

Each child's personality emerges from a complex biological system and a complex field of social forces. Every individual is similar to other in certain respect while in other respects he is quite different from others. The factors that bring about the similarity and the difference amongst the individuals are called determinants of personality. There are certain universal features of individuals while on the other hand, there are certain specific features. Universal features are determined by responses. In these situations, every individual acts in the same manner; on the other hand in specific matters, he acts in a different manner. The personality is an effortful striving, seeking unity. Whether we conceptualise it in terms of pushes from within or without, is not important. The individual is a dynamic pattern, seeking goals and need satisfactions in a manner, which defines him as a person. These motives are not satisfied in a vacuum. The outcome of the developmental sequence depends on the barriers encountered and the person's way of dealing with them. How much influence different factors will have on personality development of the child will depend to a large extent upon the child's ability to understand the significance of the factors in relation to himself.

The heredity and environment of the child are considered as the most important basic source of personality. However, as a child's genetic inheritance interacts with and is shaped by the environmental factors, there emerges a self-structure that becomes an important influence in shaping further development and behavior.

There are many views regarding effect of biological factor on personality development. The heredity shows specific informations which are transferred from one generation to other. At the time of conception,

each new human being receive a genetic inheritance that provides potentialities for development and behaviour, throughout the life time. This influences the development of traits more than any other factor. The eye-colour and, physique are perhaps the most noticeable features which are acquired through heredity. This plays an influential role in 'primary reaction tendencies', such as activity level, sensitivity to stimuli, and adaptability. Even very young babies reveal differences in their reaction to particular kinds of stimuli, and adaptability. Even very young babies reveal differences in their reactions to particular kinds of stimuli. Some of them are started at even slight sounds, others are seemingly insensitive to some stimulation. Thus, conditions that one baby can tolerate may be quite upsetting to another.

Individuals differ extensively in the amount of stress, they can tolerate. Some children become markedly upset by stimulations which are seen by others as relatively unimportant. It has often been supposed that there may be some kind of physiological basis for these differences. There is not much clear agreement about the development of specific personality traits, The tendency on the part of a growing child to show himself as a certain kind of person and then, inspite of rather marked environmental changes, to be true to this pattern as time goes on has been corroborated in several types of studies. This persistence of personality characteristics, is an important fact whether it is attribute to gene heredity or stems from environmental factors that effect the child in very early life. Studies of identical twins are generally interpreted as indicating that hereditary-constitutional factors are of considerable, if not of predominant importance in determining the general direction or core of personality pattern.

Probably the most unique aspect of human inheritance is a superior brain. The human brain has been considered as the most highly organised apparatus of the universe, Consisting of numerous cells called neurons, with countless interconnecting pathways as well as myriad connections with other parts of the body. Thus the human brain provides a fantastic communication and computing network with tremendous capabilities of learning and storing experience, for reasoning, imaging, problem solving, and for integrating the overall functioning of the organism.

The latest view regarding genetic influences, therefore is that they may determine universal, group, or unique individual attributes. We are all human because of our heredity. We are black or white, tall or short, because of heredity, we have different faces voices and other features also as a result of heredity determinants. Though the essential characteristics

of human inheritance are basically the same for the the persons of all the racial and ethnic groups; the specific features may vary considerably from one child to another. Thus it becomes clear that heredity does not only provide the potentiality for development and behaviour of the species, but also is an important source of individual differences.

The human personality originates with and, for specific purposes, can never be separated from a biological organism, the innate attributes of which has a substantial influence on the inner personality pattern which develops. Psychological variables such as subnormal thyroid or supernormal adrenal secretion, may modify perceptions. Conversely, regular exposure to traumatic stimuli may induce irreversible changes in the endocrine glands, in the circulatory system, and in some visceral organs as the stomach.

So! it becomes obvious that all personality has a biological base but it is not appropriate to think of personality as a biological and bisocial unity. The total individual is an organised pattern of biological and psychological mechanisms and a product of social experience.

Socio-cultural effect on personality Development

Personality is the result of heredity and environment. In much the same sense then an individual receives a genetic inheritance, that is the end product of millions of years of biological evolution, he also receives a socio-cultural inheritance that is the end product of many thousands of years of social evolution. Driven by inner tensions and guided by extended stimuli, the child conforms to social pressures, introjects cultural norms, and imitates the behaviour of leading figures in his surrounding.

Social scientists have given a great deal of attention to the principle that culture is the major determinant of personality. Culture affects the development of the personality to a very great extent and the experiences of childhood have a lasting impression on the personality. Because each group fosters its own cultural pattern by systematically teaching its offsprings all its member tend to be some what alike-to conform to certain basic personality types. Margaret Mead (1949) found two tribes of similar racial origin and living in the same general geographical area-whose members developed diametrically opposed characteristics. The Arapesh were kindly, peaceful, cooperative people while the Mundungumar were war-like, suspicious, competitive and vengeful. Such differences appear to be social in origin. The methods of bringing up of children differ from society to society.

Development of Social Relationship

Although infants smile from the first day of life, the exact form of the smile and the conditions that produce it vary with development. Children grow socially as they grow physically from year to year developing greater complexity of skills and social behaviour in getting along with people, and greater self control. As children begin to play with objects in a more symbolic manner their reactions to other children also change. Learning to be a social person does not come over night. Many psychologists believe that children's social relationship and reasoning about people progresses through sequences of qualitatively distinct levels or stages. These stages emerge in *invariant order* although at different rates in different children. Rudimentary knowledge and understanding of social relationships are undoubtedly acquired in infants, earlier encounters with their care givers. The care taker responds to child's cries. While being attended to and cooing in response to being spoken to begin to learn about human interactions about conversation and in a primitive way, about relationships to adults. In early childhood interactions between peers, children share toys, exchange favors and even establish such feelings as trust and intimacy. They gradually establish the concept of social relationship and concepts about themselves and their own identities as a result of social interaction with others.

A social child is one who behaves in a socially approved manner, plays the role which society prescribes for him and has favourable attitudes towards people and social activities. The child will be approved socially if he fits the group and is accepted as a group member. The child in the beginning year is considered to be egocentric. During the process of socialization, he learns to modify his behavior to take account of others' needs and interests. Social development can be defined as the acquisition of the ability to behave-in accordance with social expectations.

Socialisation in early years of life

Socialization is the process by which children learn the standards, values and expected behaviors for their culture or society. Socialization occurs through parents serving as models of behavior, expressing acceptance and warmth, providing restrictions or freedom, and punishing unacceptable behavior. This process starts from the day the child is born. As he grows his social needs increase, his peer group fulfills some of his essential needs. During this process the child also copies a model, such as talking on a telephone or drinking from a cup. These are early instances of symbolic acts. Mere observation becomes one mean of socialization.

Adults feel that if young children simply see what others do, they will learn what is correct and practice it. This can be true for some standards but for some observation alone, without some sign from parents may not work. For example, it is difficult to learn through observation alone that honesty, persistence and loyalty is one's belief and desirable standards.

The attachment relationship that begins in the first year forms an important basis of socialization in the later years. Physical affection, delight in the child's accomplishments, and playful interaction are frequent in all the families. Parents' acceptance of the child's value may be particularly important for the self image, the child forms during the initial period of self awareness. If children feel valued and loved, their self-image is apt to be positive and they are likely to be more confident. Home environment is important for socialisation process. All the family members and their relationship with the child favours the development of good social attitudes and help the child to become a social person. The family environment includes number of siblings in the family and child's own birth order. The child who is widely separated in age from his siblings or in a different set, tends to be more withdrawn when he is with other children. The size of the family is another important aspect of socialisation. This helps the child to make his social attitudes and pattern of behaviour. The way the parents rear a child, also has an influence. If the child's need in his childhood are not taken care of or are not fulfilled, he is likely to acquire certain anti-social behaviours. The child should be extended with ample opportunities to be with other children of his own age as well as adults of different age groups and should be motivated to do this. Motivation plays an important role in socialisation. If the child enjoys these contacts he will like to repeat them.

Socialization in the family

The child's behavior reflects the family trend or the family's values. If the child's is intelligent, polite, well mannered the credit is given to the parents and also if the child is delinquent, poor student or ill mannered. Although the family is considered the most important force in a child's life, his interaction with parents and siblings takes place within a large context. The parental socialization practices are largely influenced by the neighborhood and schools. All these effect the child directly or indirectly, through parents' child rearing practices and attitudes. People of different social classes have different views about appropriate and acceptable forms of child rearing. A parent-child relationship evolves over time as two

individuals interact with each other. Child's behavior contributes to this interaction just as parent attitude and behavior do.

All parents have an implicit or explicit ideal of what their children should be like, what knowledge, moral values and behavioral standards they should acquire as they grow. Parents try many strategies designed to move the child towards the goal. They reinforce and punish the child, explain their beliefs and expectation and even try to choose neighbourhoods per groups, and schools that support values and goals.

After the many studies by psychologists two dimensions describing important qualities of parenting emerge consistently- accepting-rejecting and strictiveness. permissiveness. Because not all parents fit neatly into these patterns of parenting behaviour were investigated. Children of hormoneous parents. similar to authoritative parents-simply did what the parents wished without apparent pressure. The second new pattern was non- conformist parenting-permissiveness based on a principled commitment to allowing children freedom to develop. The other permissive parents had little conscious basis for their child. rearing practices and seemed simply to be lax. Thus it is very clear that childrens' behaviour depends on the entire pattern of parent behavior more than on a single dimension like warmth or control. Authoritative parents may succeed in producing socially competent children partly because they have some confidence in their child rearing as they search for some effective means of discipline.

Siblings set and maintain standards, provide models to emulate and advice to consider and act complimentary roles in relation to one another through which they both develop and practice social-interaction skills, and serve as confidants and sources of social support in times of emotional stress (Lamb, 1982). While interacting with siblings children learn patterns of loyalty, helpfulness and protection as well as conflict, domination and competition. These patterns are readily generalized to other social relationship. The extent to which siblings help shape a child's personality and social development varies with such factors as the child's sex; sex of the sibling(s), child's ordinal position, spacing, total number of children in the family and parental treatment.

Much of the literature on child rearing stresses jealousy or rivalry as the predominant emotion in sibling relationship. The mother's relationship to the children affect their reaction to each other. Normally it is seen that in relationship between siblings of pre-school age, the older ones tend to be dominant, initiating most of the interaction that are helpful and cooperative as well as those that are interfering and aggressive.

Socialization outside the family in early years

As the children grow, they interact with people outside the family. The socializing outside the family becomes an important factor. The major agents of socialization outside the family are school, peer and television.

School is a social institution reflecting the culture of the society to which it belongs. Normally the children begin formal schooling sometimes between the age of five and seven. The main purpose of such schooling is to teach cognitive skills. Besides this the school is a small system in which children learn rules of morality, social convention, attitudes and modes of relating to others. It also provides the child's major peer group network. The socializing influences of the school results from the other students as well as from the teachers and school program.

The influence of teacher is an important part of this socialization. The teachers can be wonderfully stimulating for the child or dreadfully boring and inspire the child to act like them. All this mainly depends on teacher's personality. Most of the teachers at school level are females. Boys might have difficulty in the early school years because the elementary school was female environment for them.

When the teachers are warm, flexible and gentle disciplinarians, students respond with more expression of feeling, open participation in the classroom is seen. The teacher's praise and criticism conveys their expectancies. Teacher's praise is most likely to raise students' expectancies when it is contingent on good performance. If the teachers praise children indiscriminately, their praise becomes meaningless. Many researches have demonstrated that teachers can modify many aspects of children's behaviour in the classroom by giving attention when the desired behaviour occurs and not attending to the child when the behavior is absent. For example, a child who is shy and sits away from other children and activities can be drawn into social interaction if teacher smiles, talks to her and praise her on any occasion that she makes an overture to other children. The teacher may sometimes need to suggest that the child join an activity but should not join the isolated child and give her a great deal of attention when she is sitting alone. The attention might reinforce social isolation instead of social participation.

Schools are important in socialization not only because of the teachers, the building, and the organisation of learning environment, but also because they are composed of children who constitute miniature society for one another.

Peers are an important part of childrens' development from infancy onward. Peers contribute in unique and major ways to shaping a child's

personality, social behavior, values and attitudes. Children influence each other by modelling actions that can be imitated by reinforcing or punishing certain responses, and by evaluating one another's activities and by providing feed back to each other.

During infancy the peer influence is not very much prominent as the contacts with other children and infants are generally brief, ranging from few seconds to a minute and many of them are unreciprocated. As they reach the age of two to three years they start feeling little emotionally secure with peers they know. At the age of pre-school they enjoy with their peers. During these years the social relationship becomes closer, more frequent and more sustained than early days. At this age children enjoy the company of same sex. They show more involvement in joint efforts, coordinate their activities more effectively and also solve the problems successfully.

During school days the intensity of friendship increases. Here the children interact more with each other and participate in more social activities. Communication also becomes more effective because of better understanding.

In a very real meaning the children live in two worlds, the world of their parents and the world of their peers. These exist side by side. Most of the social understanding and social behaviour of how to relate to others is transmitted by peers. Many behavior patterns learned in the family are reinforced and strengthened through interactions with peers.

Peers influence particularly on the patterns of aggressive and prosocial behavior that children learn. Most aggressive behaviour in childhood is directed towards other children, behaviors such as helping sharing and expressing sympathy are directed towards children. Detailed observations of younger children shows that aggressive actions-attacks, grabbing others' toys, are frequently reinforced by other children. Peers are often readily available models of aggression. The kind, friendly and helpful children receive more positive responses than those who are aggressive.

The other important socializing influence which children experience is that of television. It is seen that children spend more time watching television than in any other single activity except sleeping. It is an important socializing agent that influences children's social and cognitive development Children learn many things from this even while watching merely for amusement. Children begin watching television in infancy. Around the age of two to two and half years children begin to show consistent attention to television programs. At the age of four or five, the

average child watches over two hours a day. The amount of viewing increases until late childhood, then declines some during adolescence. Probably because at this age they are more mobile and are away from home most of the time.

The capacity of learning from television by the child depends on both the developmental level of the child and the nature of the program the child watches. They learn both aggressive and prosocial behavior from television. They also acquire much of their knowledge, social relationship and social behavior from television. Parents and teachers can also encourage childrens' interest in positive message from television.

Behavior Disorders of Child

Common behavioral disorders in childhood

As children grow up, awareness and perfection increases and they learn to cope with the environment that seems to change and expand. Those who can not do so, various behaviour disorders develop. Behaviour of an individual may be defined as “those activities of organism that can be observed by another organism or by an experimental instrument”.

Behaviour problem is a deviation from the accepted pattern of behaviour on the part of the child when he is exposed to the inconsistent social and cultural environment. The behaviour norms in every society are different. A normal behaviour in one society may be seen as a problem behavior in another society. The behaviour problems are of major concern to the parents and also to all those who are interested in welfare of children. Any disturbed and undesirable behaviour often causes distress to the child himself and anxiety to these who look after him.

It is believed that problem children or emotionally disturbed children are not different from other children. They are neither handicapped in the usual sense, nor they have permanent psychological defects. They are actually children reacting with normal psychological mechanism to stress and strain in their lives. Most of the time it becomes difficult to decide whether the behaviour disorder which is seen in a child, in fact, requires attention or should be just left to recover with time. A child is generally termed a problem child when parents, guardians or teachers fail in their effort to cure him of his undesirable conduct of behaviour.

Children show a wide variety of behavioral disturbances. Most of these problems are minor and do not cause a permanent handicap. Nevertheless, these cause considerable anxiety to parents. Management of these minor behavioral deviations require an understanding of the stress which leads to these problems. The common behavioural problem of early childhood can be catergorised as below :

Thumb sucking and nail biting : Thumb sucking or nail biting indicate that a pleasurable sensation is derived by the child from this self stimulation. These are manifestation of a feeling of insecurity.

Thumb sucking appears fairly common among children. It is an extension of normal infant activity. The sucking instinct is present from birth, and an infant derives both nourishment and pleasure from nursing. Because the instinct is so strong, there is a natural tendency to continue this pleasurable sucking activity even at other times and especially during moments of stress.

The main reason that young babies suck their thumbs seems to be that they have not had enough sucking at the breast or bottle to satisfy their sucking need. All children are not born with the same amount of instinct to suck. There may be a baby who never nurses more than 15 minutes at a time, and yet never once puts thumb in the mouth, and another whose bottles have always taken 20 minutes, and sucks the thumb excessively. A few begin to thumb-suck in the delivery room, and they keep at it. It seems that a strong sucking instinct runs in some families. There are two conditions indicated by thumb-sucking one is typical of infancy, and other of childhood. Usually thumb-sucking appears about the time the child is six or seven months old.

The following reasons are given for thumb-sucking at the age of six to seven years.

1. By this time, the child is generally bottle-fed and the nipple has been used long enough to become worn. The infant gets the milk so rapidly that although his hunger is appeased, his need to suck remains unfulfilled.

2. This is the age when teething begins. This increases the infant's demand for sucking in order to relieve the pressure on his gums.

3. Some, too ambitious parents begin to wean this children from the bottle long before they are ready. The right age for weaning is considered around age of nine month.

4. Few parents actually encourage their children to finish the bottle too rapidly. They consider it the sign of a good and healthy baby. The child may be both healthy and good, but the fact remains he is not getting enough sucking.

5. Thumb-sucking as such does no harm to the child. Most of the doctors agree that it causes no damage to the structure of the permanent teeth or of the lips. It does not result in any facial deformity.

Thumb-sucking is considered to reduce tension, but it does not cure the situation that produces the tension. The condition indicated by thumb

sucking any time after the first year and a half of life are a little more complicated. Traditional forms of restraints, such as putting spices or bandages or quinine on the thumbs, or sprinting the arms will not help solve the problem, and may even be harmful to the child's emotions. It might also increase the child's guilt complex.

Normally, passivity is considered the key characteristic of a child who continues to do thumb sucking. He should be encouraged to do other things during the day and should be kept busy with other activities. The child normally stops or reduces this habit if he finds other interesting things around him. Children have a lot of energy which needs an outlet. A drawing paper, pencil, blunt scissors, clay or mud for modelling, blocks and other things will keep a child occupied and usefully happy.

Most of the children continue the habit very late into childhood. Using it perhaps as a way of clinging to the security of babyhood. In such cases parents are advised to find out the cause of any thing which is bothering their child. It is better to do absolutely nothing about thumb-sucking than to take any wrong step. If the parents fail to understand the cause of thumb-sucking of their child, they should disregard it completely.

Nail biting is also another method a child uses to get relief from some pressure or anxiety building within him. Very young children start nail biting when they stop thumb-sucking. Few children even those who have seemed quite relaxed during their early years may begin to bite their nails soon after they start school, as a result of pressure from parents, teacher and classroom competition. Some children are seen doing it when they are reading, doing home work or taking a rest, While others find it necessary almost continuously. It is a sign of tenseness and is more common in relatively high strung worrisome children, and is particularly widespread during adolescence. Usually it is a symbol of nervousness and serves as a means of reducing tension. It gives him a taste of infancy again. This is the way of telling us that infancy has a great appeal for him. It gives the child aggressive outlet and also relieves the pressure of his compulsions.

The parents should try to find out the reason of new set of tension producing circumstances if their child suddenly starts this habit of nail biting. The reason can be entering school, or moving into a new neighbourhood or arrival of a new baby. Like most other nervous habits, this is easiest to cope with in its earliest stages. Most children eventually get over it completely by themselves. Taping the fingers of the child, putting an evil tasting substance on them, or any other kind of frontal attack on the habit are likely to fail. Nagging shaming or punishing also does not help

to reduce this. These are likely to increase the anxiety. Instead of all this the parents should try to reassure the child and help to build up his confidence. Most nail biters out-grow their habit, the tension of adolescence passes.

Speech problems : The speaking of word sounds an easy simple process to a common man. If talked scientifically or physiologically, over one hundred muscles are involved in speaking a simple word. Thus learning to talk is considered as the most difficult task for a small child. The first sounds produced by babies come accidentally. Slowly with the growth of other parts, this ability of making sounds also grows and he starts putting these sounds integrated into more meaningful words, and even starts imitating sounds used by his parents and others around him.

There is no fixed age for the children when they are sure to talk. There are differences, also in the clarity and skills of their speech. The ability to talk is also a result of child's mental, social and physical combinations. Many children at childhood show many speech problems which are the results of congenital physical defects, illness or psychological difficulties. These problems may appear in most cases of mental retardation; or any type of illness that causes damage to the brain. The most common speech problems are stuttering and stammering.

Stuttering and stammering : This is a defect in speech characterised by hesitation or stumbling and spasmodic repetition of some syllabus with pause. This is the difficulty in pronouncing the initial consonants and is caused by the spasm of lingual and palatal muscles. Speech therapists distinguish between two types of stuttering : tonic stuttering which is the prolongation the sound of the opening letter of a word, and clonic stuttering, a repetition of a letter. It is seen that often these both types occur together. The first type of stutting; tonic stuttering occurs when a child can not get a word out and often starts the word with consonant such as 'm' and is unable to make the sound completely, and suddenly the word bursts out explosively. On the other hand some children have difficulty only with certain consonants. Others may be stopped by a sound in one word and not in another. The clonic type of stuttering is the repetition of the same sound over and over again. A child is able to start a word but instead of forming it, he becomes caught up in one sound. For example instead of saying "cat" he repeats the opening c, (c, c-c-c at)" until he manages to finish the word.

Most children show same degree of repetition and hesitation in their speech at some period of early life. However, there are individual variations in the extent of such difficulties with speech. The children who

cannot cope with environmental and emotional stresses are more likely to stutter. This problem usually begins between the ages of two and five years, a period in which there is non-fluency of speech. Between the ages of two and three, the child may have much more to say his vocabulary permits, and be so eager to try that he lapses into stuttering.

The cause of this problem is not fully known or understood, but a child's emotional state has an important role to play. Normally they arise out of feeling of anxiety and insecurity. Once the habits are formed they continue long after the original causes have disappeared. The parents and playmates, who remind the child of his stumbling speech or ridicule him, aggravate his emotional stress. As a result of this, he loses his self confidence and becomes more and more hesitant in speech. Parental pressure to force a child to speak excessively coherent, well-composed sentences may make the child worry so much that he becomes unable to get his words out. The stress caused by conflict between the parental expectations and the child's achievements may precipitate stuttering in some children. A child who is shy among strangers may start to stutter after he has been forced to recite. Consequently the embarrassment of his stuttering makes him even more insecure, and stuttering may become deeply engrained.

There are many occasions when a child shows some delay in the development of proper speeches, a result of fairly accidental factors in his surroundings. For instance, a child who faces a change in family circumstances, such as death or divorce, or the arrival of a new baby, may begin to stutter. The difficulty in adjustment in school can also be another cause of this problem. There is little evidence that the stuttering is more common in left-handed children, who were forced by their parents to use the right hand.

Their Management : The parents of a young child with primary stuttering should be reassured and advised that, this problem between the age of two and five years will pass off, but the parents should not show undue concern and accept his speech without pressurising him to repeat or make him conscious of his handicap. Parents must understand that speech is a very complex affair, involving hundreds of muscles and nerves. Manipulation of the muscles is largely an unconscious process, that is why the child finds it so difficult to achieve conscious control of the organs of speech. Since stuttering is not consciously produced by the child, it is worse than useless to keep after a child about his stuttering. These children can often sing or recite poems without stuttering, and this gives them confidence that the defect is not an irreversible handicap. The

parents or the people around the child should help him by listening patiently to the child. Rushing by the parents makes the child self-conscious and uncertain. The emotional security by the parents helps to diminish this problem.

The older children with secondary stuttering should be given emotional support and should be referred to the speech therapist if needed. In school, the class mates may make fun of the child and further damage his self-confidence. The secondary stuttering is referred to the grimaces, foot stamping and other gestures-which makes the child more stubborn. These children are not mentally retarded and their I.Q. level may be higher than average.

Toilet problems

This problem is considered normal during the early baby hood period, when the child learns to control his bladder and bowel movements.

Enuresis or bed wetting is an extremely common problem among children. It is not a disease but a symptom. Some children empty the bladder involuntarily and wet the bed at an age beyond which the bladder control is normally developed. An occasional lapse by a child should not cause undue parental concern. When the bed wetting occurs frequently, it is defined as enuresis. This may be primary or secondary. In the primary enuresis, there is a delay in the maturation of neurological control of bladder muscles, and such children usually have never been dry at night.

There is often an organic basis for this e.g. mental subnormality. In the secondary enuresis, the bladder control is developed at the normal age and the child remains dry for many months and again starts wetting his bed at night.

Enuresis is considered to have a psychological basis. This may be due to excessively enthusiastic attempt at toilet training by the parents or emotional disturbances in the child or parent-child maladjustment. Some children find difficulty in adjusting to new situations or disturbing events, like arrival of a new baby, moving to a new home, entering school for the first time or any change in the child's life. It can also be the result of an illness or accident. At times it may be a manifestation of subconscious resentment against the parents. Wetting his bed so that his parents either have to visit him in the night, or spend time in changing his bedding, may be an unconscious way of gaining attention. The behavior disturbances are the result rather than cause of bed wetting and may be attributed to feeling of guilt or shame.

The children with nocturnal enuresis usually sleep very deep at night and it may be difficult to arouse them. The signals from the distended

bladder indicating the need to empty the bladder do not reach the conscious level of their mind during sleep and this may cause involuntary emptying the bladder. Some children with a small bladder capacity nonetheless manage to avoid bed wetting because they are not deep sleepers and are easily awakened by the stimulus of full bladder, which sends them to bathroom. Most of the children are deep sleepers, and this coupled with small bladder capacity, is the most common cause of bed wetting.

Management : As the condition is generally harmless and self limiting, the child and parents should be reassured. About fifteen percent of the children between the age of five and ten years are known to be enuretic, but very- few about one percent of normal children may continue to wet the bed till the age of 15 years. The parents should therefore, try to minimise the emotional impact of this problem on the child. They should understand that achievement of urinary control, particularly during the night, is a much slower and more complex process. The sympathetic over-activity, which is associated with emotional disturbances and fear aggravate this condition. The parents are advised not to press the child till his body is capable of bladder control. The parents are also advised not to nag, criticise or reprimand the child for wetting the bed at night. The bedsheet should be quietly changed next morning, without making the child conscious of it. The child should be encouraged to avoid drinks immediately before going to bed, and to cut down the amount of drinks an hour or two before bed time. Passing the urine before retiring to bed should be made a regular habit of the child. It is also seen that the child will be less likely to wet his bed if he is awakened and taken to the toilet after two or three hours of sleep and persuaded to walk unaided to the toilet to empty his bladder. It is suggested that if a bed-wetter is given an increased amount of fluids or drinks during the day, and encouraged to hold off urination as long as possible, this will gradually increase the capacity of his bladder.

Thus, the best course would be if parents do not make bed-wetting an important issue. The child should not be unduly praised on the occasion when he succeeds in controlling himself, for this too tends to make the problem seem over important and neither should he be punished for loss of control.

Child Growth and Nutrition

Details of nutrients

As already discussed in previous chapters we know that growth is an essential feature of life of a child and this distinguishes him from an adult. This process starts from the time of conception of the fertilised ovum and continues until the child's grows into a fully matured adult. Nutrition has been considered as basic to child existence. It plays an important role in the attainment of the child's normal growth and development and maintains proper health. The child's general health condition is reflected in his appearance which is mainly the cause of proper nutrition. In appearance all nutritionally healthy children have certain common characteristics-happy facial expression, bright eyes and normal behaviour. On the other hand the child whose nutrition is poor is either underweight or his posture is poor and usually he is short structured and his rate of growth is slower than other children of his age. Food has been a major concern of mankind from the time of conception and extending through the entire life span of the child. Food supplies energy for physical activity and other metabolic needs of the child. Nutrition is necessary for the growth of the individual and repair of worn-out ageing tissue. Basic constituents for synthesis of digestive juices, energy and hormones are derived from food. Growth of children suffering from malnutrition, anemia and vitamin deficiency states is retarded. Overeating causes obesity and accelerated somatic growth. Features of under-nourished anemic mothers are small. World-wide observation has established the fact that inadequate diets and malnutrition may warp body and mind and retard growth. Growth increases nutrition requirements, and it's progress is influenced by nutritional stage, hormonal activities and other factors.

Food factors are basic to growth and developmental progress. The first requisite for optimal inherent growth is an adequate food supply. A nutritionally adequate diet provides the essential elements and compounds, in proper proportions, for the manufacturing of new body tissues, for maintenance of nutritional stability with a steady state of internal

environment, for rebuilding existing body structures, and for the energy requirements of basic metabolic process and activity. Nutritional factors determine how the body uses the individual nutrients in the construction of new organs and body tissues and at the same time maintains the physiologic functions commensurate with biologic age and increasing body size.

The development of child and maintenance of healthy body structures depend on the supply of many food substances and the fate of the individual nutrients as they pass through the metabolic process of digestion, absorption and excretion of utilisation. These food substances supply important nutrients such as carbohydrates, protein, fats, minerals, vitamins and water to the child's body. Now we discuss these nutrients and their importance for child's growth.

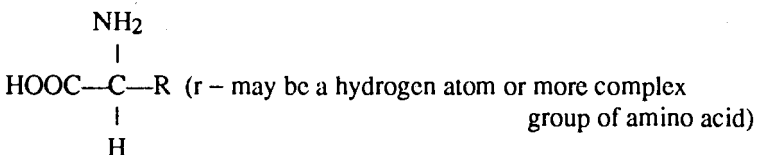
Energy :- In fulfillment of growth and developmental needs of the child, there must be sufficient energy present in the diet to meet the requirements of activity, of maintenance of body temperature and basal heat production, and of full utilisation of the essential amino acids, vitamins and minerals in the metabolic enzyme systems for the synthesis of protoplasm - true living growth. If the diet is short in supply of energy, the protein or its constituent amino acids can not be utilized to the fullest extent, and this condition may lead to the sacrifice of protein of the body for fuel to provide for activity requirements, thus depriving the enzyme, hormonal another essential metabolic activities of essential protein.

Carbohydrates, fats and proteins in the food are the chief source of energy for the child. The energy obtained from the nutrients is usually expressed in terms of thermo-chemical kilo calories (k cal). The calorie is defined as the quantity of heat required to raise the temperature of one gram of water from 14.5 deg. centigrade to 15.5 deg. centigrade. One gram of carbohydrates provides 4 kcal and 1 gram of fat releases 9 kcal.

TABLE - I
ENERGY REQUIREMENT OF INFANTS

AGE	Kcal/kg
0 - 3 months	120
3 - 5 months	115
6 - 8 months	110
9 - 11 months	105
1 - 3 years	1300 - 1400
4 - 6 years	1800 - 1850
7 - 9 years	2150 - 2200

Protein :- These are present in all living plants and animals tissues. Proteins are made up of polypeptides which comprise nitrogen containing amino acids.



Some of these amino acids can not be synthesized in the body. These are essential for the child. These essential amino acids have to be supplied to child by food. Amino acids are important in several physiological functions of the child's body. Protein helps the child to grow, as a constituent amino acids are necessary for synthesis of tissues in the body. Protein is essential for the formation of digestive juices, hormones, plasma protein, enzymes, vitamins and hemoglobin etc. Biological value of protein is a measure of its quality or ability to support life. Most natural foods contain protein. Protein in the child's diet is obtained either from the animal or vegetable sources. Plants are the primary source of protein, as they synthesize protein by combining nitrogen and water from soil with carbon dioxide from the air. Proteins from vegetable sources are often *biologically incomplete* as these usually lack in one or more of the essential amino acids. While on the other hand proteins of animal origin generally have higher content of essential amino acids. It is advised that the proteins of vegetable origin may be used together in a judicious combination in child's diet so that limiting essential amino acids in one of these is compensated by an excess of that amino acid in the complementing protein. This combination may provide all the essential amino acids to the child's body. For example : animal food such as milk, eggs, fish, poultry etc. contain all essential amino acids. But cereals are low in lysine and most pulses are low in methionine. However as cereals and pulses are normally consumed together with other food such as vegetables, milk or curd, the lack in one food is supplemented by the other foods. In other words, various foods when given together to child in a diet, complement each other and the biological value of protein mixture is much higher than that of individual food protein when given separately.

TABLE - II
FOOD SOURCES OF PROTEINS

FOOD	PROTEIN CONTENT PER 100gm EDIBLE PROTEIN
Dal & pulses	20 - 25
Nuts & oil seeds	17 - 28
Milk	16 - 32
Egg	3 - 4
Fish, meat poultry	13 -
Cereals	15 - 21
Vegetables	6 - 13
Mature beans and peas	4 - 8

Protein requirement of child :- Protein helps the child to grow, as the constituent among acids are necessary for synthesis of tissues in the body. Proteins are required for building new tissues in growth stages of life. Growth is very rapid, particularly during the first year, and protein rich foods are needed during that time. The protein has it's important role in child's diet in the maintance of tissues already built and for the replacement of regular losses. The children between 1 and 3 years should receive 16 g of good quality of protein. Protein is also a source of energy for the body. The defeciency of protein and energy to a varying extent is one of the most common nutritional deficiencies in India.

TABLE - III
PROTEIN REQUIREMENT IN CHILDREN

Age	gm/day
3 months	2.4 gm/kg
3 - 6 months	1.86 gm/kg
6 - 9 months	1.62 gm/kg
9 - 11 months	1.44 gm/kg
1 - 3 years	16 gm
4 - 6 years	20 gm
7 - 9 years	25 gm

Fats :- Fats are the most concentrated source of energy in a child. Each gram of oil supplies 9 calories. These are the organic compounds which are made up of carbon, hydrogen and oxygen. Phosphorus and

nitrogen may also be present. The presence of fat in a child's diet is important as they carry fat soluble vitamin (A, D, E, K) into the body and help in the absorption of these vitamins. When a child's diet contains more fat than is needed for fuel, the extra is stored under the skin and other regions. Conversely eating too little fat causes the body to use up some of its own fat and become thinner.

Vegetable oil contains linolic and other polyunsaturated fatty acids. Although some of these can be synthesized in the body, linoleic acid which is required for child's growth and maintenance of normal skin, cannot be synthesized in the body, therefore it has to be supplied in the child's diet as essential fatty acid. It is necessary to include sufficient vegetable oil, in the diet to meet child's need of essential fatty acids. The deficiency of essential fatty acids in the diet may result in certain skin disorders.

Fats and oils are obtained from plant and animal sources. The food sources are vegetable oils, those extracted from ground nuts, sesame, mustard, sunflower, cotton, coconut and palm oils. Butter and ghee are animal fats extracted from milk. These food sources contribute visible fat in child's diet.

TABLE - IV
FOOD SOURCES OF FATS

FOOD	Per 100 gm
Vanaspati	100.0
Ghee	99.5
Oil seeds & nuts	37.0
Coconut fresh	42.0
Butter	81.0
Cooking oil	100.0
Egg	13.3
Milk (cow)	4.1

Carbohydrates :- In the Indian diet about 65-80 % of the energy is supplied by carbohydrates. These contain carbon, hydrogen and oxygen. These are present in diet either as simple sugar which are soluble in water or polymers such as starch which forms the largest part of a child's diet.

Carbohydrates are synthesized by plants and occur in several forms. Starch is found in plant seeds - such as cereals and pulses, and roots and tubers. Sugars in fruits, honey, plant juice (sugarcane, cereals) and in vegetables such as corn and peas. Cereals supply a large part of the carbohydrates in the child's diet. Sugars used in the child's daily diet is

cane sugar or sucrose. These provides energy to child. Each gram of starch or sugar gives 4 kcal to the body. Glucose is the source of energy for the central nervous system. Certain carbohydrates taken in diet - Lactose helps in the absorption of calcium, Cellulose and other indigestible carbohydrates aid the movement of food through the digesting tract by their capacity to absorb water and help to maintain muscle tone.

Minerals :- It is known that the child requires 14 different elements for health and growth. There are about thirty mineral elements present in human body. These includes calcium, phosphorus, sodium, chlorine, potassium, magnesium and sulphur, iron, iodine etc. Minerals serve as structured constituents in the hard tissues of the body, such as bones and teeth. These also help to maintain acid-base balance and regulation of water balance in the body. Minerals also help in transmission of nerve impulse. All the natural raw (unrefined) foods contain a variety of valuable minerals. These are destroyed to some extent by prolonged cooking of vegetable in lot of water. Special care should be taken while cooking meals for the growing children. The minerals which are important and likely to be insufficient to child's diet are calcium, iron and in some parts of the country iodine.

Calcium and Phosphorus :- These are the minerals-needed in large amount to help normal growth and development of bones and teeth. The six months old child (birth - 6 months) may get sufficient amount of these minerals from breast milk. Most natural foods contain small amounts of calcium. The best source of calcium are milk and milk products. The milk of cows, goats and buffaloes is rich in calcium. Absorption of calcium is regulated by Vit - D. calcium is absorbed in soluble form. Deficiency of calcium may lead to poor bone and teeth formation in children.

TABLE - V
FOOD SOURCE OF CALCIUM

Food	Calcium mg/100 gm
Milk (cow)	120
Milk (buffalow)	210
Milk (goat)	170
Whole milk powder	950
Pancar	208 - 480
Cheese	790
Fish	40 - 1600
Ragi	344
Leafy vegetables,	70 - 400

cane sugar or sucrose. These provides energy to child. Each gram of starch or sugar gives 4 kcal to the body. Glucose is the source of energy for the central nervous system. Certain carbohydrates taken in diet - Lactose helps in the absorption of calcium, Cellulose and other indigestible carbohydrates aid the movement of food through the digesting tract by their capacity to absorb water and help to maintain muscle tone.

Minerals :- It is known that the child requires 14 different elements for health and growth. There are about thirty mineral elements present in human body. These includes calcium, phosphorus, sodium, chlorine, potassium, magnesium and sulphur, iron, iodine etc. Minerals serve as structured constituents in the hard tissues of the body, such as bones and teeth. These also help to maintain acid-base balance and regulation of water balance in the body. Minerals also help in transmission of nerve impulse. All the natural raw (unrefined) foods contain a variety of valuable minerals. These are destroyed to some extent by prolonged cooking of vegetable in lot of water. Special care should be taken while cooking meals for the growing children. The minerals which are important and likely to be insufficient to child's diet are calcium, iron and in some parts of the country iodine.

Calcium and Phosphorus :- These are the minerals-needed in large amount to help normal growth and development of bones and teeth. The six months old child (birth - 6 months) may get sufficient amount of these minerals from breast milk. Most natural foods contain small amounts of calcium. The best source of calcium are milk and milk products. The milk of cows, goats and buffaloes is rich in calcium. Absorption of calcium is regulated by Vit - D. calcium is absorbed in soluble form. Deficiency of calcium may lead to poor bone and teeth formation in children.

TABLE - V
FOOD SOURCE OF CALCIUM

Food	Calcium mg/100 gm
Milk (cow)	120
Milk (buffalow)	210
Milk (goat)	170
Whole milk powder	950
Paneer	208 - 480
Cheese	790
Fish	40 - 1600
Ragi	344
Leafy vegetables,	70 - 400

Nutritional requirements of calcium :- It is now recognised that high intake of calcium is not necessary. Infants require only 500 - 600 mg of calcium per day. An intake of 400 - 500 mg per day is enough for the children from 1 - 10 years.

Iron :- The iron requirement is met from the foetal stores for the first three months. Iron is essential for the formation of haemoglobin, the red pigment in blood. Normally it is observed that this is one mineral which is found in insufficient amount in the infant's diet when he is fed only on milk as milk is considered as a complete food lacking in iron and Vit - C.

TABLE - VI
FOOD SOURCE OF IRON

FOOD	Iron mg/100 gm
leafy vegetable, dark green,	5 - 60
wheat flour, rice, flakes	10 - 20
Rice, jowar, ragi	3 - 6
Egg, meat	2 - 6
Other vegetables	2 - 5
Fruits	1 - 3

The deficiency of iron results in anemia due to insufficiency of haemoglobin, such children get tired easily and feel weak very often.

Trace elements :- Iodine is present in the secretion of thyroid glands. Lack of iodine leads to increased secretory activity of thyroid and consequently its enlargement leading to goiter. Sea foods and vegetables grown on iodine rich soil are good sources of iodine. Growing children need larger allowance of iodine.

Fluorine prevents dental caries in children. Sea food and tea are good sources.

Zinc is a part of several enzyme system of the body, animal foods such as meat and fish are rich source. Whale also provides enough amount of zinc.

Magnesium is an essential element. The deficiency of this mineral may cause mal-absorption, protein energy malnutrition and chronic diarrhea. It is widely present in all plant foods and meat. Milk is a poor source.

Copper is present in enzymes. It helps in absorption of iron, liver kidney, shell fish, nuts, raisins and dried legumes are good dietary sources. An infant requires 80 ug/kg of iron per day.

Few other trace elements such as chromium, selenium, cobalt and molybdenum are not so important for child's diet. These are supplied by drinking water and animal foods. The deficiency of these are normally not observed among small children.

TABLE - VII
NUTRITIONAL REQUIREMENT OF MINERALS

Age	Calcium (mg)	Iron (mg)
0-6 months	0.4-0.5	15-20
7-12 months	0.4-0.5	15-20
1-12 years	0.4-0.5	15-20
2-3 years	0.4-0.5	15-20
4-6 years	0.4-0.5	15-20

(Data as per Nutrition Expert Group in 1968)

Vitamins

Vitamins are essential for life and maintenance of normal health of children. These are organic substances present in small quantities in food. Vitamins are required in very minute quantities in the diet. They cannot be produced in the body and therefore, have to be supplied through diet. Lack of vitamins result in definite deficiency disorder which are specific for each particular vitamin. These are conveniently classified in two groups on the basis of their solubility into fat soluble and water soluble vitamins. B Complex and Vitamin C are the water soluble vitamins while vitamin A, D, E, K are the fat soluble vitamins.

Vitamin 'A'

It is a fat soluble vitamin. The presence of some fat in the diet is essential for its absorption. This is present only in animal tissues. Provitamins of Vitamin A are present in some vegetables and can be converted into Vitamin A. This is not lost in cooking.

Vitamin A is necessary for epithelial tissues and functioning of retina. This is also needed to keep healthy the living of the bronchical, intestinal and urinary systems and various parts of the eyes including that which enables the child to see in dim light. Therefore, the children with vitamin A deficiency have defective dark adaptation. The child gets the maximum part of Vitamin A from milk fat, egg yolk, liver, green and yellow vegetables and can be supplemented by giving vitamin A drops. Deficiency of vitamin A among children causes defective dark adaptation, xerophthalmics. It is considered a common cause of preventible blindness among children in India.

TABLE - VIII
FOOD SOURCE OF VITAMIN 'A'

FOOD	VITAMIN A Mg./100 gms.	
Liver, sheep	6690	
Eggs	360	
Butter, ghee	600-960	
Refined oil	750	
Milk	48-52	
Leaves dark green	5000 & above	These have a plant pigment called Carotene which is converted to vitamin A. The given amount in carotene mcg/100 gms,
Leaves light green	750-2000	
Yellow or orange veg.	665-2740	
Immature beans, peas	80-595	
capsicum, tomato etc.		

Vitamin 'D'

Vitamin D is essential for the absorption of calcium and phosphorus from the digestive tract and deposition in the bone. It is needed in large amount for growth particularly of bones and teeth. Vitamin D should always be added in the child's diet, especially in the period of rapid growth in infancy.

Several chemical compounds have vitamin D activity, the most important of this being cholecalciferol or vitamin D-3. In the child's body cholecalciferol is formed on exposure of seven dehydrocholesterol (present under the normal skin) to ultraviolet rays in the sunlight. The infant needs to be exposed to sunlight to permit the synthesis of vitamin D from the precursor in the skin. Since milk (human and cow's) is not a good source of vitamin D, a small supplement is required in the infants. Fish, liver, oil preparation are normally used as a supplement.

Vitamin 'E'

This is present in the human tissues and it is necessary for the normal metabolism. It is widely available in foods. It is mainly found in milk and green leaves. The deficiency of this vitamin is not seen in children.

Vitamin K is essential to ensure normal clotting of blood whenever there is bleeding. Green leafy vegetables are the main dietary source of this vitamin.

Vitamin 'B complex' :-

A number of substances have been identified and grouped together under this heading.

Thiamine (B1) is essential for the normal functioning of the nervous system and the heart. It is also necessary for the normal growth. Thiamine requirement is dependent on the total calorie intake. This vitamin is found nearly in all the food stuffs. Leafy vegetables and animal foods such as milk, egg, fish and meat are the good sources. Plant sources such as pulses, nuts and oil seeds are considered as fair sources. Sugar, fats and oils have no thiamine. The variety of food stuffs should be included in child's diet to compensate the requirement. Quite a large quantity of this is lost while cooking.

Riboflavin (B2) is required for the proper growth of children. This vitamin is not much destroyed by cooking but is destroyed if the food stuffs are exposed to sun for a longer period. Milk and milk products like paneer are the good source of this but butter and ghee do not contain this vitamin.

Niacin is the most stable of vitamin B Complex. It is necessary for growth. Meat is a rich source of this. Groundnuts and the cereals should be included in child's diet.

Vitamin 'C' performs a number of important functions in the body. It helps a child to build resistance to infections and helps in the absorption of calcium and iron. It is readily soluble in water and is easily oxidised. It is very easily lost during cooking or even heating. To minimise these losses, special care should be taken while giving diet to the children. Normally, it is seen that Indian mothers heat the juices before giving it to small children. In this process, this vitamin is lost. Citrus foods like orange, lemon, grape fruits are excellent source of this vitamin.

TABLE IX
NUTRITIONAL REQUIREMENT AND SOURCES OF VITAMIN

VITAMIN	SOURCE	RECOMMEN- DATIONS
Vit A	Butter, ghee, vanaspati, provitamin 'A' is found in green leafy vegetables, mango provides some Vit 'A'.	300-400 µg
Vit D	Egg, yolk, liver, sea foods, vanaspati ghee	10 µg
Vit C	Citrus fruits, amala, guava, drumsticks, leaua, cholaishag, papaya, orange, tomato, lemon.	20 mg
Vit B12	Can be synthesised only by certain micro organisms.	0.5 to 1.5 µg
Rebeffavin	Leafy vege, radish leaves, methi, cholaishag, soyabean, green gram, wheat, eggs.	0.5 - 1.5 mg
Niacin	Ground nut, sunflower, dried yeast, reubran, lean meat, wheat & milk are moderate source.	5 - 15 mg
Thiamine	Wheat, maize, millet, bengal gram, red gram dal, ground nut, sunflower seeds, meat, eggs.	0.5-1 mg
Folic acid	Fresh dark green vege, dried dates, cauliflowe etc. Liver, kidney, human milk also contains some folic acid.	100 (µg)
Pyridoxine	A normal mixed diet provides adequate amount of this.	1 - 2 mg

Water and Roughage

Infants and children have major part of water in their bodies. Water accounts for 55 - 68% of the total weight in an adult. Children are considered to have 60% of water in their bodies. Fat children are seen to have less water than thin ones. Water provides no calorie as other nutrient but it is vitally important for the working of body. The child should take plenty of water between meals in hot weather. Foods also contain sufficient amount of water. It is an essential nutrient, next in importance to oxygen. Water is needed for many chemical changes that take place in a child's body e.g. the breakdown of sugar or fat to simpler substance needs water as a medium. The body temperature is regulated through the evaporation of water.

The fibers present in vegetables, fruits and grains are called roughage. These are not absorbed or digested by our intestine. Fiber should be included in sufficient amount in child's diet to help him in the normal bowel movements.

The planning of child's diet should be done very carefully. We can't judge a diet just by its calorie alone but a proper balance diet should be planned for a child. The child in long run needs a balance of low and high calorie food. All these important nutrients should be included in a balanced form in the diet. Fruit juices, starchy foods, milk, egg and whole grain are very important for the proper growth of children.

Common nutritional deficiencies in Indian Children

Nutritional disorders are the major health problems in India and other developing countries. These deficiencies are generally multiple, anemia due to iron, protein, vit B2 deficiency may be associated. Deficiencies of Vit B complex are very common. keratomalacia due to Vit A deficiency have been also observed in 10-20% of children accompanied with kwashiorka.

The nutritional imbalance can be categorised as malnourishment and undernourishment. Growing children are most vulnerable to effects of *under nutrition*. The frequency of undernutrition can not be easily estimated from common syndromes of malnutrition as marasmus and kwashiorkar. Undernutrition is generally diagnosed by comparing the weight, height of the children. Children who receive less food do remain small but smallness is only an adaptation mechanism. When the diet intake is deficient for a short period the body can adopt its metabolism to compensate for the deficit to a limited extent. If the food deficit persists for a longer period, the malnourished children conserve their energy by avoiding physical activity. As the nutrition deficit continues longer growth of the children suffers and they become marasmic or develop kwashiorkar. The entire range of mild to severe manifestation of nutritional deficiencies in which low protein intake is common but consumption of carbohydrates and fat as a source of energy varies are called 'Protein energy malnutrition'.

Marasmus :- Nutritional marasmus is the extreme form of malnutrition. A marasmic child has only 60 % of the expected body weight for the age. The fat in the adipose tissues is severely depleted wrinkled and loose folds of skin are prominent at inner side of thigh. The hair is discoloured. Such children are alert. This problem among children can be reduced to some extent by managing their diet.

Kwashiorkar

Child with mild or moderate protein energy-malnutrition is underweight and appears disproportionate with long body, thin limb and unduly large head. If the child catches some infection, he may develop kwashiorkar. With the onset of this, the previously peevish and irritable undernourished child becomes lethargic, listless. He does'nt involve himself with other children. Appetite is very less. The main problem of this nutritional deficiency is that growth is markedly retarded.

The skin of the child is also effected. It peels off from certain parts and the area gets infected very easily.

The nutritional deprivation in early life of a child shows adverse effect on the mental development and learning abilities. The malnourished children in early infancy show poor mental performance in later childhood. The period of active brain growth extends from 30th week of gestation of human fetus to about the end of second year of life. Under-nutrition during this period appears to effect the development of the brain. The infant mortality rate in India is very high. About half of the infant deaths after the first month are because of pneumonea and diarrhoca. This problem is commonly scen during weaning period to the low food intake. In the second year of life, most of the deaths are the combined effect of malnutrition and diarrhoca disease.

Management of diet in protein energy malnutrition

The children having protein energy malnutrition may have other associated nutritional defects such as vitamin deficiencies or anemia and other disturbances. The intake of food is the main important act during this time. The children should be encouraged to eat all locally available foods, which family can afford. The food intake should be increased. The diet of the child should be carefully planned so that he receives adequate calories and protein. About 8 - 10 % of the total calories should be obtained from protein of higher biological value i.e. vegetable protein. If a child can digest them the milk and milk products should be added to the diet to provide extra calories. While planning the diet extra care should be taken to include the foods which are locally available and can be easily cooked at home. Expensive foods may not necessarily be the most nutritious foods.

TABLE - X
NUTRITIVE VALUE OF COMMON FOODS ARTICLES PER 100 GM TO BE
INCLUDED IN CHILD'S DIET

ITEM	CALORIE	PROTEIN
Wheat flour	341	12.1
Rice (milled)	345	6.8
Jowar	349	10.4
Bengal gram (dal)	360	17.1
Rajmah	346	22.9
Soyabean	43.2	43.2
Peas	93	7.2
Ground nuts	567	25.3
Milk (cow)	120	3.2
Curds	60	3.1
Cheese	348	24.1
Potato	97	1.6
Sweet Potato	120	1.2
Egg	173	13.3
Butter	729	—

Note : Data is taken from Nutrition Disc of India.

Prevention of nutritional deficiencies (protein-calorie malnutrition)

The following steps should be taken to prevent this among children.

Nutritional education :- This is very important for prevention of malnutrition. Nutritional education should take into account the social, economic and cultural variables. The proper knowledge regarding the benefits of foods, articles of food which carry high value and importance of certain food items which must be included in child's diet should be given. The parents should be taught about the conditions which give rise to malnutrition.

Breast feeding should be encouraged and promoted. The mother should be taught to supplement the diet at the age of 4 months. If the child is not given supplementary food at this age he will not show proper growth. This supplement should be the mixture of cereals and legumes to provide enough amino acids, milk, meat eggs or other foods of high biological value should be added as the family can afford.

TABLE - X
NUTRITIVE VALUE OF COMMON FOODS ARTICLES PER 100 GM TO BE
INCLUDED IN CHILD'S DIET

ITEM	CALORIE	PROTEIN
Wheat flour	341	12.1
Rice (milled)	345	6.8
Jowar	349	10.4
Bengal gram (dal)	360	17.1
Rajmah	346	22.9
Soyabean	43.2	43.2
Peas	93	7.2
Ground nuts	567	25.3
Milk (cow)	120	3.2
Curds	60	3.1
Cheese	348	24.1
Potato	97	1.6
Sweet Potato	120	1.2
Egg	173	13.3
Butter	729	—

Note : Data is taken from Nutrition Disc of India.

Prevention of nutritional deficiencies (protein-calorie malnutrition)

The following steps should be taken to prevent this among children.

Nutritional education :- This is very important for prevention of malnutrition. Nutritional education should take into account the social, economic and cultural variables. The proper knowledge regarding the benefits of foods, articles of food which carry high value and importance of certain food items which must be included in child's diet should be given. The parents should be taught about the conditions which give rise to malnutrition.

Breast feeding should be encouraged and promoted. The mother should be taught to supplement the diet at the age of 4 months. If the child is not given supplementary food at this age he will not show proper growth. This supplement should be the mixture of cereals and legumes to provide enough amino acids, milk, meat eggs or other foods of high biological value should be added as the family can afford.

Mothers' meeting should be arranged. The knowledge can be imparted through a public health nurse or any physician if available. Discussions in groups of mothers can be a better idea. In some community health projects raw ingredients of weaning foods are also given to the groups of mothers and ingredients are explained to them. Few nutritional supplements can be distributed to mothers for their malnourished children. Alongwith this the parents can be encouraged to grow few leguminous plants which are cheap source of protein and calorie in the diet. The nurses can practically demonstrate the recipes for preparation of the weaning foods. Documentary films, T.V., posters, newspapers and other media of mass communication may be used for nutrition education.

Increasing food supplies to nutritionally deficient children may be done. For this proper nutritional planning of the diet should be present in our country. These have adverse effect on the nutritional status of children and often result in acute malnutrition. For preventing the health package including immunisation, hydration in cases of diarrhoea and prompt treatment of common infection should be given.

Preschool children especially under 3 years suffer from the hazard of malnutrition. For this following can help :

- Supplementary feeding programme.
- Midday meal programme
- Special nutrition programme
- Applied nutrition programme and integrated rural development programme.
- Integrated child development services (ICDS)
- Food for work programme.

Vitamin 'A' deficiencies

Xerophthalmia is a common deficiency problem in children. In this bitot spots appear in cornea. Cornea of such children is softened and ulceration occurs. Finally it is infected and perforation of cornea occurs, resulting in blindness. The other symptoms of this problem are :-

- Skin becomes scaly and toad like.
- Children become prone to respiratory infections.
- Growth retardation occurs.

The diet should be planned carefully including Vit 'A' rich food (Table - X shows the list). The supplementary dose of Vit 'A' orally can be introduced to the children suffering from this condition. The recommended dose of this supplement is 200,000 IU. These doses are administered by the personnel of family planning department.

Vitamin 'D' deficiency

This condition decreases the absorption of Vit D from gut resulting in hypocalcemics. Calcium and phosphate is necessary for deposition of calcium in the growing bones, decrease in blood levels of calcium, phosphorus on both interferes with calcification of the osteoid tissues. In *ricket* the bones become less rigid. As the child bears weight, soft end of the non-rigid bone is compressed. Shaft of the bone also become rarified and soft.

Vitamins 'D' is administered orally. On administration of Vit D max. calcium is absorbed and becomes available for normal development of bones. The deficiency is seen in the later half of first year as in the second year. Ricket is usually below the age of 3 months. It may occur in older children with malabsorption. In infants eruption of primary teeth is delayed, long bones of legs get deformed when the child starts bearing the weight. The clinical diagnose is based on x-rays.

The children suffering from ricket and given oral dose of 15000 hg or 600,000 IV. Child should be encouraged to play outdoor for longer period. Diet should be supplemented with adequate amount of Vit 'D'.

Vitamin 'C' deficiency

Vit 'C' is required for maintenance of intercellular substances such as collagen bone matrix and dentine of teeth. It is also required for normal growth, tissues repair, healing of wounds and bone fractures. Several Vit 'C' deficiency causes *SCURVY*. The usual age for this is 6 - 18 months. The children who are breast fed have less chances of this problem as breast milk contains adequate amount of Vit 'C'. The main symptom of this disease is that child cries when handled, and doesn't want to move his limbs, bleeding can be seen in gums.

The children should be given plenty of juices, raw fruits and vegetables or if need be oral doses can be given.

Anemia due to iron deficiency

Hemoglobin levels below 11 gm in children 6 months to 6 years old is considered as indication of anemia. The infants may be born anemic or may develop anemics within a few days or a week after birth. The normal infant has 250 - 300 mg of iron at the time of birth. 60% of this is present in the form of hemoglobin and the rest is present in tissues. Iron deficiency in mother has little effect on the iron status of new born infant, unless it is very severe.

The main cause of this anemic are :-

- Reduced iron intake.
- Excessive losses of iron from body.
- Diminished absorption.
- defecting metabolism.
- diminished stores of iron.

Cow's milk is a poor source of iron. The children are normally introduced to cow's milk in the first year of life. Breast milk is a better source of iron and also is absorbed better by the children. At the time of weaning the children are given cereals as supplementary food. This provides energy but impairs iron absorption. Special care should be taken by mother to give iron rich substances to children at this time. The vegetarian diet is poor in iron content. The children do not thrive well, appear off colour and get tired easily. They are more prone to infections. Nails become thin, brittle and flat, longitudinal ridges appear on these. Some children start eating non-eatable things like chalk, mud etc.

Daily requirement of iron in the first year is 5 - 7 mg. In childhood it is increased to 10 mg. To prevent anemia supplementary foods, especially rich in iron should be added in diet. Pulses, beans, peas, leafy vegetables are good source of iron. Iron present in egg is not easily absorbed. Table salt fortified with iron is also recommended for preventing iron deficiency among children.

Bibliography

- Arya, Dr. Subhash, C, *Infant and Child Care for Indian Mothers*
Bec. Helen, *The Developing Child* (Third Edition), Harper International
Edition 1939
- Bhogle, BD. *Themes in Child Development and Child Guidance*
- Brelan, H.M. *Family Configuration and Verbal Achievement of Child
Development* H.M. 1011-1019-1974-75
- Child Rearing Attitudes of Mother in Germany and the U.S.* Child Dev,
32, 669, 678.1961.
- Contemporary Families and Alternative Lifestyles*-Eleanor D. Macklin.
Rager H. Rubin by Sage Publication, Beverly Hills, London 1982.
- Fromme, Allen, *The ABC of Child Care* 10 Volumes
- Garmary, M.S. Kumber G *Principles of General Psychology* Ronald
Press, New york, 1963
- General Psychology*-December, W.N. & Jenkins, 1970.
- Ghai, O.P, *Essential Pediatrics* Mehta Offset Works, New Delhi 1983
- Ghai O.P., Menan PSN - *Physical Growth and Behavioral Development
of Indian Children in Delhi*, Sagar Publication, New Delhi 1978.
- Gupta, Dr. Suraj, *Know your Child*
- Harare, Mc David, (Ed) *Psychology and Social Behaviour* Harper Inter-
national
- Havighurst, R J., *Human Development and Education*, Longman and
Green & Co. Inc. 1983
- Havighurst, R.J.: *Human Development and Education*, New York,
Longman, Green & Co Inc 1983.
- Hilgard, E.R. Atkinson, *RC Introduction to Psychology*. New York,
Harcour, Brace & Jovanovich 1971.
- Hillsdale, N.J. *Errbarum Sibiling Relationships*, 1982.
- Hurlock, Elizabeth B, *Child Psychology* (Third Edition) McGraw Hill
Book Company

- Ira Y. Gordon Human development D.B. paraporevala Sons & Co. Pvt. Ltd, Bombay - 1970.
- Louis Schneide. *Human Response to Social Problems*
- Illingworth R :- *The Development of the infant and young child. abnormal and normal.* 7th Edition churchill, Livingstar Edinburgh London and N. York - 1980.
- Jersild, Arthur J. *Child Psychology* (Fourth and Fifth Edition)
- Kale, S.V., *Child Psychology and Child Guidance*
- King, Maurice and Felicity King, *Primary Child Care- A Manual For Health Worker*
- Kuppuswamy. B, *A Text Book on Child Behaviour and Development* (Edited) (2nd Edition revised)
- Lamb M.E. in M.E. Lamb & B. sutton smilts (Eds) *Sibling Relationships Across the Life Span.*
- Lawl, ME, and B Suten Smith (Edn.) *Sibling Relationships across the Life Span in Sibling Relationship* Hillsdale, N J Errbarum 1982
- Med, Bret J. *The Effect of Mother-Child Separation : A folldo-up study* Psycho 29-211-247 1956
- Modern Encylopaedia of Child Care Child rearing Attitudes of Mother in Germany and the US.* Child Development 32, 669-678, 1961.
- Murphy, LB. *Personality of Young Children* Basic, The Newyork 1969
- Senkins D cember LN *General Psychology* 1970
- Mussen Paul M. *Ed-Hand book of Research Methods in Child Development* - John Wiley & Sons USA 1960
- Mussim, Paul H, *The Psychological Development of the Child*, Prentice-Hall of India Pvt. Ltd New Delhi 1969
- Mussim, Paul Henry, *Child Development and Personality* (Sixth Edition) Harper International Edition
- Norton, *The Wisdom of the Body* New York 1932
- Psychology - Human relations and motivations* IVth Ed. Donald A. Laird, Eleanor Laird, Gregg Division McGraw Hill Book N. York - 1967
- Rappo Leon, *Personality Development : The Chronology of Experience* Foresman and Company, London
- Shaline M. Rao, Mudambi, Sumate
- Benita Ray, *Fundamentals of Home Science*

Rogers, Dorothy *Child Psychology* (Second Edition)

Sahoo, Dr. F.M. and P.K. Mishra, R.S. Pitra, Environment and Behaviour. Ecological Perspectives, Ahshat Publication, New Delhi 1988.

Swaminathan M.S.-*Food production - Technology and achievement of social goals*, proceedings of Nutrition Society of India 1974.

Wisdom of the Body, New York, Norton, 1932.