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(FACULTY NAME-KALPANA PORWAL)

UNIT- 1ST

UNIT-1

INTRODUCTION:

The term pediatric derived from the Greek words-
Pedia - Child
Iatrike - Treatment
ics - Branch of science
Pediatric means the science of child care and scientific treatment of childhood disease.
Pediatric is synonymous with child health.

PEDIATRICS-

"Pediatric can be defined as the branch of medical science that deals with the care of childhood from conception to adolescent in health and illness. It concern with prevention, promotion, curative and rehabilitative care of children."

PEDIATRIC NURSING-

"Pediatric nursing is the specialized area of the nursing practice concerning the care of children during wellness and illness, which includes preventive, promotive, curative and rehabilitative care of children."
Or it is the art and science of giving nursing care to children from birth through adolescent with emphasis on the physical growth, mental, emotional and psycho-social development.

IMPORTANCE OF PEDIATRICS:

- Major consumers of health care.
- 35 – 40 of total population are children below the age of 18.
- More vulnerable to various health problems.
- Majority of Childs morbidity & mortality preventable.
- Needs special care to survive & thrive.
- Wealth of tomorrow society and nation.
- Paediatrics as an independent medical speciality because the health problems of children differ from those of adults in many a way.
- Children's response to an illness is influenced by age.

- Management of childhood illness is significantly at with that of an adult. Finely children also need special care since they are among the most vulnerable in the society.

MODERN CONCEPT IN PEDIATRIC AND PEDIATRIC NURSING:

The present concept of health care of child focuses on prevention of illness and promotion of health rather than treatment of illness alone. Present focus of pediatric is shifting from traditional to process oriented one that is based on sound scientific rationale.

Shift from	Focus on
Disease cantered care.	Child cantered care with in the family system.
Discouraging the families on neglect of female child.	Taking special care of female child as she is future mother.
Starting the care for women after she become pregnant.	Health education on planned parenthood and guarding maternal health before conception.
Special care of the sick child in hospital.	Comprehensive care of the child from the day of conception throughout the developmental year of childhood.
Illness oriented care	Health promotion oriented care.
Care was only hygiene and treatment oriented.	Warmth and love oriented.
Providing routine care	Quality car in term of play, recreation, nutrition, etc.
Traditional practices.	Evidence based practice
Caring for the physical condition of the child in isolation.	Holistic care of the child that is family centered.(based on mutual understanding of their physical, psychological, emotional and spiritual dimension)
Not allowing parents to be with the child in hospital and having rigid visiting hour.	Ensuring that child must have one parents with him/her in the hospital and having flexible visiting hours.

INTERNATIONALLY ACCEPTED RIGHTS OF THE CHILDREN:

The United Nations adopted the "Declaration of the Rights of the child", on 20th November,1959.

AIM: To meet the special needs of the child.

THE 10 BASIC RIGHTS OF THE CHILD ARE:

1. Right to develop in an atmosphere of affection and security and protection against all forms of neglect, and traffic.
2. Right to enjoy the benefits of social security, including nutrition, housing and medical care.
3. Right to a name and nationality.
4. Right to free education.
5. Right to full opportunity for play and recreation.
6. Right to special treatment, education and appropriate care If handicapped.
7. Right to be among the first to receive protection and relief in times of disaster.
8. Right to learn to be a useful member of society and to develop in a healthy and normal manner and develop individual ability.
9. Right to be brought up in a spirit of understanding, tolerance, friendship among people, peace and universal brotherhood.
10. Right to enjoy these rights, regardless of race, color, sex, religion, nation or social origin.

NATIONAL POLICY & LEGISLATIONS IN RELATION TO CHILD HEALTH & WELFARE:

- The Government of India adopted a National Policy for children in August 1974.
- It shall be the policy of the state to provide adequate services to children, both before and after birth and through the period of growth, to ensure their full physical, mental and social development. The state shall progressively increase the scope of such services so that, within a reasonable time, all children in the country enjoy optimum conditions for their balanced growth."
- A number of programs were introduced by the Govt. of India, after the declaration of national policy for children. The important programs are:

- ICDS Scheme
- Programs of supplementary feeding
- Nutrition education
- Production of Nutritious food
- Welfare of handicapped children
- National children's fund
- CSSM programs.

THE PRINCIPLES OF INDIA'S NATIONAL POLICY FOR CHILDREN ARE:

In particular, the following measure shall be adopted towards the attainment of the objectives of this policy.

- All children shall be covered by a comprehensive health programme.
- Programmes shall be implemented to provide nutritional services with the objective of removing deficiencies in the diet of children.
- Provision of health care, nutrition and nutrition education for expectant (pregnant) and nursing mothers.
- Free and compulsory education up to the age of 14 years, informal education for preschoolers and efforts to reduce wastage and stagnation in schools.
- Promotion of games, recreation and extracurricular activities in schools and community centers.
- Special programs for children from weaker sections of society to ensure equality of opportunity.
- Facilities for education, training and rehabilitation for socially handicapped children.
- Protection against neglect, cruelty and exploitation.
- Banning of employment in hazardous occupations and in heavy work for children.
- Special treatment, education, rehabilitation and care of physically handicapped, emotionally disturbed or mentally retarded children.
- Priority for the protection and relief of children in times of national distress and calamity.
- Special programs to encourage talented and gifted children, particularly from the weaker sections.
- Paramount consideration in all relevant laws is the "Interests of children.

LEGISLATION RELATED TO CHILD WELFARE:

Child welfare agencies include such laws and act through which care, protection, welfare and rehabilitation of children including those in conflict with law can be ensured. These legislation derive their strength from various constitutional provisions (like articles24, 39 and 45), national policy for children, adopted by government of India in 1974 and United Nations declaration on rights of children.

Various acts related to children welfare are:

- The children's act, 1960
- Juvenile justice act, 1986
- The child labour (prohibition and regulation) act, 1986
- The child marriage restraint act, 1929
- Education for all handicapped children act, 1975
- Child abuse prevention and treatment act, 1974

THE CHILDREN'S ACT, 1960:

The children act of 1960 (amended in1977) in India, provides for care, maintenance, welfare, training, education and rehabilitation of delinquent children. The categories of children who come under children's act are:

Neglected child –means a child who-

- Is found begging.
- Is without any home.
- Is destitute or an orphan etc.
- Parents/guardian who is unfit to take care of the child.
- Socially handicapped, victimised, and delinquent children.
- Such neglected children can be taken charges of, by the police, probation office or superintendent of observation home.

JUVENILE JUSTICE ACT, 1986:

- With the implementation of the Juvenile Justice Act, 1986. The new act has come into force from 2nd October, 1987. Now replaced by new juvenile justice (care and protection of children) act, 2000.
- This act imposes on the state primary responsibility of ensuring that all needs of children are met and their basic human right are fully protected, 'juvenile or child means a person who has not attained the age of 18 years.
- Some of the special features of the juvenile Justice Act are the following:
- It provides a uniform legal framework for juvenile justice in the country, so as to ensure that no child under any circumstances is put in jail or police lock-up.
- The act provides a system to facilitate the adoption of children.
- The act empowers the state governments to establish and maintain children's home in every district for reception of children in need of care and protection during the process of any inquiry. These homes provided care, treatment, education and training to juvenile.

THE CHILD LABOUR (PROHIBITIION AND REGULATION) ACT, 1986:

- The Act came in force from 23rd December, 1986.
- An Act to prohibit the engagement of children in certain employments and to regulate the conditions of work of children in certain other employment.
- Child: means a person who has not completed his fourteenth year of age.

The key features of this act are:

- No child shall be permitted to work in any of the occupations listed in list.

PROHIBITION OF EMPLOYMENT OF CHILDREN IN CERTAIN OCCUPATIONS AND PROCESSES:

No Child shall be employed or permitted to work in:

1. Transport, catering or construction by railways.
2. Firecracker shop.
3. Slaughter House.
4. Automobile workshop/garages.
5. Handloom.
6. Mines.
7. Plastic units and fiberglass workshop.
8. Domestic Servants.
9. Dhabas, restaurants, hotels, motels, tea shops, resorts, spas, or other recreational
10. Carpet weaving industry.
11. Cement Manufacture.
12. Cloth printing, dyeing and weaving.
13. Manufacture of matches, explosives and fire-works.
14. Mica-cutting and splitting. .
15. Soap manufacture.
16. Building and construction.
17. Cotton Industry.
18. Manufacturing of pesticides and insecticides.
19. Paper making.
20. Oil refinery.

- No child shall work for more than 3 hours followed by an interval of 1 hr rest and the duration of such work should not be more than 6 hr.
- No child shall be permitted to work between 7PM to 8AM
- The owner of establishment should notify to the police regarding joining of any child , within 30 days of joining.
- It is the responsibility of the government to make rules to provide healthy and safe environment for the child on work.
- Whoever employs any child or permits any child to engage in occupation listed in above list shall be punishable with imprisonment for a term.

THE CHILD MARRIAGE RESTRAINT ACT, 1929:

The Child Marriage Restraint Act was a legislative act passed on 28 September 1929. It come into force on the 1st day of April, 1930.

The act fixed the marriageable age for girls at 14 years and 18 years for boys. It would be later amended to 18 years and 21 years for girls and boys respectively. It is popularly known as the Sarda Act after its sponsor, Harbilas Sarda.

KEY FEATURE OF THE ACT ARE:

- Punishment for male adult below twenty-one years of age marrying a child.
- Punishment for solemnizing a child marriage.
- Punishment for parent or guardian concerned in a child marriage.

EDUCATION FOR ALL HANDICAPPED CHILDREN ACT, 1975:

- Education for all handicapped children act was passed in 1975 and it has been revised and modified several times. And this law amended with disabilities education improvement act, 2005.
- This act provides for mainstreaming of education, practice of teaching handicapped children in regular classroom with non-handicapped children to the fullest extent possible. this practice is also called inclusion.
- Researchers have stated that handicapped student learn better in regular, than in special classes.

CHILD ABUSE PREVENTION AND TREATMENT ACT, 1974:

- The law was completely rewritten in the child abuse prevention, adoption and family services act of 1988. It was amended in 2003.
- The act is aimed at preventing sexual abuse of children by providing definition, preventing mechanism, victim protection, incident reporting and registration mechanism, investigative protocol, court procedure to serve best interest of children and for their rehabilitation and punishment of perpetrators of sexual crime against children through various institutions established under this act.

NATIONAL PROGRAMMES RELATED TO CHILD HEALTH & WELFARE:

INTRODUCTION:

- Various national health programs are currently in operation for the improvement of child health and prevention of childhood diseases.
- In 1951, India was the first country in the world to launch a family planning programme and now family planning which was changed into family welfare programme with maternal and child health becoming an integral part of family planning programme, with the vision that reduction in birth with reduction in infant and child mortality rate.
- The ministry of health, Government of India, central health council launch programs aimed at controlling or eradicating diseases which cause considerable morbidity and mortality in India.

A. NATIONAL PROGRAMS RELATED TO MOTHER AND CHILD CARE:

- Maternal and child health program (MCH)
- Integrated child development service scheme (ICDS)
- Child survival and safe motherhood program(CSSM)
- Reproductive and child health program(RCH)
- Integrated management of neonatal and childhood illness(IMNCI)

B.NATIONAL PROGRAMS RELATED TO CONTROL OF NUTRITIONAL DEFICIENCY DISORDERS:

- Special Nutritional program
- Mid-day meal program.

- Anaemia prophylaxis program.
- National iodine deficiency disorders control program.
- Vitamin A prophylaxis programme

C. OTHERS NATIONAL PROGRAMMES RELATED TO CONTROL OF COMMUNICABLE AND NON COMMUNICABLE DISEASE:

- School health program
- National program of immunization
- Diarrheal disease control program
- Child welfare program

INTEGRATED CHILD DEVELOPMENT SERVICE SCHEME (ICDS) 1975:

- At present, the most important scheme in the field of child welfare is the ICDS scheme.
- Government of India, started ICDS program in 1975, under the ministry of social and women's welfare.

OBJECTIVE-

- To improve the nutritional and health status of children in the age group 0-6 years.
- To reduce mortality, morbidity, malnutrition and school dropout.
- To lay the foundation for proper psychological, physical and social development of the child.
- To enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education.

CHILD SURVIVAL AND SAFE MOTHERHOOD PROGRAM (CSSM):

BENEFICIARY	SERVICES
Pregnant women	Health check-ups, TT, supplementary nutrition, health education.
Nursing Mothers	Health check-us supplementary nutrition, health education.
Children less than 3 years	Supplementary nutrition, health check-ups, immunization, referral services.
Children between 3-6 years	Supplementary nutrition, health check-ups, immunization, referral services, non-formal education.
Adolescent girls(11-18 years)	supplementary nutrition, health education

- The CSSM programme jointly founded by World Bank and UNICEF was started in 1992-93 in an attempt to expand the focus of government of India from immunization to wide ranges of child survival and safe motherhood interventions.
- The programme was implemented in a phased manner covering all the districts of the country by the year 1996-97.

The objectives of CSSM:

- To reduce infant mortality
- To reduce maternal mortality rate

The strategies for attainment of these objectives are-

A) Child survival interventions

- Essential new-born care
- Immunization
- Management of diarrhoea
- Vitamin A prophylaxis
- Management of acute respiratory infections

B) Safe motherhood interventions

- Immunization of pregnant women
- Prevention and treatment of Anaemia
- Antenatal care and early identification of maternal complications.
- Delivery by trained personnel
- Promotion of institutional delivery
- Management of obstetric emergencies
- Birth spacing

Strategies for achieving these objectives:

- Establish of first referral unit (FRU) to provide emergency obstetric services, and emergency services for new-borns, infants and children.
- Training of traditional birth attendants (TBAs) and providing them disposable delivery kits to enable them to perform safe deliveries
- Sub enters were equipped with drugs and equipment's necessary for handling maternal and child health conditions.
- Training health personnel in essential obstetric and new-born care.

INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESS (IMNCI)

IMNCI concept was developed by WHO and UNICEF for the common illness management among pediatric population. It is curative, promotive, preventive, strategy at reducing the death and severity of illness.

Components of IMNCI-

- ❑ Improvement of family and community practice towards child health care.
- ❑ Provision of essential drugs and supply.
- ❑ Community involvement in health care programme of children.
- ❑ Betterment of technical skill of health care programmes of children.

IMNCI SERVICES -

- ❑ Vaccination services, vitamin A, Micronutrient supplementation.
- ❑ Breastfeeding, management of ARI.
- ❑ Prevention of diarrhea, and malnutrition.
- ❑ Control of malaria and counseling of parents on various health problems.

MID-DAY MEAL SCHEME-1961

The mid-day meal scheme is the popular name for school meal programme in India. It involves provision of lunch free of cost to school- children on all working days.

OBJECTIVES OF THE PROGRAMME

1. To improve the nutritional status of children
2. Protecting children from classroom hunger,
3. Increasing school enrolment and attendance,
4. improved socialization among children belonging to all castes,

PRINCIPLES:

- ❑ The meal should be such that it can be prepared easily in schools, no complicated cooking process should be involved.
- ❑ As far as possible, locally available foods should be used, this will reduce the cost of the meal

- ❑ The menu should be frequently changed to avoid monotony
- ❑ The meal should be a supplement and not a substitute to the home diet
- ❑ The meal should supply at least one third of the total energy requirement and half of the protein need.

NATIONAL IODINE DEFICIENCY DISORDER CONTROL PROGRAMME (NIDDCP):

National Goitre control programme was launched in 1962

AIM

To reduce the prevalence if IDD
To less than 10% among adults by 2010.
To less than 5% among children 10-14 years.

OBJECTIVES

- ➢ To assess the magnitude of IDD problem in the country.
- ➢ To assess the impact of control measure after five years.
- ➢ To monitor the quality of iodized salt available to consumers.
- ➢ To conduct IEC campaign for promoting community participation in the implementation of the programme.

COMPONENTS OF IDDC PROGRAMME

1. Iodization of salt and oil
2. Monitoring and surveillance
3. Manpower training
4. Mass communication

THE APPLIED NUTRITION PROGRAMME:

- ❑ One of the earliest nutritional programmes, by Ministry of Rural Development.
- ❑ This project was started in Orissa on 1963.Later extended to Tamilnadu and UP. In 1973 extended to all states in INDIA.

OBJECTIVES

- ❑ To make people conscious of their nutritional needs,
- ❑ To increase production of nutritious foods and its consumption, and
- ❑ To provide supplementary nutrition to vulnerable groups through local production of food.
- ❑ The programme aimed at the approach of "self reliance" to be developed at the community and individual level.

BENEFICIARIES

- Children between 2-6 years
- Pregnant and lactating mothers.

ORGANIZATION: The programme is implemented under the supervision of block development officer. The Balsevikas with the help of a helper undertake the programme activities at the village/community level.

VITAMIN-A PROPHYLAXIS PROGRAMME:

- ❑ VAD is the most common cause of preventable blindness in children(1-3yrs)
- ❑ VAD causes an estimated 60,000 children in India to go blind each year.
- ❑ VAD in India remains a significant public health problem.
- ❑ The National Vitamin A prophylaxis programme was started in 1970 by ministry of health and family welfare.
- ❑ The age group of eligible children for coverage was restricted to 9 to 36 month of age
- ❑ In 2006 the age group of eligible children was revised as 6-59 month.

GOAL

- ❑ To make vitamin –A deficiency no more a public health problem
- ❑ To reduce Bitot's spot to less than 0.5%
- ❑ To bring down the prevalence of night blindness to less than 1%

STRATEGY:

- ❑ Food considered for fortification include sugar, salt, tea, margarine, dried skimmed milk etc.
- ❑ Long term measures - Dietary improvement is, the most logical and sustainable strategy to prevent VAD.

- Nutrition education -A change in dietary habits and increased access to vitamin A-rich foods through education.
- Immunization against infectious diseases
- Prompt treatment of Diarrheal diseases
- Better feeding practices of infants and children

SCHOOL HEALTH SERVICES:

INTRODUCTION:

- The school health committee was constituted by the government of India in **1960** to assess the standard of health and nutrition of school children and to suggest recommendation to improve them.
- As per the recommendation of the committee, the school health programme was initiated in **1962.**
- The common health problems require special emphasis include malnutrition, infectious disease, skin diseases, dental caries, disease of eye and ear, intestinal parasitosis.

DEFINITIONS:

SCHOOL HEALTH: It refers to a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity among pupils, teachers and other school personnel.

SCHOOL HEALTH SERVICE: refers to need based comprehensive services rendered to pupils, teacher and other personnel in the school to promote, protect their health, prevent and control disease and maintain their health.

OBJECTIVE:-

1. The promotion of positive health.
2. The prevention of disease
3. Early diagnosis, treatment and follow up of defects.
4. Awakening health consciousness in children.
5. The provision of healthful environment.

NEED FOR SCHOOL HEALTH SERVICES:

1. School children are vulnerable section of and population by virtue of their physical, mental, emotional and social growth and development during this period.
2. Children coming to school belong to different socio- economic and cultural background which affect their health and nutrition status and require help and guidance in promoting, protecting and maintaining their health and nutritional status.
3. Children in school age are prone to get specific health problems.

PRINCIPLE:-

1. School health service should on health needs of children.
2. It should be planned in co-ordination with school, health personnel, parents and community people.
3. School health service should emphasis on health education to promote, protect, improve and maintain health of children and staff.
4. It should be continuous and ongoing process.
5. School health service should be have an effective system to record keeping and reporting.

ASPECTS OF SCHOOL HEALTH SERVICE:

Some aspects of a school health service are as follow:-

1. Health appraisal of school children and school personnel.
2. Remedial measures and follow-up.
3. Prevention of communicable diseases.
4. Healthful school environment.
5. Nutritional services.
6. First aid and emergency care.
7. Mental health.
8. Dental health.
9. Eye health
10. Health education
11. Education of handicapped.

12. Proper maintenance and use of school health records.

UNIVERSAL IMMUNIZATION PROGRAM:

- 1974, W.H.O. officially launched a global immunization program, known as Expanded Program of Immunization for the prevention and control of six major, killer disease of children.
- Universal Immunization Program is a vaccination program launched by the Government of India in 1985.
- It became a part of Child Survival and Safe Motherhood Program in 1992. And is currently one of the key areas under National Rural Health Mission (NRHM) since 2005.
- Program consists of vaccination for 12 diseases - Tuberculosis, Diphtheria, Pertussis, Tetanus, Poliomyelitis, Measles, Hepatitis B, Diarrhea, Japanese-Encephalitis, Rubella, Pneumonia Pneumococcal diseases.

OBJECTIVES:

- The stated objectives of UIP are
- To increase immunization coverage.
- To improve the quality of service.
- To achieve self-sufficiency in vaccine production.
- To train health personnel.
- To supply cold chain equipment and establish a good surveillance network.
- To ensure district wise monitoring.

National Immunization Schedule

for PREGNENT WOMEN

Vaccine	When to give	Dose	Diluent	Route	Site
TT-1	Early in pregnancy	0.5 ml	NO	Intramuscular	Upper Arm
TT-2 #	4 weeks after TT-1	0.5 ml	NO	Intramuscular	Upper Arm
TT-Booster#	If received TT doses in a pregnancy within the last 3 yrs.	0.5 ml	NO	Intramuscular	Upper Arm

for INFANTS

Vaccine	When to give	Max. Age	Dose	Diluent	Route	Site
BCG ##	At birth as early as possible	Till one year of age	0.1 ml (0.05 ml until 1 month age)	Sodium Chloride	Intra-dermal	Left Upper Arm
Hepatitis B Birth Dose ###	At birth as early as possible	within 24 Hours	0.5 ml	NO	Intramuscular	Anterolateral side of mid-thigh LEFT
OPV-0*#	At birth as early as possible	within the first 15 days	2 drops	NO	Oral	-
OPV 1, 2 & 3	At 6, 10 & 14 weeks	Till 5 years of age	2 drops	NO	Oral	-
Rota Virus Vaccine*	At 6, 10 & 14 weeks	Till 1 year of age	5 drops	NO	Oral	-
IPV (Inactivated Polio Vaccine)	At 6 & 14 weeks	Up to 1 yr. of age	0.1 ml	NO	Intradermal	Right Upper Arm
Pentavalent** 1, 2 & 3	At 6, 10 & 14 weeks	Till one year of age	0.5 ml	NO	Intramuscular	Anterolateral side of mid-thigh LEFT
Measles - 1st Dose	9 - 12 completed months	Given till 5 yr of age	0.5 ml	Sterile Water	Subcutaneous	Right Upper Arm
Japanese Encephalities 1st dose	9 - 12 completed months	Till 15 yrs.	0.5 ml	Phosphate Buffer	Subcutaneous	Left Upper Arm
Vitamin A (1st Dose)	At 9 completed months with measles	Till 5 years of age	1 ml (1 lakh IU)	NO	Oral	-

for CHILDREN

DPT Booster - 1	16-24 months	7 years	0.5 ml	NO	Intramuscular	Anterolateral side of mid-thigh LEFT
Measles 2nd dose	16-24 months	Till 5 years of age	0.5 ml	Sterile Water	Subcutaneous	Right upper Arm
OPV Booster	16-24 months	Till 5 years of age	2 drops	NO	Oral	-
Japanese Encephalities 2nd dose	16-24 months	-	0.5 ml	Phosphate Buffer	Subcutaneous	Left Upper Arm
Vitamin A (2nd to 9th dose)	16 months. Then, 1 dose every 6 months	Till 5 years of age	2 ml (2 lakh IU)	NO	Oral	-
DPT Booster - 2	5-6 years	7 years	0.5 ml	NO	Intramuscular	Upper Arm (Left)
TT	10 years & 16 years		0.5 ml	NO	Intramuscular	Upper Arm

DIARRHOEAL DISEASE CONTROL PROGRAMME:

- Diarrhoeal disease is the second leading cause of death in children under five years old. It is both preventable and treatable.
- Each year diarrhoea kills around 5, 25,000 children under five.
- A significant proportion of diarrhoeal disease can be prevented through safe drinking-water and adequate sanitation and hygiene.
- Globally, there are nearly 1.7 billion cases of childhood diarrhoeal disease every year.
- Diarrhoea is a leading cause of malnutrition in children under five years old.
- The diarrhoeal disease control programme was started **by WHO in 1978**
- National cholera control programme of India' was converted into 'NATIONAL DIARRHEAL DISEASE CONTROL PROGRAMME' (NDDC) in 1983
- from 1992-1993 , the programme has become a part of child survival & safe motherhood programme.
- At present it is a part of ' **NATIONAL RURAL HEALTH PROGRAMME**' OF 2013 (NRHM)

AIM AND OBJECTIVE :

SHORT TERM

- Reduce Mortality
- Reduce Diarrhea Related Malnutrition

LONG TERM

- Reduce Morbidity
- Improving Child Care Practices
- Epidemiologic Surveillance
- Proper Excreta Disposal and Clean Water Supply

STRATEGY :

- To train medical and other health personnel in standard case management of diarrhea.
- Instruct mother in home management of diarrhea and recognition sign which signal immediate care.
- Make available the ORS (oral rehydration salts) packets free of cost

TREATMENT/PREVENTION

- The rational treatment of diarrhea consists in prevention of dehydration in a by oral rehydration therapy(ORS)
- Breastfeeding should be continued.
- Parent must be educated regarding
- storage of water and food in clear utensils, continue of breastfeeding,
- using of only freshly prepared weaning foods
- Washing of hands with soap before handling food.

TRENDS IN PEDIATRICS AND PEDIATRIC NURSING:

INTRODUCTION

- Paediatric regarded as the medical science which enables an anticipated newborn to grow into a healthy adult, useful to the society.
- Remarkable changes have occurred in the field of paediatric nursing in recent years due to changing needs of society, medical and technological advancing political interests and changing trends within the nursing profession.

The Latest trends in paediatric nursing:

- Flexible visiting hours
- Rooming in
- Parents support group
- School teachers involved in care of hospitalized child

- ❖ Play in school and hospital
- ❖ Care by parents
- ❖ Health and nursing team
- ❖ Evidence based practice
- ❖ Prevention of disease and promotion of health

CHILD MORBIDITY AND MORTALITY RATE:

The process of maintaining vital statistics is a purposeful mechanism of collecting, processing, analysing and transmitting the information required for organizing and operating health services and also for research and training.

- A Vital statistics are considered as indicators of health.
- Child health status is assessed through measurement of mortality and morbidity.
- Some commonly used measures of population and child health status are:

MORBIDITY RATE:

- Deviation from a state of physical or mental well-being as a result of disease, injury or impairment.
- In a given population morbidity for a given time, may be measured in terms of incidence, in terms of prevalence.

Incidence rate = Total no. of new cases of illness during a defined period / Population exposed to risk in the same period

Prevalence

- Prevalence Indicates how common is an event in a population.
- It is used to measure the frequency of an illness in existence during a defined period.
- It includes all the cases in the defined period, new and old case, during the same period

Prevalence rate= Total no. of new and old cases found during a specified period / Population exposed to risk at the same period

MORTALITY RATE:

Death rate **= deaths / population * 10^n**, where, deaths - Deaths measured within specified time interval for a certain population; n - The exponent and gives you the answer per every 10^n people.

Others mortality indicators:

Maternal mortality rate (MMR)

Mortality in infancy and childhood:

Perinatal mortality rate (PMR)

Neonatal mortality rate (NMR)

Postneonatal mortality rate (PNMR)

Infant mortality rate (IMR)

Under five mortality rate.

PREVENTIVE MEASURE TO REDUCE CHILD MORBIDITY AND MORTALITY:

- PRENATAL NUTRITION
- PREVENTION OF INFECTION
- BREASTFEEDING
- FAMILY PLANNING
- SANITATION
- PRIMARY HEALTH CARE
- SOCIOECOMIC DEVELOPMENT
- NATIONAL HEALTH PROGRAMME

DIFFERENCE BETWEEN AN ADULT AND CHILD-

There are a many difference between children and adults like physiological, anatomical, cognitive, social, and emotional.

These all impact on the way illness and disease present in children and young people, as well as the way health care is provided.

Anatomic and physiologic difference-

CHILDREN	ADULTS
New born head is larger and heavier as compared to his body	Adults head is not heavier than body
Thinner skin children have thinner skin than adults	Adults skin not as much thinner than children
Rapidly dividing cell children cell divide more rapidly than adult	Normal cell division
No tears in early infant	There is tears formation in eyes
No voluntary control over the environment or activity	Voluntary control on body

Systemic Difference-

(A) Integumentary System
(B) Respiratory System
(C) Respiratory System
(D) Heart and Circulatory System
(E) Hematological System
(f) Urinary System
(G) Gastrointestinal System
(H) Endocrine System
(I) Reproductive System
(J) Musculoskeletal System
(k) Neurological System
(L) Lymphoid Immune System

INTEGUMENTARY SYSTEM-

CHILDREN	ADULT
The apocrine sweat gland- Small and non functional from birth to preschool years. Start functional at 8 year of age.	Apocrine glands are properly developed in axillae, areolae, genital area.
Skin problems- (a) Lenier disease. (b) Sclerema neonatorum (c) Tinea capitis (d) Tinea pedis	This type of skin problem not seen in adult.

RESPIRATORY SYSTEM-

Children	Adult
Respiratory rate-30 to 60 breath/min. Heart rate-100-160 Beat/min.	Respiration rate-16-20 breath/min. Heart rate/pulse rate-60-80beat/min.
Tissue of respiratory tract are delicate and do not produce sufficient mucus.	Sufficient amount of mucus.
No protection from invasion of infectious microorganism.	Protection from invasion of infectious microorganism.

DIFFERENCE BETWEEN ADULT AND FETAL CIRCULATION-

Characteristics	Adult circulation	Fetal circulation
Artery	Carries oxygenated blood away from the heart	Carries non oxygenated blood away from the fetal heart
Vein	Carries non oxygenated blood towards the heart	Carries oxygenated blood back to the heart
Exchange of gases	Take places in the lungs	Take place in the placenta
Pressure	Increase pressure on the left side of the heart	Increase pressure on the right side of the heart

HEMATOLOGIC SYSTEM-

Children	Adults
Life span of RBC are-60-90 days	Life span of RBC-100-120days
Blood volume-85ml/kg.	Blood volume-60-70ml/kg.

URINARY SYSTEM-

Children	Adults
Infant kidney are immature with reduced ability to filtrate and concentrate	Kidney are mature enough for proper functioning
Nephron are not grow and functional	Nephrons are properly functioning
Not under voluntary control	Under voluntary control

GASTROINTESTINAL SYSTEM-

Children	Adults
It is quite relaxed in infants resulting in frequent regurgitation and vomiting during infant.	The cardiac sphincter of stomach is fairly tight in adults
GI functioning is immature and involuntary	Proper GI functioning and voluntary control
Temporary teeth	Permanent teeth
Stool of neonates is loose	Stool of adult is hard

ENDOCRINE SYSTEM-

Children	Adults
The endocrine glands which secrete hormones are least developed at birth	Properly developed.
Homeostatic control is lacking till the age of 12-18month	Properly mature.

REPRODUCTIVE SYSTEM-

Girls	Boys
Ovaries in a baby girls are approximately 10mm in length and 2-4 mm of width	Testes in male baby at birth are 1.5-2cm. long and 0.7-1cm.wide
Functional of ovary started at the age of 12-13 year of age	The size of testes increases gradually and reaches maturity between 13-17

	years
Faulty development of ovaries leads to precocious puberty	

MUSCULOSKELETAL SYSTEM-

- The suture in skull of new born are not united.
- The infant's bones are neither as firm nor as brittle as of adults so fracture rarely occurs in infants and if it all they occur healing is very quick.
- In children height increases as bones grow at epiphyses whereas in adult height does not increases after certain age.

NEUROLOGICAL SYSTEM-

Children	Adults
The weight of brain of neonates is about 300-500 gram.	The weight of brain of adult is about 1300-1400 grams.
Reflex activity that are present during infancy.	Disappear in adult as voluntary control is developed
VISION-Eyes are not anatomically mature not able to function.	VISION-Eyes are mature and function properly
HEARING-Neonates can heard loud noise at birth.	Adult can listen soften and soothing sound

LYMPHOID SYSTEM-

- The maturation of lymphoid system varies with the child age.
- The lymphoid tissue is small but well developed at birth.
- It increases rapidly in size up to the age of 10-11years.

PRINCIPLES OF PRE AND POST-OPERATIVE CARE OF INFANTS AND CHILDREN-

The Infants and children have different types of surgical problems comparing to adult especially the congenital malformation are the important causes of surgical interventions in children.
Success of surgery in pediatric population depends upon expert team approach with special attention on replacement of fluid loss, continuous monitoring of vital signs to detect complication, prevention of infections and emotional support.

A: Principles of pre-operative care of Infants and Children:

Pre-operative nursing management for children includes psychological preparation, physical preparation, protective measures and pre-operative teaching.
Nursing history and physical assessment are done as for other pediatric admission to the hospital.
The nurse should give special attention to the history of other surgical intervention the child has and the reactions of the child to those experiences.
Necessary laboratory and radiological investigation should be performed as required.

(1) **Psychological Preparation**-

During pre-operative period the nurse should develop trusting relationship with the child and parents.

The Nurse should assess the level of understanding and anxiety of the child and parents and their coping abilities.

(a) Discuss about the type of surgery. Explain the information to the child and parents.
(b) Explain about pre-operative medication which can cause discomfort.
(c) Discuss about an aesthesia and operating room set up and transportation to OT.
(d) Explain about **NOTHING PER ORAL** at least 4-6 hour prior surgery.
(e) Demonstrated the equipment's to be used post operatively such as Oxygen mask, IV fluid, urinary catheter.
(f) Describe the post-operative discomfort and pain which may relieve by medication.
(g) Explain about the recovery room care and set up.
(h) Demonstrate the procedure to prevent post-operative complication such as deep breathing and coughing exercise.

(2) **Physical preparation**

(a) Monitor temperature, pulse, respiration, body weight, skin rash or any other abnormal record.
(b) Give nothing by mouth for prescribed period prior to surgery or at least 4-6 hour before surgery.
(c) Take the child away from area where other children are taking food.
(d) Maintain good hydration if needed, IV fluid therapy to be administered.
(e) Make sure that all other pre-operative procedure are completed such as collection of investigation report, anesthetic check-up, dressing, bowel clearance, NG tube insertion.
(f) Check for any loose teeth, secure these and report.
(g) Remove nail polish and make up if any.
(h) Eye glasses, hearing aids may be worn to the OT or can be given to the prevent loss or damage.
(i) Ask the child to empty the bladder to prevent bladder distension.
(j) Provide all OT dresses, gowns as prescribed.
(k) Transfer the child to the OT at given time and hand over to the OT Nurse with all necessary things, report, record, and case sheets.

(3) **Protective Measures**-

(a) Obtain a informed written consent for anesthesia and surgical intervention as a legal protection.
(b) Check that all laboratory reports, X-ray and any other tests are included in the case sheet.
(c) Record complete information regarding pre- medication, pre- operative procedures, child emotional and physical state to protect from legal problems.
(d) Make sure that identification band for the child is attached securely to prevent faulty identification.
(e) Allow one familiar person to stay with the child to avoid fear of strange.
(f) Make sure that the child is sent to the operation theatre with all document and necessary precautions.

B: Principles of post- operative care of infants and children-

Nursing responsibility in the post- operative management includes meeting both physical and psychological needs of the child.

(1) **Immediate post- operative care**-

(a) Receive the child with detail information about the operation performed and the case sheet recorded accurately.
(b) Check vital signs and give oxygen therapy, if needed.
(c) Maintain patent airway by placing the child on side or abdomen to allow secretions to drain and to prevent tongue from obstructing pharynx.
(d) Suction any secretions if present.
(e) Monitor and record vital signs.
(f) Check the nasogastric tube and aspirate at the given interval and record the amount.
(g) Monitor IV infusion flow rate as directed.

(h) Check for drainage tube and connect with the bottle or bag for continuous drainage.
(i) Maintain intake and output chart accurately.
(j) Explain parent about the treatment plan.
(k) Maintain warmth and cleanliness.

(2) **Care after recovery** –

(a) Continue to make frequent observation in regard vital signs, behaviour, hydration, urination, dressing operative site.
(b) Change the position frequently to minimized discomfort and complication.
(c) Administer prescribed medication with precaution and record.
(d) Continue IV infusion, NG aspiration.
(e) Provide diet as prescribed.
(f) Provide adequate rest period and sleep.
(g) Prevent infection by aseptic measures.
(h) Provide good general hygiene.
(i) Follow preventive measure for post- operative complication. (Shock, hypoxia, wound infection.)

HOSPITAL ENVIRONMENT OF SICK CHILD:

- The sick children need hospitalization. It is a stressful experience for both children and their families.
- Hospitalization leads to interruption of the child active growth and development. The child removed from daily routine of home and brought in an unfamiliar setting causing loss of contact with sibling, relatives and peers.
- Hospitalization may be emotionally and developmentally damaging to the child.
- The following aspects of hospital environment may be stressful for the child:

1. SOCIAL ENVIRONMENT:- It means the people around in the hospital which includes member of health team and other patients and relatives of their family. This is a strange social environment for the child.

2. PHYSICAL ENVIRONMENT:- It means the setting or place and the things around which include the ward or room, machines, equipment's . These are stressful for the child.

3. CHANGE IN ROUTINE:- children may have to undergo various diagnostic and therapeutic procedures which are stressful for both the children and their family. It leads to altered nutritional and sleep pattern and reduce appetite and may cause anxiety in the child.

PREPARATION OF HOSPITAL ENVIRONMENT FOR THE CHILD:

Hospital is traumatic event for the child but it can be made comfortable .it is the nurse responsibility to make hospital stay pleasant. This can be done by taking the following actions:

- Nurse warm approach and their concern can help the child and his family to cope-up with hospitalization in a positive way.
- The child and his family should be introduced to the physician incharge of the child and other health team who are going to take care of the child in hospital.
- The child should be made familiar with the equipment around him and their sound.
- Likes and dislikes of the child related to food should be kept in mind while planning for his diet.
- The environment should be calm and quiet to promote sleep.
- Parents should be allowed to stay with the child.
- Parents should be provision of play and recreation in the hospital.
- The ward setting should be pleasing and attractive. For example, the wall of the ward may have cartoon characters painted over, bed linen and hospital dress for patient may have floral print.
- Separate room for painful procedure so that all children of the ward do not get disturbed while any painful procedure is being done on any patient.

ROLE OF NURSE IN CARE OF HOSPITALIZED CHILDREN:

- The nurse should earn sufficient confidence to develop positive relationship with the children and their parents.
- Nurse should have patience and emotional strength in times of stress.
- Provide family centred care with different approach to specific age group.
- IN NEONATE: Rooming in and sensory motor stimulation.
- IN INFANTS: Encourage mother to balance her responsibilities and minimize separation, mother can be allowed during procedure, providing toys to relieve tension.
- IN TODDLERS : Rooming in , unlimited visiting hours to express child's feelings, no punishment to the child, home routines can be continued , allow play , encourage independence , encourage family interaction.
- IN PRESCHOOLER: Provide parental participation in care, plan to shorten the hospital stay, careful preparation for all procedures by privacy and explanation, encourage the child to participate in the self-care and hygiene, remove fear, and reassure the child.
- IN SCHOOLCHILDREN :Help the parent to prepare child for elective hospitalisation , provide privacy , thorough nursing history should be obtained for plan of care , explain the procedures and its purpose , encourage play, self care and continue schoolwork, ensure parents to cope with their own anxieties.
- IN ADOLESCENTS: Prepare the parents for planned hospital admission , available hospital facilities should be explained soon after admission, respect the personal preference on self-care and food habit , explain all procedure, provide opportunities for recreation , peer relationships, interaction with other adolescent patients and expression of feelings.

STRATEGIES FOR ADAPTATION IN NURSING CARE:

- Welcome the child and parents during each nursing intervention.
- Call by name and touch the gently with love.
- Explain the intervention in simple sentence according to the level of understanding.
- Ask for cooperation and its benefits.
- Encourage to express the feelings.
- Demonstrate the interest and empathy to the child and family members.
- Explain and reason out any unpleasant experience of the past which will reduce anxiety level and help to obtain co-operation.
- Allow parents or significant other during any treatment or nursing procedures.
- Maintain privacy, minimize, exposure and gentle handling of the child during nursing care.
- Provide physical comfort by appropriate positioning, warmth, and bladder evacuation etc. before and during the interventions.
- Take opinion of the parents and the child during any decision making regarding the treatment plan, diagnostic procedures and nursing intervention.
- Maintain eyelevel contact during conversation.
- Diverts the child's attention by toys or telling story.
- Protect the child from physical injury and infections.
- Assure about confidentiality of the information whenever required especially for older children.
- Praise the child for cooperation, never threat or blame the child for non-cooperation.

UNIT-2

INTRODUCTION:

Growth is an essential feature of life of a child. The process of growth starts from the time of conception and continues until child grows into adult. The term growth and development are often used together but they represent two different facets of the dynamics of change, i.e., quantity and quality.

GROWTH:

It is the process of physical maturation resulting an increase in size of the body and various organs. It occurs by multiplication of cells and an increase in intracellular substance. It is quantitative changes of the body which can be measured in inches/centimetres and pound/kilogram. It is progressive and measurable phenomenon.

DEVELOPMENT:

It is the process of functional and physiological maturation of the individual. It is progressive increase in skill and capacity to function. It is related to maturation and my elination of the nervous system. It includes psychological, emotional and social changes. It is qualitative aspects of maturation and difficult to measure.

MATURATION:

It is an increase in competence and change in behavior and ability to function at a higher level depending upon the genetic inheritance.

STAGES OF GROWTH AND DEVELOPMENT:

PRENATAL	Ovum	0-14 Days After Conception
	Embryo	14 Days To 8 Weeks
	Fetus	8 Weeks To Birth
POSTNATAL	Neonate	From Birth To Four Weeks Of Life
	Infancy	First Year Of Life
	Toddler	1-3 Year
	Preschooler Child	3-6 Year
	School Going Children	6-10 Years (Girls)
		6-12 Years (Boys)
		From Puberty To Adulthood Early Adolescent/Late Childhood - 10 To 12 Years (Girls) -12 To 14 Years (Boys) Middle Adolescent

	Adolescent	-12 To 14 (Girls) -14 To 16 Years (Boys) Late Adolescent -14 To 18 (Girls) -16 To 20 Years (Boys)

PRINCIPLES OF GROWTH AND DEVELOPMENT:

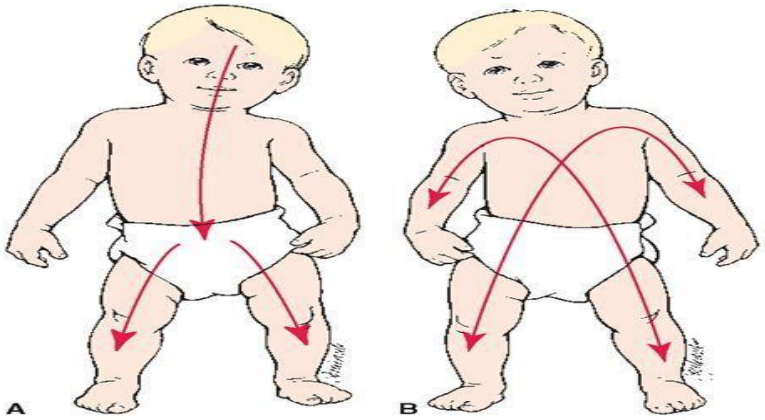
GESSEL (founder of clinical child psychology) has concluded from genetics studies of children- "although no two children are alike, all normal children tend to follow a general sequences of growth."

1. CEPHALOCAUDAL DIRECTION:

The process of cephalocaudal direction from head down to tail. This means that improvement in structure and function come first in the head region, then in the trunk, and last in the leg region.

2. PROXIMODISTAL DIRECTION:

The process in proximodistal from center or midline to periphery direction. Development proceeds from near to far - outward from central axis of the body toward the extremities.



(A. Cephalocaudal direction, B. proxmodistal direction)

3. GROWTH AND DEVELOPMENT IS A CONTINUOUS PROCESS:

Growth and Development is a continues process from conception to death. It is continuous but sometimes rapid and at time slow.

4. GROWTH AND DEVELOPMENT PROCEEDS FROM GENERAL TO SPECIFIC:

Development proceeds from general to specific in all areas of development, general activities always precedes specific activity. Ex: The fetes move its whole body but incapable of making specific response.

5. GROWTH AND DEVELOPMENT IS ORDERLY OR SEQUENTIAL PROCESS:

Every species, whether animal or human, follows a pattern of development peculiar to it. This pattern in general is the same for all individuals. All children follow a development pattern with one stage leading to the next. Ex - Infants stand before they walk; draw circles before they make squares.

6. GROWTH AND DEVELOPMENT IS PREDICTABLE:

The difference in physiological and psychological potentialities can be predicted by observation and psychological test.

7. DEVELOPMENT PROCEEDS FROM SIMPLE TO COMPLEX:

Children use their cognitive and language skills to reason and solve problems. Ex. Children at first are able hold the big things by using both arms, In the next part able to hold things in a single hand, then only able to pick small objects like peas, cereals etc.

8. THERE IS CO-ORDINATION BETWEEN INCREASE IN SIZE AND MATURATION:

Maturation refers to the sequential characteristic of biological growth and development.Changes in the brain and nervous system account largely for maturation. And help children to improve in thinking and motor skills.

9. PRINCIPLE OF INDIVIDUAL DIFFERENCE:

The tempo of development is not even. Individuals differ in the rate of growth and development.Boys and girls have different development rates. Each part of the body has its own particular rate of growth. Development does not occur at an even pace.

10. EARLY DEVELOPMENT IS MORE SIGNIFICANT THAN LATER DEVELOPMENT:

If the foundation of a building is strong, the building will be strong. Similarly, favourable condition during infancy lead to growth of child into a healthy adult.

FACTORS AFFECTING GROWTH AND DEVELOPMENT:

Nature and nurture both contribute to the growth and development of children. Here are a few factors affecting children's growth and development.

A. HEREDITY & GENETIC FACTOR:

- Heredity
- Race and Nationality
- Sex

C.OTHERS FACTORS:

- Socioeconomic condition
- Cultural influences
- Emotional factors

B. ENVIRONMENTAL FACTOR:

1. PRENATALENVIRONMENTAL FACTORS

- Nutritional deficiency in mother
- Obstetric disorders
- Metabolic disorders in mother
- Infections
- Administration of certain drugs
- Influenced of maternal hormone

2. POSTNATAL ENVIRONMENTAL FACTORS

- Nutrition
- Infection and infestations
- Chemicals agents
- Trauma

GROWTH AND DEVELOPMENT FROM BIRTH TO ADOLESCENT:

Milestones are the accomplishment of different biological function at an anticipated age, with a margin of a few months on either side.

- **BIOLOGICAL GROWTH**
- **MOTOR GROWTH**
- **SENSORY GROWTH**

MOTOR DEVELOPMENT

- Motor development depends on the maturation of the muscular, skeletal & nervous systems. The sequences of skills follow the cephalo - caudal & proximal direction.
- Motor development is termed as – 1. Gross motor 2. Fine motor
- **Gross motor activities include** – Turning, reaching, sitting, standing & walking.
- **Fine motor development** is - the involvement of reflexes. The child learns to use hands & fingers for thumb apposition, palmer grasp, release, pincer grasp and so on.

SENSORY DEVELOPMENT

- The sensory system is functional at birth, the child gradually learns the process of associating meaning with a perceived stimuli.

• As myelination of the nervous system is achieved, the child is able to respond to specific stimuli.

BIOLOGICAL GROWTH

Changes in general body growth: Changes results from different rates of growth in different parts of the body during consecutive stages of development. eg :- the infants head constitutes 1/4th of the entire length of the body at birth, whereas the adult's head is only 1/8th of body length.

WEIGHT:

- Weight is one of the best criteria for assessment of growth and a good indicator of health and nutritional status of child.
- Normal new born weight at birth is 2.5 – 3.5 kg.
- New born losses 10% weight of birth weight during 1st week of life, due to some problem in adjustment, inadequate feeding, digestive adaptation and extra loss of cellular fluid.
- 30gm/day weight increase during first 5-6 month of life.
- 15gm/day weight increase during next 6-12 month.
- Infants birth weight :-

1. Doubles in 5-6 month
2. Triples in 1 year
3. four times in 2 year
4. five times in 3 years
5. Ten times in 10 years

LENGTH / HEIGHT:

- Increase in height indicates skeletal growth.
- At birth, full term baby is 45 – 50 cm.
- During 1st 6 month height increases 2.5cm/month and next 6 month 1.25cm/month.
- 1 year of age = 75 cm
- 2 year of age = 85 cm (12 cm increase)
- 3 year of age = 94 cm (9 cm increase)
- 4 year of age = 100 – 102 (Doubles the birth height)
- 13 years of age = 150 cm (triples the birth height)
- **Height estimation formula:** = AGE IN YEARS * 6 + 75 (cm) {for 2-12 years}

HEAD CIRCUMFERENCE

- At birth, it is 33 – 35 cm
- It should be measure after 48 hr of birth because moulding may give false measurement.

RATE OF INCREASE IN HEAD CIRCUMFERANCE

- FIRST 3 MONTH = 2CM/MONTH
- 4 – 6 MONTH = 1CM/MONTH
- 6 – 12 MONTH = 0.5CM/MONTH SO, At 3 month = 40 cm At 6 month = 43 cm At 12 month = 45 cm At 2 year = 48 cm At 7 year = 50 cm At 12 year = 52 cm.Head circumference is measured by ordinary inch tape.

CHEST CIRCUMFERENCE

- Chest circumference / thoracic diameter is an important parameter of assessment of growth and nutritional status.
- At birth, it is 30 – 33 cm [2 – 3 cm less than head circumference]
- At 1 year of age, it is 45 cm [equals to head circumference]
- After 1st year of age chest circumference is greater than head circumference by 2.5 cm and by the age of 5 year , it is about 5 cm larger than head circumference.
- Chest circumference is measured by placing the tape measure around the chest at the level of nipples, in between Inspiration and Expiration.

MID UPPER ARM CIRCUMFERENCE [MUAC]

- This measurement helps to assess the nutritional status of younger children.

- The average MUAC at birth = 11 – 12 cm
- At 1 year = 12 – 16 cm
- At 1 – 5 years = 16 – 17 cm
- At 12 years = 17 – 18 cm
- At 15 years = 20 – 21 cm
- To assess MUAC , the left upper arm is measured firmly gently without compressing.
- The measurement is taken at the mid point of the upper arm between the tip of acromian process of scapula and olecranon process of ulna

DEVELOPMENTAL MILESTONE:

- Development is the functional maturation of organs.
- It depends upon neuromuscular maturity, genetic determinants and environmental influences.
- Developmental milestones are accomplished by the children at an anticipated age.
- Development is assess under following domain:-
  - Gross motor development
  - Fine motor development
  - Language development
  - Personal and Social development
  - Sensory development [like Vision and Hearing]

DEVELOPMENT OF INFANT

- **1 to 2 Month**
  - Able to lift the chin momentarily on prone position.
  - Able to regard bright colored object at 20 cm distance.
  - Cries when hungry or at discomfort.
  - Able to turn head towards sound and smiles back to mother or caregiver.
- **2 to 3 Month**
  - Able to lift head and front part of chest by supporting weight on extended arms.
  - Can follow moving object with steady eye movement and able to focus eyes.
  - Produce ‘cooing’ sound and enjoy people talking with him/her.
  - Able to recognize mother and turn head to sound.
- **4 to 5 Month**
  - Can hold head steadily in upright position.
  - Able to hold a rattle and bring to mouth.
  - Can reach a thing and grasp it crudly with palm.
  - Make coos, gurgles and respond by making sounds.
  - Join hands together in play, enjoy people and lough out loudly.
- **5 to 6 Month**
  - Able to sit with support.
  - Can hold a cube and transfer from one hand to other.
  - Try to imitate sound and enjoy own mirror image.
- **7 to 8 Month**
  - Can sit without support.
  - Roll in bed from back to side then back to abdomen.
  - Produce bubbles and say ‘aam’, ‘da’ , ‘la’.
  - Recognize unknown person and show anxiety.
  - Resist toys to be taken from him/her.
- **8 to 9 Month**
  - Able to crawl on abdomen.
  - Speak ‘Da-Da’ and ‘Ma-Ma’ combining syllables without meaning.
- **9 to 10 Months**
  - Able to creep on hands and knees.
  - Can stand with support.
  - Able to pick up a pellet with thumb and index finger.

- Wave 'bye-bye' and want to please caregiver , says ba-ba , da-da , ma-ma with meaning.

❖ **10 to 12 Months**

- Can stand without support and walk holding furniture.
- Able to feed himself with spilling.
- Pick up small bits of foods and take to mouth.
- Can speak 3 – 5 meaningful words and understand meaning of several words.
- Respond for affection by kiss.

DEVELOPMENT OF TODDLER

❖ **15 Month**

- Able to walk alone.
- Can walk several steps sidewise and few steps backward.
- Can feed him/her self without spilling.
- Able to turn 2 – 3 pages at a time.

❖ **18 Month**

- Can creep upstairs.
- Able to feed from cup.
- Build tower of 2 blocks and stop taking toys to mouth.
- Use 6-20 words.
- Copy mothers action.
- Want potty, point the parts of body, if asked.

❖ **2 Year**

- Able to run and try to climb upstairs by resting on each steps and then climbing upon next. Put shoes and shocks on.
- Build tower of 6 – 7 blocks.
- Can copy and draw a horizontal and vertical line.
- Control bladder at day time.
- Speak simple sentence without use of verb.

❖ **3 Years**

- can walk on tip-toes and stand on one leg for seconds.
- Climb upstairs by coordinated manner.
- Ride tricycle and can dress & undress.
- Build tower of 9 blocks and achieve bladder control at night also.
- Has vocabulary of 250 words and play simple games with peers

❖ **PRESCHOOLER 3 to 6 Years**

- Can jump and hop.
- Able to draw a cross[+] by 4 years and tilted cross[*] by 5 years of age.
- Can draw a rectangle by 4 year and triangle by 5 years of age.
- Can tell stories and describe recent experience.

❖ **SCHOOL AGE(6 to 8 Years)**

- Able to run, jump, hop and climb with better co-ordination.
- Develop better hand-eye co-ordination.
- Able to write better and take self-care.
- Able to use complete sentence to express feeling and follow commands.
- Play in groups.

❖ **8 to 10 Years**

- Play actively with different physical skills.

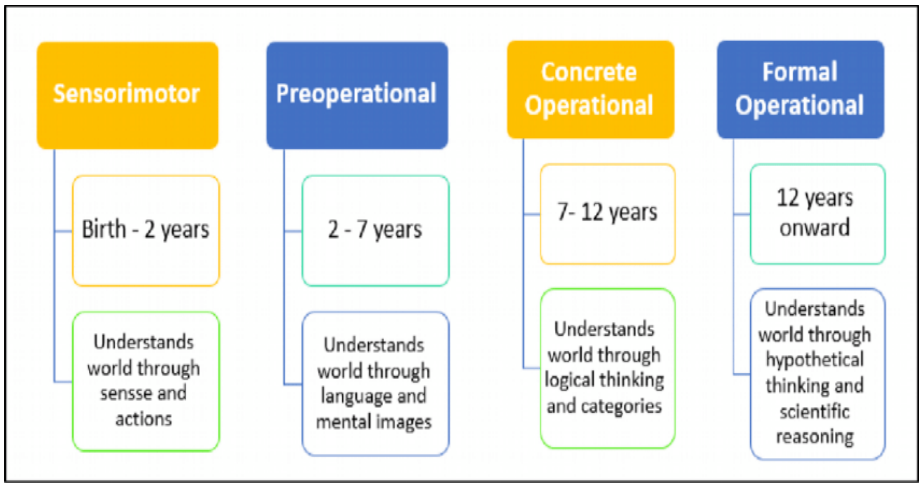
- Improver writing skill and speed.
- Use short and compact sentence.
- Participate in family discussion.
- Peer group involvement and increased awareness about sex role.

❖ **10 to 12 Years**

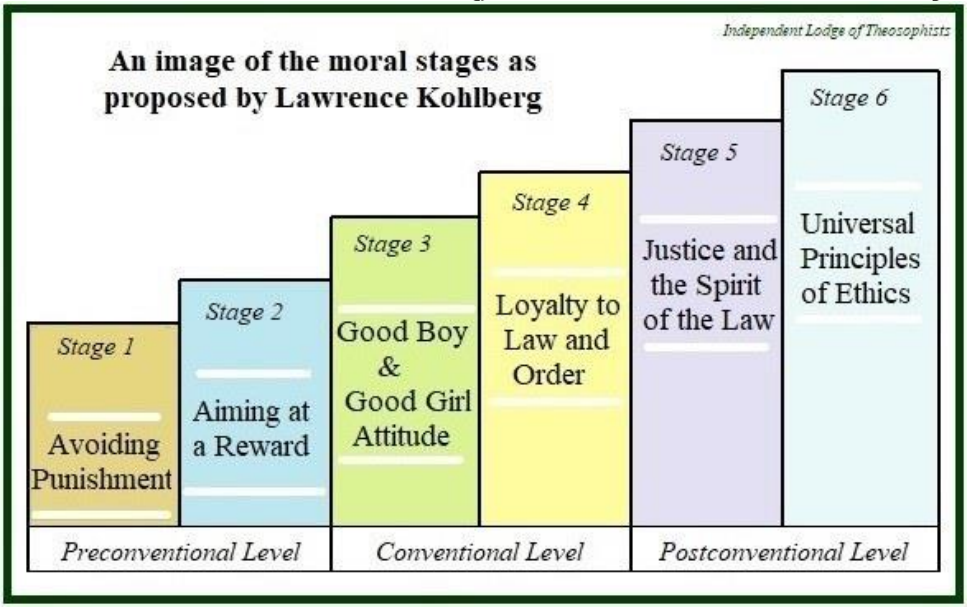
- develop more coordinated, skillful manipulative activities and games.
- Able to use parts of speech correctly.
- Accept suggestion and instruction obediently.
- May show short burst of anger

THEORIES OF GROWTH AND DEVELOMENT:

❖ INTELECTUAL DEVELOPMENT THEORY BY (JEANS PIAGET AND KHOLBERG)
❖ MORAL DEVELOPMENT THEORY BY (LAWRENCE KHOLBERG)
❖ PSYCHOSOCIAL DEVELOPMENT THEORY BY (ERICH ERIKSON)
❖ SPIRITUAL DEVELOPMENT THEORY BY (JAMES W FOWLER)
❖ PSYCHO – SEXUAL DEVELOPMENT THEORY BY (SIGMUND FREUD)
❖ GILLIGAN'S THEORY OF MORAL DEVELOPMENT
❖ VYOTSKY'S SOCIOCULTURAL THEORY
❖ GARDNER'S MULTIPLE INTELLIGENCES THEORY



❖ **INTELECTUAL DEVELOPMENT THEORY BY (JEANS PIAGET AND KHOLBERG)**

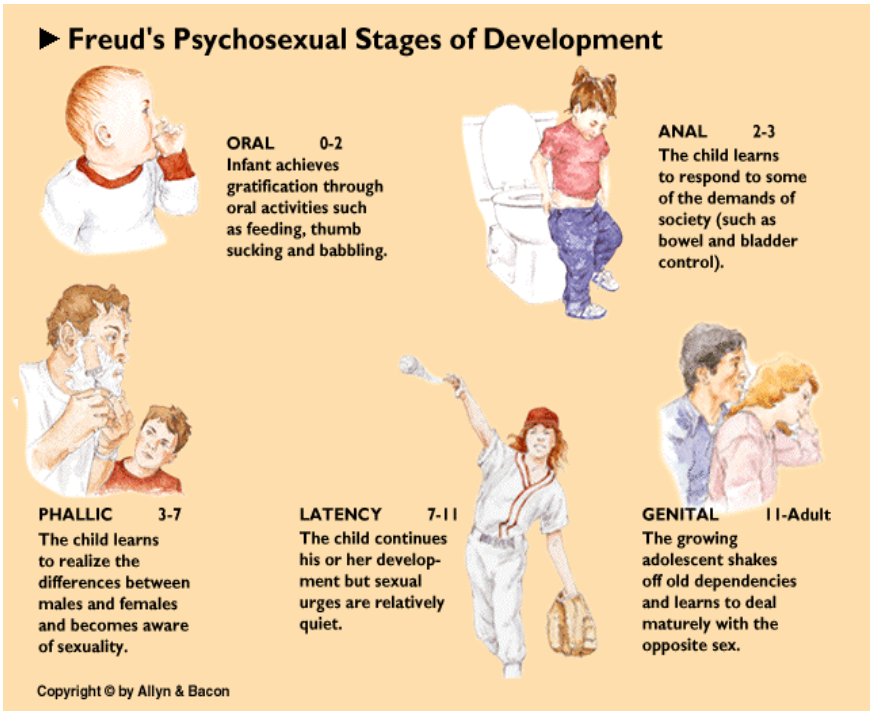


❖ **MORAL DEVELOPMENT THEORY BY (LAWRENCE KHOLBERG)**

Erikson's Psychosocial Stages Summary Chart

Stage	Basic Conflict	Important Events	Key Questions to be answered	Outcome
Infancy (0 to 18 months)	Trust vs. Mistrust	Feeding/ Comfort	Is my world safe?	Children develop a sense of trust when caregivers provide reliability, care and affection. A lack of this will lead to mistrust.
Early Childhood (2 to 3)	Autonomy vs. Shame and Doubt	Toilet Training/ Dressing	Can I do things by myself or need I always rely on others?	Children need to develop a sense of personal control over physical skills and a sense of independence. Success leads to feeling of autonomy, failure results in feelings of shame and doubt.
Preschool (3 to 5)	Initiative vs. Guilt	Exploration/ Play	Am I good or bad?	Children need to begin asserting control and power over the environment. Success in this state leads to a sense of purpose. Children who try to exert too much power experience disapproval, resulting in a sense of guilt.
School Age (6 to 11)	Industry vs. Inferiority	School/ Activities	How can I be good?	Children need to cope with new social and academic demands. Success leads to a sense of competence, while failure results in feeling of inferiority.
Adolescence (12 to 18)	Identity vs. Role Confusion	Social Relationships/ Identity	Who am I and where am I going?	Teens need to develop a sense of self and personal identity. Success leads to an ability to stay true to yourself, while failure leads to role confusion and a weak sense of self.
Young Adult (19 to 40)	Intimacy vs. Isolation	Intimate Relationships	Am I loved and wanted?	Young adults need to form intimate, loving relationships with other people. Success leads to strong relationships, while failure results in loneliness and isolation.
Middle Adulthood (40 to 65)	Generativity vs. Stagnation	Work and Parenthood	Will I provide something of real value?	Adults need to create or nurture things that will outlast them, often by having children or creating a positive change that benefits other people. Success leads to feelings of usefulness and accomplishment, while failure results in shallow involvement in the world.
Maturity (65 to death)	Ego Identity vs. Despair	Reflection on life	Have I lived a full life?	Older adults need to look back on life and feel a sense of fulfillment. Success at this state leads to a feeling of wisdom, while failure results in regret, bitterness, and despair.

❖ **PSYCHOSOCIAL DEVELOPMENT THEORY BY (ERIKSON'S)**

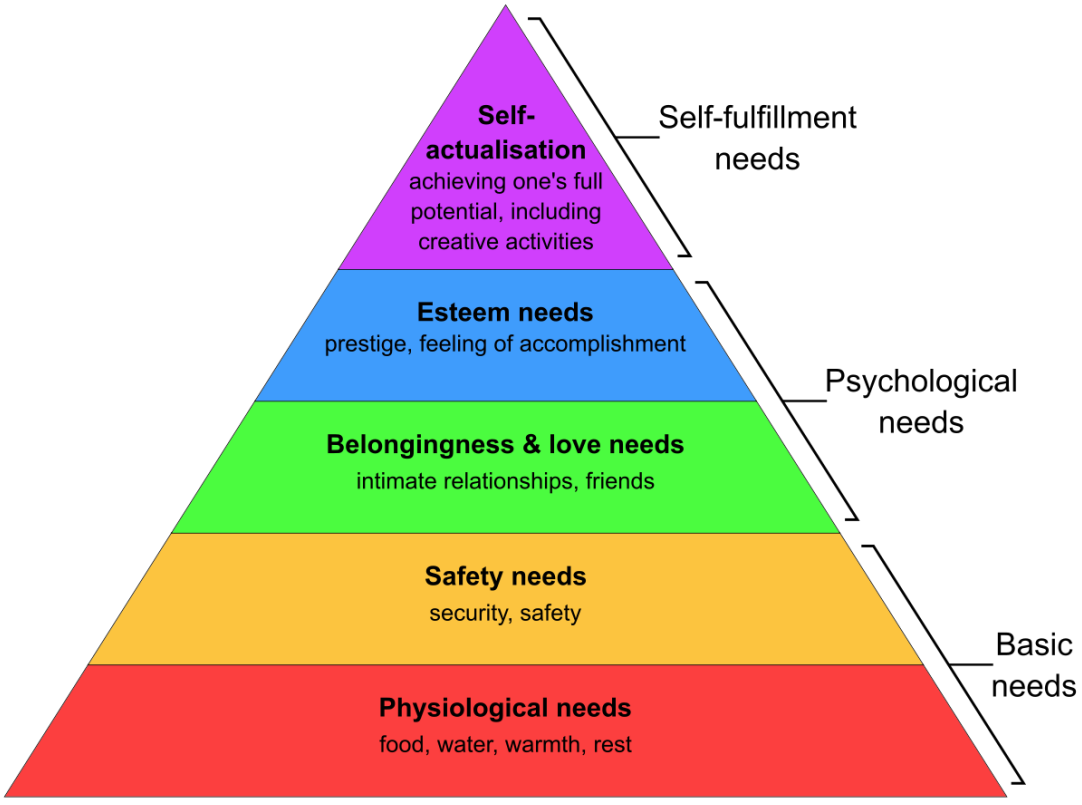


❖ **PSYCHO – SEXUAL DEVELOPMENT THEORY BY (SIGMUND FREUD)**

NEEDS OF NORMAL CHILDREN THROUGH STAGES OF DEVELOPMENT AND PARENTAL GUIDANCE

INTRODUCTION:

Every child and his needs are unique. Parents should keep their expectations from children more realistic and use developmental milestone as guide to know about the needs of children and what to expect from children at a particular age. Each child has certain basic need like adults.
Fulfilment of all maslow's hierarchy needs is important for the child's growth and development.



MASLOW'S HIERARCHY OF NEEDS

NEEDS OF INFANT:

The main needs of infant are physical and physiological. Infants need breast milk, essential newborn care, proper and timely weaning, immunization, warmth, safety and tender loving care.

PARENTS SHOILD BE GUIDED ON FOLLOWING ASPECTS:

- Provide safe and thermoneutral environment to the baby.
- Provide nutrition in form of breastmilk to the baby, on demand.
- Maintain hygiene of baby.
- Provide timely immunization.
- Stimulation to play.
- Provide love and affection.

NEEDS OF INFANT:

Around this stage, the child will be testing his boundaries and beginning to understand the cause and effect of doing so. They are able to follow simple commands. They have specific likes and dislikes. In this stage, children need parental love, acceptance, proper nutrition, play stimulation, toilet training, immunization and safety.

PARENTS SHOILD BE GUIDED ON FOLLOWING ASPECTS:

- *Be consistent and make a routine for the child.*
- *Give lots of praise and cuddles to child.*
- *Encourages independence in eating and dressing.*
- *Provide balanced diet.*
- *Provide safe environment to avoid accident.*
- *Regular health checkup for early detection of health problems.*
- *Answer queries of the child.*
- *Praise good behavior.*
- *Keep in mind the food preference of the child.*
- *Provision of play and play material.*
- *Health checkup at regular intervals.*

NEEDS OF A SCHOOL CHILD:

During this stage, the child is very inquisitive and ask a lot of questions to get the needed information. He loves playing with children of same sex. He is quiet moody and argues and challenges parental values. The main need of the children in this stage are nutrition, play, rest and sleep, dental and personal hygiene, safety and prevention of accident, prevention from sexual abuse and drug abuse, etc.

PARENTS SHOILD BE GUIDED ON FOLLOWING ASPECTS:

- *Give lots of love and support to children.*
- *Encourage child creativity.*
- *Encourage play and recreational activity.*
- *Teach children about socially acceptable behavior.*
- *Regular health checkup.*
- *Set limits on child's behavior.*

NEEDS OF ADOLESCENT:

Children have special needs during this stage as teenage is the period of transition from childhood to adulthood. Adolescent need health information and guidance on self-care, balanced diet, eating

habit, personal hygiene, accident prevention, prevention of sexual abuse, breast self-examination , menstrual hygiene, and emotional disorder.

PARENTS SHOILD BE GUIDED ON FOLLOWING ASPECTS:

- ❖ Stay calm with the child even when angry with him/her.
- ❖ Hear what the child has to say.
- ❖ Respect the privacy of the child.
- ❖ Regularly give them positive feedback.
- ❖ Promote self-care by regular rest and sleep, proper hygiene, balanced diet and recreation.
- ❖ Preventive education on accident, addictions, sexual abuse, STD, unwanted pregnancy, drug abuse, etc
- ❖ Promote socially acceptable behavior as he is.

BREAST FEEDING

INTRODUCTION:

Breastfeeding is the feeding of an infant or young child with breast milk directly from female breasts (i.e. via lactation). It is the normal way of providing young infants with the nutrients they need for healthy growth and development.

Different composition of breast milk:

Colostrum:

It is secreted during first three days after delivery.it is thick, yellow and small in quantities. It contains more antibodies and cells with higher amount of protein and fat soluble vitamin(A,D,E,K).it is sufficient protective for the baby and should not be discarded.

Transitional milk:

It follows the colostrum milk and secretes during first 2 weeks of postnatal period.it has increased fat and sugar content and decreased protein and immunoglobulin content.

Mature milk:

It is secreted usually from 10 to 12 days after delivery.it is watery but contains all nutrient for optimal growth of the baby.

Preterm milk:

The breast milk secreted by a mother who has delivered a preterm baby is different from milk of a mother who has delivered a full term baby. This milk contains more proteins, sodium, iron, immunoglobulins and calories appropriate for the requirements of the preterm neonates.

Fore milk:

It is secreted at the starting of the regular breastfeeding.it is more watery to satisfy the baby thirst and contains more protein, sugar, vitamins and minerals.

Hind milk:

It is secreted toward end of regular breastfeeding and contains more fat and energy. the mother should feed the baby allowing one breast to empty to provide both fore milk and hind milk, before offering other breast.

Advantages of breast feeding:

Breastfeeding is safest, cheapest and best protective food for infants.it is perfect food for infant and provides total nutrient requirement for the first six month of life. the advantage of breastfeeding are as follow:

1. **Benefits of Breastfeeding to Infants:**

- ❖ Helps in Gastrointestinal development and function.
- ❖ Helps in development of the immune system.
- ❖ Helps in cognitive development of the infant.

- ❖ Infants who are breastfed have reduced risk of infection compared to formula fed infants.
- ❖ Breastfed infants have reduced risk of obesity later in life compared to formula fed infants.
- ❖ Reduced risk of sudden infant death syndrome, Hodgkin's lymphoma, Leukemia and Type 1 Diabetes.
- ❖ Lower risk of infections e.g. Otitis media, Lower respiratory tract infection, Diarrheal diseases, Allergies, eczema, Meningitis and inflammatory bowel diseases.

2. **Benefits of Breastfeeding to Mothers**

- ❖ Enhance early maternal – infant bond.
- ❖ Aids involution of the uterus.
- ❖ Delays next pregnancy.
- ❖ Long term breastfeeding helps in loss of the excess weight acquired during pregnancy.
- ❖ Documented long term effect of breastfeeding include reduced risk of breast, ovarian and endometrial cancers.

3. **Socio-Economic Benefits Of Breastfeeding**

- ❖ Income savings
- ❖ Reduced risk of infections and diseases hence reduced hospital visits and attendant medical cost.
- ❖ Mothers are more economically productive since they will spend less time caring for a sick child.

INITIATION OF BREAST FEEDING:

Breast feeding initiated within half an hour to one hour of baby birth or as soon as possible.(Warmth, security and colostrum)

Technique of breastfeeding:

A. Position of mother and baby

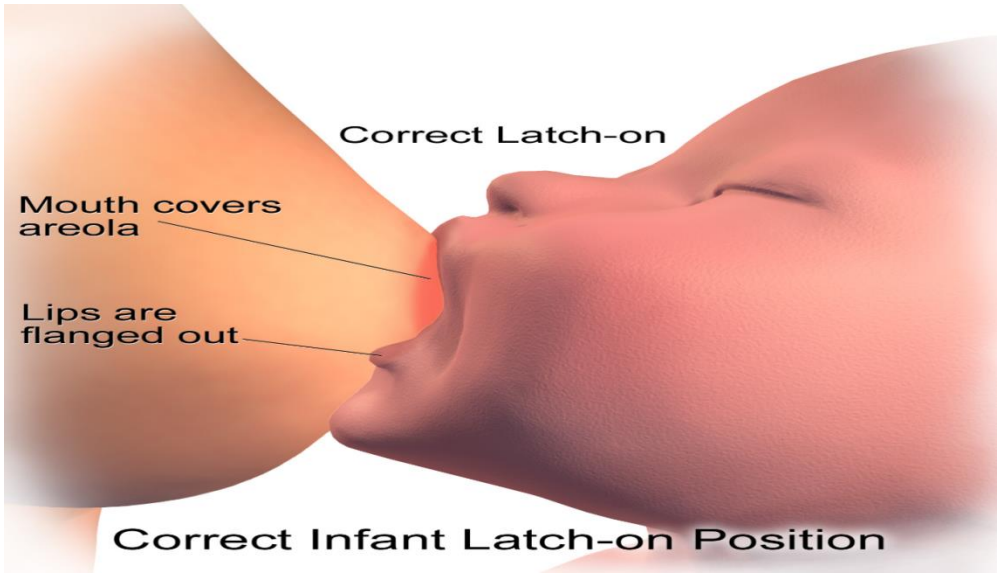
B. Latching(attachment of baby to the breast)

HOW TO HELP THE BABY TO ATTACH

- Express a little milk on to her nipple
- Touch the baby's lips with her nipple
- Wait until the baby's mouth is opening wide and the tongue is down and forward
- Move the baby quickly onto her breast, aiming the nipple towards the baby's palate and his lower lip well below the nipple

SIGNS OF GOOD ATTACHMENT

- More areola is visible above the baby's mouth than below it
- Baby's mouth is wide open
- Baby's lower lip is turned outwards
- Baby's chin is touching the breast

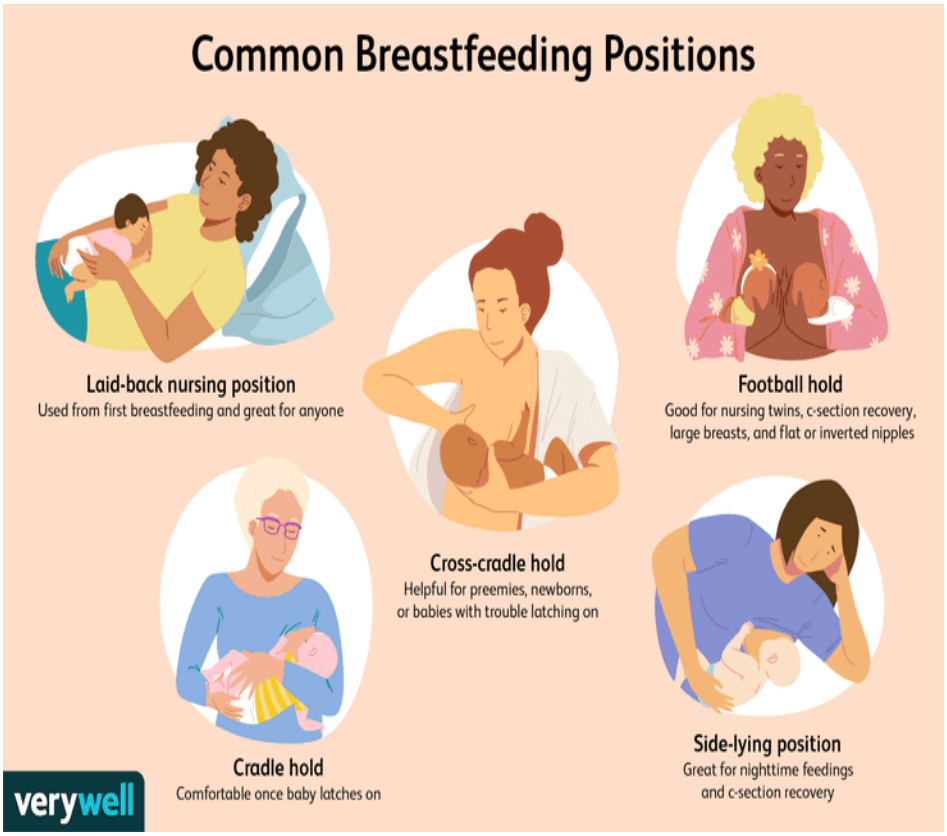


Factors inhibiting breastfeeding:

- Lack of confidence in mother
- Belief that breast milk is not sufficient
- Lack of adequate support system
- History of previous breast surgery
- Breast engorgement, cracked and sore nipples
- Inverted or Retractile nipples
- Embarrassment by mother

Contraindication to Breastfeeding:

- HIV, HLTV 1 & 11 infections. (Adult T-cell lymphoma virus)
- Active Tuberculosis.
- Herpes lesions on mother's breast.
- Infant with Inborn error of metabolism; galactosemia, phenylketonuria.
- Mothers on certain medications; anticancer therapy, radioactive isotope etc.



COMPLEMENTARY FEEDING (WEANING)

INTRODUCTION

Meaning of weaning:-

- To free from a habit.
- Process of gradual and progressive transfer of the baby from the breastfeeding to the usual family diet.

DEFINITION

Weaning is defined as 'the systematic process of introduction of suitable food at the right time in addition to mother's milk in order to provide needed nutrients to the baby' (UNICEF, 1984).

- Weaning does not mean discontinuity of breast feeding. Weaning foods are given in addition of breast feed when the amount of breastfeeding is inadequate.

QUALITIES OF COMPLEMENTARY FOODS

1. Liquid at starting then semisolid and solid
2. Clean and Fresh

3. Easily digestible & palatable
4. Hygienic
5. Easy to prepare
6. High in energy
7. Based on cultural practice and traditional beliefs
8. Well balanced and nourishing.

PRINCIPLES OF INTRODUCTION OF WEANING FOOD:

During introduction of weaning foods following principles to be remembered:-

- ❖ Weaning foods should provide extra requirement as per need of the baby.
- ❖ Initially small amount should be given then increase gradually in course of a week.
- ❖ New food to be placed over the tongue of the baby to get the taste of food and to feel the consistency.
- ❖ A single weaning food is added at a time.
- ❖ Weaning should be started between 5 to 6 months of age but breastfeeding to be continued up to 2 yrs of age.
- ❖ Additional food can be given in the day time. Initially it can be given once, then twice or thrice.
- ❖ New foods should be given when the infant is hungry, but never force the child to take the feeds.
- ❖ Delayed weaning result in malnutrition and growth failure.
- ❖ Observe the problems related to weaning process.
- ❖ The infant may have:- indigestion - pain in abdomen - weaning diarrhea - skin rashes - psychological upset.

PREPARING AND STORING THE WEANING FOODS-

Carefully preparation and storage of the weaning food is essential to prevent contamination. The following aspects need consideration in this context:-

- ❖ Hands-carefully washed with soap and water before preparing food
- ❖ Utensils – washed and scrubed thoroughly
- ❖ Clean cooking place and chopping board
- ❖ Foods should be- -Fresh for weaning -prepared immediately -cooked and boiled well -mashed with clean pestle, fork or spoon -use clean water for washing and making weaning food -not store for more then2 hours.

COMPLEMENTARY FEEDING AT DIFFERENT AGE:

<table>
<tr><th>AGE</th><th>FOOD ITEMS</th><th>AMOUNT</th><th>FREQUENCY</th></tr>
<tr><td>At 5-6 Month</td><td>Initiated with fruit juice</td><td>1-2 Teaspoon at first</td><td rowspan="3">4-6 times per day</td></tr>
<tr><td>At 6-7 Month
At 7-8 Month</td><td rowspan="2">•Soft mixture of rice and dal •Khichri,Pulses
•Mashed and boiled potato •Bread or Roti soaked in milk or dal
•Mashed fruits like banana, mango, papaya.
•Egg yolk
•Curd or Khir
•enjoy bite of biscuit and more variety of household Food can added.
•Can eat everything cooked at home
•Spices and condiment avoided
•No need to mashed food but should soft</td><td rowspan="2">•Then 3-4 Teaspoon
•Increased gradually
•Breast feeding should be continued</td></tr>
<tr><td>9 Month</td></tr>
<tr><td>9-12 Month</td><td>• 5-6 teaspoon
• Increased gradually
• Breast feeding should be continued</td><td>4-5 times per day</td></tr>
<tr><td>12-18 Month</td><td>All food cooked in family
Breastfeed continuously especially at night</td><td>According to child need</td><td>4-5 times per day
According to child needs.</td></tr>
</table>

WHY START AT SIX MONTH:

1. Infant's intestinal tract develops immunologically with defense mechanisms to protect the infant from foreign proteins.
2. The infant's ability to digest and absorb proteins, fats, and carbohydrates, other than those in breast milk increases rapidly.
3. The infant's kidneys develop the ability to excrete the waste products.
4. The infant develops the neuromuscular mechanisms needed for recognizing and accepting variation the taste and color of foods.

ARTIFICIAL OR SUPPLEMENTARY FEEDING:

INTRODUCTION:-

Artificial feeding should be started only if mother is unable to breastfeed the baby. Mothers who are not motivated for breastfeeding may use this as an excuse for top feeding their babies.

MEANING: Artificial feeding means -to feed the child other than breast milk. It involves the use of breast milk substitutes in the form of liquid milk, i.e.fresh cows or buffalo's milk or commercially available dried whole milk.

AIMS OF ARTIFICIAL FEEDING:-

- To provide adequate nutrition to the infant.
- To substitute breast milk and provide nutrients approx. as same as breastmilk -to fullfil the needs of the child for proper growth and development.

INDICATIONS FOR ARTIFICIAL FEEDING:-

- Death or absence of mother.
- Prolonged maternal illness.
- Complete failure of breast milk production.
- Absolute contraindication of breast feeding.
- Expressed breast milk is not available

CHOICE OF ARTIFICIAL MILK:

- Cow MilK
- Buffalo Milk
- Formula Milk

Factors contributing to rising incidence of artificial feeding:-

- Lack of interest in breast feeding
- Wrong beliefs and ignorance related to breastfeeding
- Increasing numbers of working mothers
- Changing lifestyle
- Availability of alternatives of mother's milk
- Publicity and appealing advertisements

PRINCIPLES OF ARTIFICIAL FEEDING-

- The decision of giving artificial feeding must be taken after failure of all efforts to breastfeed the baby
- Feeding should be given by spoon and bowel or cup or glass
- In sick or preterm infant, the feeding can be given with dropper
- Bottle feeding must be avoided and mothers need explanation or information about the hazards of bottle feeding
- Strict cleanliness in the preparation and feeding procedure should be practiced
- Milk left over from previous feed should not be used again
- Feeding must be given with the calculated amount of fluids and calories according to the baby's expected weight.
- Correct technique of feeding to be followed
- The milk should be warm, not too hot or cold
- An average 15 to 20 minutes may be needed to feed the total quantity, as required.
- No. of feed can be 6 to 8 times in infant and 3 to 5 times in older babies.
- Hygienic measures are very important.

- If dried milk is used, it should be reconstituted as per direction given by the manufacturer.
- Burping may be needed to allow to push out the swallowed air and to prevent vomiting, abdominal discomfort
- Supplementation of vitamins and minerals may be needed for babies to prevent deficiency condition.

HAZARDOUS FACTORS RELATED TO ARTIFICIAL FEEDING-

- Danger of contamination
- Multiple nutritional deficiencies
- Gastro- enteritis
- Long term sequeal of exclusive artificial feeding leads to:- Lactose intolerance, Obesity, Atherosclerosis, Poor learning abilities, Poor parent child relationship, Frequent pregnancy, Family disruption.

ACCIDENT AND ITS PREVENTION:

INTRODUCTION: Accidents are the main cause of injury and even death in children. People only relate accidents to traffic accident or accidents in outdoor activities. However, as a matter of fact, the place where people regard as the safest place–home–hides many "hazards". The main cause of home accident is general negligence of safety at home. This slides aims at providing some measures in preventing home accident, first aid measures and how to call for help.

DEFINATION WHO defined… An accident is an event, independent of human will caused by outside force acting rapidly and resulting in physical or mental injury.

- Accident is defined an unexpected, unplanned occurrence which may involve injury.
- Unpremeditated event resulting in recognizable damage.
- Occurrence in sequence of events which usually produces uninteded injury, death or property damage.
- **NJURY** It is an intentional/unintentional damage to body due to exposure to an external agent which can be thermal, mechanical, electrical, or chemical energy or agent.

CHILDREN ARE VULNERABLE TO INJURY:

- Investigative, Impulsive, Impatient
- Less careful, hyperactive
- Drive to test on new master skills
- Attempted activities before developmental readiness
- Self-assertion and challenges to rules
- Desire for peer approval
- They only have a limited perception of the environment because of their lack of experience or development.
- They are not aware of the consequences of the many new situations that they encounter daily.
- Small stature
- Curiosity and a spirit of adventure may lead a child into danger.
- Boys are particularly prone to showing off and over reaching their abilities, especially among friends.
- Tensions at home and emotional upsets caused by temper, jealousy and over excitement may cause a child to run blindly into danger.
- Such action may even be deliberate to seek attention.
- Inexperience
- A child's interpretation of a situation may be inaccurate and adults looking after small children should be aware not to expect too much of them.
- Inadequate supervision
- Children need constant supervision.
- Medicines, pills and toxic substances should be locked away and fires and stairs should be guarded.

FALL

Cause: Unstable gait of the toddler, presence of objects on floor, lack of supervision, curiosity of the children, etc.

Prevention:

- Keep floors free of toys and obstructions.
- Exercise close supervision when toddler learns to walk.
- Never leave babies unattended on raised surfaces.
- Check constantly floor surface for wear and tear.
- Keep floor dry.
- Always ensure bed-rail of the baby cot is raised when the baby is in the cot.
- Always use a securely fitted safety harness in a pram, pushchair or highchair.
- Windows and doors must be locked to avoid misadventure by children.
- Avoid placing "step-stones" such as a chair next to a window.
- Take extra care to avoid side-turning of a baby chair.

First Aid:

- Don't panic. Call for help if necessary.
- Check the level of consciousness of the infant/child.
- Examine the child if airway is clear (e.g. can talk, cry or not); if breathing is adequate and circulation is normal (observe colour of the face, depth and rate of breathing).
- If breathing and circulation are normal, check for any other injuries on the body.
- If bleeding occurs, ensure there is no foreign body in the wound. Apply direct pressure to stop bleeding by covering a clean gauze on it and add pressure on the gauze by your hand. Elevate the injured limb.
- If deformity is seen on the injured part, do not move it and call for help immediately.

CHOKING

Cause:

Accidental swallowing of foreign body, strangulation, covering of head by blankets, accidental suffocation by pillow while baby sleeps in a prone position, near-drowning etc.

Prevention:

- Choose toys appropriate to the age of children. Avoid toys with detachable small parts.
- Ensure small objects are kept out of reach of children.
- Pull cords on curtains and blinds should be kept short and out of reach of children. • Strings and plastic bags should be kept out of reach of children.
- Foldable furniture should be properly placed and locked. Instruct children not to play with them.
- Instruct children not to play while eating.
- Never let children use milk bottle by themselves without adult's supervision.
- Never use pillow for baby under one year of age. Do not use large and heavy blanket. Never let the blanket cover the face of children during sleep.
- Avoid sleeping with baby on the same bed.
- Never leave children alone in a bath tub or basin filled with water.
- Bucket filled with water must be covered and keep children away from it.

First Aid:

- Do not panic. Remove the cause from the patient.
- Call for help immediately.
- Perform CPR if necessary.

BURN/SCALD

Cause: Scald by hot water, burn by fire, touch on hot objects such as cooking utensils, etc.

Prevention:

- For adults, never hold a hot drink/food and a child at the same time.
- Ensure milk, congee or other foodstuff is at a reasonable temperature before feeding.
- Ensure proper fence or door is installed at the entrance of kitchen. Such must be closed at all times. Instruct children not to go into kitchen.
- While cooking, pay extra attention to the stove fire and the cooking utensil. Turn the pan handle away from the front, and close to the wall.

- When running a bath for a child, always test water temperature beforehand.
- All hot objects including an iron or containers with hot matter must not be placed near the margin of a table. Avoid using tablecloth. Matches and lighters should be placed out of reach of children.
- Instruct children not to wander around when adults are preparing for a meal.
- Install proper cover to sockets.
- Warn children never play with fire.

First Aid:

- Do not panic. If necessary, call for help.
- Examine the child if airway is clear (e.g. can talk, cry or not); if breathing is adequate and circulation is normal (observe colour of the face, depth and rate of breathing).
- If breathing and circulation are normal, check for the burn or scald injures on the body.
- Rinse the injury site with tap water for about 10 minutes. If the child feels chilled, stop rinsing.
- Cover the injury site with a sterile gauze. Dress with bandages.
- Never apply toothpaste, soysauce or other ointments on the injured sites.
- Do not puncture any blister.
- Do not tear off any burned clothing that sticks on the injured site.

POISONING

Cause:

Food poisoning, accidental swallowing of drugs, detergents, insecticides, etc.

Prevention:

- Keep medicines and chemicals out of sight and reach of children, preferably in an isolated, locked cabinet.
- Always store chemicals in their original containers with appropriate labels.
- Never tell children drugs are “sweets” as this may give a wrong idea to children.
- Ensure toys and dining utensils bought meet the international standard, e.g. coloring materials being non-toxic.

First Aid:

- Do not panic. Call for help immediately.
- Examine the child if the airway is clear (e.g. can talk, cry or not); if breathing is adequate and circulation is normal (observe colour of the face, depth and rate of breathing).
- Start CPR if necessary. Be cautious not to contact any chemicals.
- If the child is unconscious but the airway is clear, breathing & circulation are normal, place in a lateral position.
- Bring along with any vomitus and remains of drugs taken when seeking medical treatment.

DROWNING

- Children can drown in less than 3cm of water. They should be under constant supervision when in or near any water.

Prevention

- Never leave children or babies in the bath unsupervised, even for a moment.
- Never leave uncovered bowls or buckets of water around the home
- Paddling pools should be emptied and stored away when not in use
- Garden ponds should be filled in while children are small or securely fenced off
- Take special care when visiting other people’s gardens.
- Drowning is the cause of death from injury
- **Aspiration/suffocation is often the leading cause of death from injury in infants.**
- **Special plastic caps in electrical sockets prevent young fingers from exploring dangerous areas.**
- **Crawling infants can find hazardous electrical wires even in "hidden"***
- **Children are most likely to ingest substances that are on their level, such as cleaning agents stored under sinks, rat poison, or diaper pail deodorants.**

PLAY AND PLAY MATERIAL

Introduction:

- Play is universal for all children.
- It is work for and ways of their living.
- It pleasurable and enjoyable aspect of child’s life and essential to promote growth and development.
- Play is the activity that has no serious motive and from which there is no material gain.

DEFINITION

"PlayTherapy is based upon the fact that play is the child's natural medium of self- expression.

TYPE OF PLAY:

- Play is nature and spontaneous.
- It depends upon age, sex, interest, personality, ability, cultural, patterns and social economic status of the child's family.
- Play, playtime and playmates decrease as the age increase
- Play is a social behavior which differs in various age group and depends upon the level of development.
- It is an individualized behavior.

IMPORTANCE OF PLAY

- Physical development
- Intellectual and educational development
- Emotional development
- Moral development

TYPE OF PLAY

According to Parent and Newhall (1943)

- In unoccupied play
- Onlooker play
- Solitary independent play
- Parallel play
- In associative play
- Co-operative play

Onlooker play:

- Watch other children play
- No interest in participation

Solitary play:

- Play alone with different toys used by other children
- Enjoys others presence but no effort to speak or get close

Parallel play:

- Children play independently with toys as that of other children
- No group association
- Characteristic play of toddlers

Associative play:

- Play together & engaged in similar activities
- Never directs others action or establishes rules
- No group goal, one child initiates an activity & others follow

Co-operative play:

- Organized & they play in groups
- Set goals & try to attain it
- Organization of activities, division of labour & playing roles
- Leader follower relationship is established

Selection and care of play materials

- Selection of play materials and toys depends upon age, abilities, interest, like and dislike, cultural, experience, personality and level of intelligence of the child.

Guidelines for Selecting Toys should:

- Allow for exploration of real life experiences including cultural values, traditions and roles.
- Facilitate contact with the child by gaining the child's interest and attention
- Permit reality testing/limit setting
- Provide the opportunity for development of self-control
- Facilitate exploration of the self and others
- Allow children to express their needs symbolically (without any need for verbalization)
- Provide for expression of a wide range of feelings
- Provide opportunities for insight/self-understanding

- Allow for creative expression
- Toys should also be durable, simple, and easy to operate, allow for success & are fun Reminder.

The play materials should have the following characteristics-

- Safe, washable, light weight, simple, durable, easy to handle and non- breakable.
- Realistic, attractive, constructive and offer problem- solving opportunities.
- No sharp edges and no small removable parts which may be swallowed or inhaled.
- The play materials should have the following characteristics-
- Not over stimulating and frustrating
- No toxic paints, not costly, not inflammable and not excessive noisy.
- Play things with electrical plugs should be avoided, only children over 8 years of age should be permitted to use them.

Children must be taught the following-

- Correct use of toys. Parents should explain the directions for use and the causation labels.
- Safe storing of toys in a space with easy reach and away from busy areas.
- Keeping the playthings in good conditions. Parents should repair or discard damaged and broken toys.

PREVENTIVE IMMUNIZATION:

Definition

"Immunization is a process of protecting an individual form a disease through introduction of live or killed or attenuated organisms in the individual system to create immunity."

Significance

- It is one of the 'best buys' in community health and one of the most cost effective health interventions in reduction of communicable diseases related morbidity and mortality.
- It is a mass means of protecting the largest number of people from various diseases. It gives resistance to infectious diseases by producing or augmenting the immunity.
- Artificially acquired immunity is developed by immunization.

Immunity

Immunity is the security against a particular disease and nonsusceptibility to the invasive or pathogenic effects of foreign microorganisms or to the toxic effect of antigenic substances. Acquired immunity can be active or passive.

Active immunity

Active immunity is produced by stimulating immunological defense mechanism through administration of antigen usually prior to natural exposure to infection. Active immunizing agents are known as vaccines.

Passive Immunity

Passive Immunity is produced temporarily by supplying preformed exogenous animal or human antibody to suppress the disease, given soon after or prior to exposure of an infection. It is readymade antibodies. Passive immunity agents are antisera and immunoglobulin's.

Immunoglobulin

These are antibodies. Antibodies are a group of proteins present in the blood, intestinal secretions and respiratory secretions.

Antigen

A variety of foreign substances including bacteria viruses, toxins and foreign proteins that stimulate the formulation of antibodies.

Toxins

A poisonous substance usually produced by the invading microorganisms.

Antitoxin

Antibody formed in response to a toxin.

Toxoid

A toxin that has been treated to destroy its toxic properties but retain its antigenic quality.

Immunization Program

It is a routine program of immunization offered during childhood for prevention against the killer diseases of childhood and prevent occurrence of certain dreaded diseases in the adulthood so that human resources can be maintained without hazards.

Immunizing Agents

The immunizing agents may be classified as vaccines immunoglobulin's and antisera.

Vaccines

- Vaccines are immuno-biological substances which produce specific protection against a given disease. It stimulates active production of antibody and other immune mechanisms.
- Vaccines are prepared from live attenuated organisms, or inactivated of killed organisms, extracted cellular fractions, toxoids or combination of these. More recent preparations are sub unit vaccines and recombinant vaccines.
- The ideal vaccines should induce permanent immunity, be free of toxic substances, have minimal side effects, not produce disease to the recipient and be easy to administer.

Live Attenuated Vaccines

- Bacterial – BCG, Typhoid (oral) Plague
- Viral- Oral polio, Measles, Mumps, Rubella, Yellow fever, Influenza.
- Rickettsial- Epi, typhus.

Killed or Inactivated Vaccines

- Bacterial- Pertussis, Typhoid, Cholera, Plague, , CS Meningitis.
- Viral- Rabies, Hepatitis 'B', Influenza, Salk Polio, Japanese encephalitis.

Toxoids

- Bacterial- Diphtheria and Tetanus.

Cellular fractions

- Meningococcal and pneumococcal vaccines.

Combinations

- DPT – Diphtheria, Pertussis, Tetanus
- MMR- Mumps, Measles, Rubella
- DT- Diphtheria, Tetanus
- Hib- Hep.B (H. Influenzae 'B', Hepatitis 'B')
- Pentavalent – Diphtheria, Pertussis, Tetanus, Hepatitis B, and Haemophilus influenzae type B (Hib)

National Immunization Schedule

Immunization schedule should be planned according to the needs of the community. It should be relevant with existing community health problems. It must be effective, feasible and acceptable by the community. Every country has its own immunization schedule.

- The WHO, launched global immunization program in 1974, known as Expanded Program on Immunization (EPI) to protect all children of the world against six killer diseases. In India, EPI was launched in January 1978.
- The EPI is now renamed as Universal Child Immunization, as per declaration sponsored by UNICEF. In India, it is called as Universal Immunization Program (UPI) and was launched in 1985, November, for the universal coverage of immunization to the eligible population.
- The Global Alliance for Vaccines and Immunization (GAVI) is worldwide coalition of organization, established in 1199, to reduce disparities in life saving vaccine access and increase global immunization coverage. GAVI is collaborative mission of Govt., NGOs, UNICEF, WHO and World Bank. The GAVI and Vaccine Fund also adopted the objective of new introduction but under used vaccines in the developing countries, where the disease like hepatitis B and H Influenzae 'B' (Hib) are highly prevalent.
- National Immunization Schedule as recommended by Government of India for uniform implementation through out the country was formulated.

Recommendations

- Interval between two doses should not be less than one month.
- Minor cough, colds and mild fever or diarrhea are not a contraindication to vaccination.
- In some states hepatitis 'B' vaccine is given as routine immunization.
- At 9 months of age, Vitamin 'A' oil should be given orally with recommended dose and then to be continued at six months interval upto 5 years of age.

General Contraindications of Vaccinations

- Prior allergic reactions to the same or related vaccine.
- Live vaccines, i.e. OPV, BCG and measles, are not to be administered in the following situations: in immunosuppressive therapy, immunodeficiency disorders, leukemia, lymphoma or generalized malignancy.
- Acute illness with fever above 38 degree C. Postpone until recovery has occurred. Special risk groups in whom the risk of complications form infectious diseases is high include those with chronic lung and congenital heart diseases, Down syndrome, HIV infection, Low birth weight (LBW), and asplenia or hyposplenism.

Conditions Not to be taken as contra-indication to Vaccination.

- Mild or moderately ill children should be immunized to increase individual and community protection. Malnutrition, low grade fever, mild acute respiratory infection, or diarrhea and other minor illness are not contraindications for vaccinations.

Reactions to EPI Vaccines

- Mild Fever.
- Local Pain
- Malaise, irritability.
- Transient rash.
- A Lump or papule appears on the third week after BCG vaccination. It is generally not painful but is tender to touch. The papule increases in size upto 6- 10 mm in diameter by the sixth week. The nodule softens with the formation of pus. No treatment is necessary. At the end of 10-12 weeks, only a small scar is visible.
- Regional Lymph node enlargement and suppuration observed 2-8 weeks after BCG vaccination is usually a result of the vaccine being injected subcutaneously instead of intra-dermally.
- In very rare cases, a fever of more than 105 . F, convulsions or collapse after DPT vaccination has been observed. In such cases, further doses of DPT should not be given.