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1. SOCIAL PAEDIATRICS

Definition

Social Paediatrics can be defined as application of principles of Social Medicine to Paediatrics so as to obtain a complete understanding of the problems of children for prevention and treatment of the disease and promotion of their growth and development through an organised health care delivery system.

Aim

The aim of Social Paediatrics is to meet the complete health needs of children through an organised health care delivery system that is within the reach of the community.

Components

- It studies the social factors that influence the child's health and the factors that influence organisation delivery and utilisation of healthcare services.
- It collects, interprets and uses the data for identifying high risk groups.
- It correlates mortality and morbidity data with the social and biological factors and studies the relationship between these factors.
- It studies the cultural patterns, beliefs and practices related to child bearing and child rearing that influence acceptance of services.
- It contributes or determines the priorities in MCH services.
- It evaluates the MCH programme in terms of their effectiveness and efficiency.

2. APGAR SCORE

What is APGAR Score?

- Dr Virginia Apgar devised the APGAR score in 1952 as a simple and replicable method to quickly assess the health of newborn children immediately after birth.
- The Apgar score is determined by evaluating the newborn baby on five simple criteria on a scale from zero to two, and then by summing up the five values, a score is obtained. The resulting Apgar score ranges from zero to ten.
- The five criteria (Appearance, Pulse, Grimace, Activity, Respiration) are summarized to mnemonic APGAR.

When is APGAR score assessed?

It is assessed at 1 minute and again at 5 minutes of birth.

How is APGAR score calculated?

The physician observes five parameters and gives each parameter a score of 0, 1 or 2.

- Colour of skin
- Heart rate
- Reflex response
- Muscle tone
- Respiratory effort

Parameter	Score		
	Zero	One	Two
Appearance-Colour of skin	Completely blue, pale	Extremities are blue, body pink	Completely pink
Pulse - Heart rate	Absent	< 100/min	> 100/min
Grimace - Reflex response	No response to stimulation	Grimace/feeble cry when stimulated	Cries or pulls away when stimulated
Activity - Muscle tone	Flaccid	Some flexion of extremities	Active movements
Respiratory effort	Absent	Slow irregular	Good crying

The total score is calculated by adding up the individual scores for the five parameters and will range between zero and ten.

Interpretation of Score

- Score of 0-3 means severe depression
- Score of 4-6 means mild depression
- Score of 7-10 means no depression

Score of below 5 needs prompt action.

Action to be Taken

APGAR score is low when it is a difficult birth or there is fluid in the airway.

Infant with low APGAR score needs prompt medical attention like

- Oxygen and clearing out the airway to help the baby breathe.
- Physical stimulation to get the heart beating at a healthy rate.

A low APGAR score does not necessarily indicate that there will be long-term problems, particularly if there is an improvement by the stage of the five-minute test. If the APGAR score remains below 3 at later times such as 10, 15, or 30 minutes, there is a risk that the child will suffer long-term neurological damage.

Importance of APGAR Score

APGAR score estimates the physical functioning of the body.

Those infants with a low APGAR score at 5 minutes have high risk of complications and death.

Limitation: cannot predict the health status of the child on a long run.

Omission of APGAR score especially for low birth weight babies is considered as medical negligence.

3. FACILITY BASED NEWBORN CARE

Facility Based Newborn Care (FBNC) programme is one of the key initiatives under the National Rural Health Mission and RMNCH+A Strategic programme to improve the status of newborn health in the country. Under the programme, efforts are being made to provide different levels of newborn care at the health facilities.

Three tier structure of newborn care

Health facility	All newborn at birth	Sick newborn
Primary health centre (PHC) / sub centre (SC) identified as MCH level I	Newborn care corner (NBCC) in labour room	Prompt referral
Community health centre (CHC) / First referral unit (FRU) identified as MCH level II	Newborn care corner in labour room and in operation theater (OT)	Newborn stabilization unit (NBSU)
District hospital identified as MCH level III	Newborn care corner in labour room and in operation theater	Special Newborn care unit (SNCU)

Functions of NBCC, NBSU and SNCU

NBCC	NBSU	SNCU
Care at birth Care of normal newborn - Breast feeding support Care of sick newborn - Identification and prompt referral of at risk and sick newborn - Immunization services	Care at birth Care of normal newborn - Breast feeding support Care of sick newborn - Phototherapy for newborn with hyperbilirubinemia - Management of newborn sepsis - Stabilization and referral of sick newborn and those with low birth weight >1800 gm (rooming in) - Immunization services - Referral service	Care at birth Care of normal newborn - Breast feeding support Care of sick newborn - Managing all sick newborns (except those requiring mechanical ventilation and major surgery) - Managing low birth weight (<1800 gm) - Follow up of all babies discharged from SNCUs - Immunization services - Referral services

Infrastructure

	NBCC	NBSU	SNCU
Space	Earmarked area 20-30 sqft within labour room and also near OT	4 bedded, 200 sqft, close proximity to maternity ward	12 bedded, 100 sqft/patient
Manpower	One doctor and one staff nurse In sub centre - ANM	One doctor and one staff nurse per shift (total 4 staff nurse)	One paediatrician / neonatologist or trained doctor (MO) round the clock (at least 3-4 doctors) Three nurses in each shift Paramedic and support staff
Training	NSSK - 2 days training	F- IMNCI - 11 days for untrained MO and Nurses 5 days for those already trained in IMNCI	FBNC - 4 days followed by 2 weeks of observership

4. LOW BIRTH WEIGHT

Definition

Low birth weight baby (LBW) weighing less than 2500 gms within one hour of birth irrespective of gestational age as per WHO criteria.

Indian cutoff value is 2000 gms.

Types

- 1) *Preterm babies*: Those born before completion of 37 weeks of gestation.
- 2) *Small for date babies*: A baby smaller and lighter than what it should have been for that particular gestational age.

Magnitude of Problem in India

33% as per WHO criteria.

5.5% as per Indian criteria.

Problems due to LBW

- 1) Infection
- 2) Hypothermia
- 3) Malnutrition
- 4) Mortality - Usual cause of death in LBW babies is Atelectasis; Malformations; Pulmonary haemorrhages; Intracranial bleed secondary to anoxia or birth trauma; Pneumonia and other infections.
- 5) High cost of care
- 6) Hypoglycaemia, Hyponatremia, Hypocalcemia
- 7) Meconium Aspiration Syndrome
- 8) Respiratory Distress syndrome, Apnoea, Hypoxia
- 9) Anaemia, Polycythemia, Hyperbilirunaemia
- 10) Multisystemic complications

Causes and Prevention of Low Birth Weight

Causes	Diagnosis	Prevention and Treatment
Maternal Infections		
Malaria	On basis of clinical suspicion in a low endemic area. A rapid diagnostic test is done every month in a high endemic area.	Treatment with Quinine in first trimester; and ACT in second trimester.
Urinary Tract Infections	Urine examinations in a clinically suspected patient	Treatment with Amoxycillin/Cefadroxil Plenty of oral fluids
HIV	HIV testing is done at ICTC	ART started if HIV positive
Syphilis	Qualitative RPR test. If the test results are positive, a Quantitative RPR test is done.	If RPR < 1:8; single dose of 2.4 million units of Benzathine Penicillin, or 500 mg qds Erythromycin for 15 days; or 2 gms Azithromycin single dose. If RPR > 1:8; Weekly injections of 2.4 million units of Benzathine Penicillin for 3 weeks, or 500 mg qds Erythromycin for 30 days.

Maternal Chronic Conditions

Hypertension	Systolic BP $\geq$ 140 mm Hg and or diastolic BP $\geq$ 90 mm Hg on consecutive occasions taken 4 hours apart.	Treat with Methyldopa and Nifedipine
Anaemia	If Hb < 11 gms%	Treatment with oral iron if Hb level is between 7 - 10.9 gms%; IV Iron sucrose or Ferric carboxy maltase injections if Hb level is 5 - 6.9 gms%; and with blood transfusion if Hb is < 5 gms%
	If Hb > 11 gms%	Give IFA prophylaxis for 180 days during pregnancy
Thyroid problems	Screen all high risk women for thyroid problems	Treatment with Levothyroxine if hypothyroidism

Maternal Psychological Health

Depression	Screen all women	Counselling and Refer to Psychiatry
Violence against Women	Try to identify women facing violence, during history taking and examination	Educate family members about ill effects. Inform about pertinent laws Create awareness about facilities/ organizations that can support women and seek help

Foetal causes

Multiple gestations Foetal abnormalities	Screening by USG	Use high risk approach
Intrauterine infections	Screen for TORCH	Treat appropriately
Chromosomal abnormalities	Screening for Genetic disorders	Therapeutic abortions

Social Causes

Age at Pregnancy, adolescent pregnancy, pregnancy and maternal age		Health education
High parity, short intervals between pregnancy		Awareness and motivation for using Family Planning methods to space or limit number of children
Undernutrition and micronutrient deficiency		Increase caloric intake Consume foods rich in iron, calcium and proteins

		Consume iodised salts Food supplementation from anganwadi IFA and Calcium supplementation
Alcohol, Smoking and Drug abuse		Counselling for discontinuation
Excessive Physical Labour		Avoid strenuous jobs

Management of Low Birth Weight Babies

	Birth weight < 2 Kg	Birth weight between 2 to < 2.5 Kg
Level at which care is provided	In NICU provide Kangaroo Mother Care	Special care at home Educate mothers about danger signs so that the mother can bring the child immediately to the centre
Prevention of Infection	1. Prophylactic Antibiotic 2. Task Nursing 3. Barrier Nursing	1. Gentle handling 2. Minimum handling 3. No handling by sick persons 4. Minimum no. of persons to handle 5. Room warm, clean and dust free 6. Immunization
Prevention of Hypothermia	1. Keep baby in incubator 2. Maintain temperature, humidity and ensure oxygen supply	1. Do not give bath till baby gains weight and reaches a weight of 2 kgs 2. Wrap in clean, dry and warm cotton cloth. Cover head also except face 3. Cover baby with blanket 4. Keep baby without blanket below 60 candle bulb
Correction of Malnutrition	1. Tube feeding of the expressed breast milk almost every alternate hours.	1. Frequent breastfeeding almost every hour

5. KANGAROO MOTHER CARE

Definition

Kangaroo Mother Care (KMC) is the early, prolonged, and continuous skin-to-skin contact between the mother (or substitute) and her baby, both in hospital and after early discharge till baby reaches term (gestational 40 weeks), with support for positioning, feeding (ideally exclusive breastfeeding), and prevention and management of infections and breathing difficulties and proper follow-up".

A more simple definition is "KMC is the care provided by the recently delivered mother to her low birth weight baby by placing the baby between the breasts in a vertical position and in direct skin-skin contact 24 hours a day till the child attains a weight of 2000 gms".

For whom is it required?

It is required especially for low birth weight (LBW) and pre-term babies. LBW babies between 1800-2000 gms who are haemodynamically stable benefit from KMC.

Why KMC is required?

One-third of LBW babies die within the first 12 hours after delivery. These babies are at a greater risk of dying because they lack the ability to control their body temperature i.e. they get cold or hypothermic very quickly. A cold newborn stops feeding and is more susceptible to infection.

Incubators are available for providing thermal stability. However the increased demand, limited availability of incubators, frequent power failures, poor maintenance are some of the challenges of the developing countries. The alternative to incubator in such situations is the KMC.

Three Components of KMC

1. Kangaroo Position

- The baby is kept in a frog like position on the mother's chest wall between her breasts ensuring skin-to-skin contact. The child is put in kangaroo bag in a specific frog like position so that there is skin-to-skin contact with mother.
- The head of the baby is turned to one side and slightly extended.
- Hips should be flexed and abducted in a frog like position and arms flexed.
- The baby is positioned in the kangaroo bag, and the bag placed under the mother's dupatta and her clothes, 24 hours a day till the child reaches 40 weeks of gestation and gains weight and achieves a weight of about 2500 gms. This ensures warmth of the baby. The position of the baby can be disturbed once in 2 hours.

2. Kangaroo feeding policy

- The mother is encouraged to frequently and exclusively breastfeed the child.
- Feeding should be done once in 90-120 minutes.
- Give feeds when the baby is awake and alert.
- If the child is unable to suckle, the mother expresses her breast milk and the milk is then fed to the child with spoon and wati.
- If the baby is unable to swallow, feeding is done by the naso-gastric tube.
- Supporting the mother to breastfeed her baby is important.

3. Early discharge and follow up

In the hospital, the baby's temperature; respiratory rate; weight gain and compliance to KMC is monitored.

The criteria used for discharge are:

- Child gains 40 gms daily for 5 consecutive days
- Temperature is maintained
- Breastfeeds well
- There is no illness

Timely follow-up is a necessity. Daily follow up can be done by health worker for one week, ensuring that there is a daily gain of 40 gms. After one week, a weekly follow up is done till the child reaches 40 weeks of gestation.

Ensure that mother and family members practice hygiene so as to prevent infection. Train mothers and families on hygiene, how to identify signs of infection, and the importance of early care seeking.

Advantages of KMC

- 1) KMC ensures warmth by keeping the baby in skin-to-skin contact with the mother or a substitute such as the father and prevents hypothermia.
- 2) Ensures nutrition by supporting the mother to breastfeed her baby frequently and exclusively or other appropriate choice as per the mother's status.
- 3) Protects child from Infections.
- 4) Promotes bonding with mother.
- 5) Reduces cost of health care by enabling ambulatory care as a result of early discharge.

6. ADVANTAGES OF BREASTFEEDING

Breast Feeding is the best start to life and gives several benefits to the mother and baby.

Benefits to the Baby

- 1) Complete food for the baby meeting all its nutritional requirements.
- 2) Available to baby at the correct temperature.
- 3) Contains antimicrobial factors (macrophages, lymphocytes, secretory IgA, etc.) that give protection against diarrhoeal disease, necrotizing enterocolitis and respiratory infections.
- 4) Easily digested and utilized by the baby.
- 5) Bacteriologically clean.

- 6) Sucking is good for the baby helping in the development of jaws and teeth.
- 7) Protects baby from tendency to put on weight.
- 8) Promotes bonding between the mother and baby.
- 9) Prevents neonatal hypocalcaemia and hypomagnesaemia.
- 10) Special fatty acids in breast milk lead to increased intelligence quotients and better visual acuity.
- 11) Prevents or postpones the onset of diseases like diabetes, cancer and hypertension.

Benefits to the Mother

- Reduces the mother's risk of post partum haemorrhage and anaemia by helping in early involution of the uterus.
- Improves the mother's immune system.
- Reduces the requirement of insulin amongst diabetic mothers.
- Prolongs the period of infertility and thereby helps to space out pregnancies.
- Protects the mother from breast cancer, ovarian cancer and osteoporosis.
- Helps to restore original physique and adds beauty and complexion to the mother.

Benefits in General

- Prevents malnutrition and reduces the infant mortality rate.
- Improve national economy by reducing infant mortality rate.

Mnemonic: PEACE OF MIND

P : Prevents obesity, diabetes, cancer, hypertension, neonatal hypocalcemia and hypomagnesia

E : Emotional bonding

A : Antimicrobial factors

C : Complete food, Clean (bacteriologically), available at Correct temperature

E : Easily digested

O : Protects against Ovarian cancer and Osteoporosis

F : Family Planning - spacing of pregnancy

M : Malnutrition in children prevented

I : Intelligence of child and Involution of uterus

N : National and family economy

D : Development of jaws and teeth in child

7. BABY FRIENDLY HOSPITAL INITIATIVE

The Baby-friendly Hospital Initiative (BFHI) was launched by WHO and UNICEF to motivate facilities providing maternity and newborn services to improve breastfeeding practices. The Ten Steps summarize a package of policies and procedures, that facilities providing maternity and newborn services, should implement to support breastfeeding.

Ten steps to successful breastfeeding:

A) Critical Management Procedures

- 1a. Comply fully with the *International Code of Marketing of Breast-milk Substitutes* and relevant World Health Assembly resolutions.
- 1b. Have a written infant feeding policy that is routinely communicated to staff and parents.
- 1c. Establish ongoing monitoring and data-management systems.
2. Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.

B) Key Clinical Practices

3. Discuss the importance and management of breastfeeding with pregnant women and their families.
4. Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.
5. Support mothers to initiate and maintain breastfeeding and manage common difficulties.
6. Do not provide breastfed newborns any food or fluids other than breast milk, unless medically indicated (no feeds other than breast milk).

7. Enable mothers and their infants to remain together and to practise rooming-in 24 hours a day.
8. Support mothers to recognize and respond to their infants' cues for feeding.
9. Counsel mothers on the use and risks of feeding bottles, teats and pacifiers.
10. Coordinate discharge so that parents and their infants have timely access to ongoing support and care.

8. GUIDELINES ON INFANT AND YOUNG CHILD FEEDING (IYCF)

Introduction

- Child upto age of one year is an infant.
- A child upto age of two years is called a child.
- WHO/UNICEF have emphasized the first 1000 days of life i.e, the 270 days in-utero and the first two years after birth as the critical window period for nutritional interventions.
- Maximal brain growth occurs during this period and therefore malnutrition in this critical period can lead to stunting and suboptimal developmental outcomes.

Objective of IYCF practices

To bring about improvement in optimal feeding practices for infants and young children and raise awareness for achieving optimal feeding practices.

Optimal IYCF practices

- Early initiation of breastfeeding; immediately after birth, preferably within one hour.
- Exclusive breastfeeding for the first six months of life i. e 180 days (no other foods or fluids, not even water; but allows infant to receive ORS, drops, syrups of vitamins, minerals and medicines when required).
- Timely introduction of complementary foods (solid, semisolid or soft foods) after the age of six months i. e 180 days.
- Age appropriate complementary feeding for children 6-23 months, while continuing breastfeeding.
- Breastfeeding continued for 2 years or beyond.
- Children should receive food from 4 or more food groups
 1. Grains, roots and tubers, legumes and nuts
 2. Dairy products
 3. Flesh foods (meat fish, poultry)
 4. Eggs
 5. Vitamin A rich fruits and vegetables
 6. Other fruits and vegetables
- Frequency of feeds should be a minimum of
 1. Two times for breastfed infants 6-8 months.
 2. Three times for breastfed children 9-23 months.
 3. Four times for non-breastfed children 6-23 months.
- Active feeding for children during and after illness.
- Mother should communicate, look into the eyes, touch and caress the baby while feeding. Practice responsive feeding.
- Hand washing with soap and water at critical times - including before eating or preparing food and after using the toilet.
- Avoid junk food. Home food should be preferred over artificial, commercial, canned or packaged food.
- Promote and establish Human Milk Banks.
- Working mothers can express breast milk for infants/ children at home or use creche facilities at the workplace for nursing and care of young one.
- For HIV infected mothers , exclusive breast feeding is still a preferred option with nevirapine to be started for a child just after birth till 6-12 weeks and maternal ART to be continued.

Benefits of IYCF practices

- Reduces the risk of child mortality.
- Reduces the risk of preventable infant and childhood illnesses.
- Enhances cognitive functions and increases productivity.
- Helps in spacing pregnancies as breastfeeding is an effective contraceptive (98.2%) during the first six months of lactation.
- Reduces burden on health system and costs for societies by protecting against malnutrition (both under-nutrition and obesity) and infectious and chronic diseases.

Strengthening of IYCF practices

The strengthening of IYCF interventions requires the following three areas of action and government support.

Action needed	Government support
1. PROTECTION By ensuring implementation of the IMS Act	• Infant Milk Substitutes, feeding bottles, and infant foods (Regulation of Production, Supply and Distribution) Act 1992, and Amendment Act 2003
2. PROMOTION By providing accurate information and skilled counselling to all women, family and community members.	• Under the Anganwadi Services, counselling is provided to Pregnant Women and Lactating Mothers on infant and young child feeding practices. • The POSHAN Abhiyaan focuses on social and behavioural change communication • Mothers' Absolute Affection (MAA) programme • Village Health Sanitation and Nutrition Days (VHSNDs) are observed for provision of maternal and child health services and creating awareness on maternal and child care. • Revised Mother and Child Protection Card is an effective counselling tool for use of front line workers to address the nutrition concerns and improving IYCF practices in children. • Home Based Care for Young Children (HBYC) an extension of Home Based Newborn Care (HBNC) to provide community based care by ASHA workers with focus on improvement in child rearing practices, nutrition counselling and breastfeeding promotion till 15th month of life.
3. SUPPORT By providing support measures for sustained appropriate feeding through maternity protection	• The Pradhan Mantri Matru Vandana Yojana (PMMVY), is a centrally sponsored conditional maternity benefit scheme of the government for pregnant and lactating women, under which cash incentives are provided partly compensating for their wage loss to improve health seeking behaviour amongst the pregnant women & lactating mothers. • Recent amendment in Maternity Benefit Act i.e increased in paid maternity leave from 12 week to 26 weeks.

9. WORLD BREASTFEEDING WEEK

World Breastfeeding Week (WBW) is celebrated every year from 1-7 August to commemorate the Innocenti Declaration. WBW was first celebrated in 1992.

Origin

The World Alliance for Breastfeeding Action (WABA) is a global network of organizations and individuals who believe breastfeeding is the right of all children and mothers and who dedicate themselves to protect, promote and support this right. WABA was formed on 14 February 1991 and works in close liaison with UNICEF.

As part of its action plan to facilitate and strengthen social mobilization for breastfeeding, WABA envisioned a global unifying breastfeeding promotion strategy. A day dedicated to breastfeeding was suggested. The idea of a day's celebration was later turned into a week. This has become to be known as World Breast Feeding Week.

World Breastfeeding Week

Every year a new theme that is unique, captivating and issue specific is selected every year.

These themes include health care systems, women's employment and women's work, marketing practices of breast milk substitute companies, national laws and practices on breast milk substitute, community action, ecology, economy, science, education and human rights.

Advocacy materials such as the calendar announcement, posters, and banners is prepared and disseminated by WABA to stimulate the action among local groups, government and other organizations.

During this week, activities are conducted throughout the country by various organizations to educate the community on importance of breastfeeding. Health care providers who are the first care givers after child birth and the ancillary staff who advise the mothers about breast feeding are trained so that the appropriate and correct messages are given, their own myths and misconceptions are clarified and no conflicting advise is offered to the mother.

10. USES OF GROWTH CHART

Introduction

- A growth chart is a tool used to assess the growth of the child by plotting the child's weight against the age and assessing whether the child's weight is appropriate or is gaining / losing weight.
- Boys and girls have separate growth charts.
- Growth charts can be used to plot the weight of child from zero to sixty months of age, i.e. birth to five years of age.

Uses

- 1) *Growth monitoring* - By plotting the weight of the child regularly, it is possible to know whether the child's weight is normal, is gaining weight or not, is the weight moving in a direction parallel to the standard lines etc.
Weight is checked and plotted every month in the first year of life, then every two months in second year of life and then every three months till the age of five years.
- 2) *Diagnostic tool* - Weight is a sensitive indicator and by checking weight one can detect malnutrition in a child at an early stage even before the signs and symptoms of malnutrition become obvious or before the child becomes severely malnourished.
- 3) *Educational tool* - Since the tool is a graphic display of the child's growth, the mother can easily understand how is her child's growth. She can see the effect of infection and adequate feeding on the child's growth and is therefore able to better take care of the child.
- 4) *Action tool* - A health worker knows what action she needs to take for an individual child. If a child is under nourished, she may need to give dietary advice. However if the child is severely undernourished, she probably needs to refer the child for hospitalization.
- 5) *Planning tool* - When the growth charts of several children are studied, it can reflect the nutritional status of the community and based on this information, the government can plan a nutritional intervention programme and make appropriate policy decisions.
- 6) *Evaluation tool* - To assess whether the nutritional programme is able to meet its objectives, whether it is having the desired impact and is effective in improving nutritional status.

11. HEALTH PROBLEMS IN CHILDREN

The problems faced by children in developing countries are vast. The main health problems encountered are

- 1) Low birth weight (LBW)
- 2) Malnutrition
- 3) Infections and parasites
- 4) Accidents and poisoning
- 5) Behavioural problems

Low Birth Weight

Birth weight less than 2.5 kg taken preferably within first hour of life before significant postnatal weight loss has occurred.

Computation

$$\text{LBW} = \frac{\text{Live born babies with birth weight of less than 2.5 kg}}{\text{Total number of live births}} \times 1000$$

Prevalence in India 28%.

Risk factors

Malnutrition, infection and unregulated fertility which are due to poor socio economic and environmental conditions.

Importance

- Single most important factor that determines the survival of child.
- Infant Mortality rate (IMR) is 20 times greater in LBW babies than other babies.
- Important guide to level of care needed by individual babies.
- Indicates the inadequate nutrition and health status of mother.
- Indicates inadequate prenatal care and need for improved care of newborn.
- Apart from human wastage and suffering it leads to high cost of special care (intensive care unit) and under development of the child.

Malnutrition

It includes over and under malnutrition. In developing countries like India, under nutrition is major public health problem.

Types of under-nutrition

- Protein energy malnutrition
- Micronutrient deficiency: nutritional anaemia, vitamin A deficiency and iodine deficiency

Causes

- Scarcity of suitable food, low purchasing power, and traditional beliefs and taboos.
- Malnutrition, infection and loss of appetite are vicious cycle.

Prevalence

48% of children below five years of age are underweight.

Effect

- Leads to more infection in children, slower recovery and higher mortality rates.
- Do not grow to full potential of physical and mental abilities.

Infection and Parasites

- Infections - Diarrhoea, pertussis, respiratory infection, measles, polio, neonatal tetanus, tuberculosis, diphtheria etc. are commonly seen in children.
- Parasites - Amoebiasis, ascariasis, giardiasis.
- Children are infected several times in a year.

Causes

Malnutrition, poor environmental and sanitary condition, low social status, poor health care facility, misconceptions, cultural practices.

Accidents and Poisoning

- More exposed to domestic accidents like fall, burns, poisoning and drowning
- Road traffic accidents are also increasing with child as occupant.

Behavioural Problems

These problems are commonly seen now days due to disrupted families and forgotten societal values, easy availability of drugs and early exposure to media.

Classification

- Antisocial problem: Stealing, lying, gambling, sexual offence.
- Habit disorder: Thumb sucking, nail biting, bed wetting, masturbation.
- Personality disorder: Jealousy, temper tantrum, timidity, day dreaming, fears, anxiety, and hysteria.
- Psychosomatic: Tremor, headache, asthma, depression, delusion, and hallucination.
- Educational difficulties: School phobia, backwardness in studies, etc.

Causes

Mental deficiency, organic causes and maladjustment.

12. SCHOOL HEALTH SERVICES

Health Problems of School Children

- 1) Malnutrition
- 2) Infectious diseases
- 3) Intestinal parasites
- 4) Eye problems
- 5) Skin problems
- 6) Ear problems
- 7) Dental caries

Objective of School Health Services

- 1) Promote positive help
- 2) Prevent diseases
- 3) Ensure early diagnosis treatment and follow up
- 4) Awareness among school children about health and inculcation of healthy practices
- 5) Provision of healthy school environment

Components of School Health Services

- i. Health checkup of school children
- ii. Health checkup of school personnel
- iii. Prevention of communicable diseases
- iv. Mental health
- v. Dental health
- vi. Eye health
- vii. Nutritional services
- viii. First aid and emergency care
- ix. Health education
- x. Education of handicapped child
- xi. Maintenance and appropriate use of school health records
- xii. Maintaining healthy school environment

i. Health checkup of school children

Periodic medical examination, starting from the time of entry and then every 4 years.

If resources available the examination can be repeated more often.

Assessment should include history taking, physical examination, blood examination, urine and stool examination.

Tests should be carried out to check for the vision, hearing and speech. Examination should preferably be carried

out in presence of parents. The school teacher can assist in by recording the height and weight of the children; assessing vision; identifying children with health and behavioural problems; and preparing the students for medical examination.

Teachers should be trained to detect changes in a child appearance or behaviour that are suggestive of illness or improper growth and development. Examples- unusually flushed face; any rash; symptoms of acute cold; coughing and sneezing; sore throat; rigid neck; nausea and vomiting; red or watery eyes; headache; listlessness or sleepiness; chills or fever; loss of interest in playing; diarrhoea; pain in the body; skin conditions like scabies and ringworm infection; pediculosis.

Special clinic should be conducted for school children. In rural areas this examination can be conducted at the Primary Health Centre. In urban areas, one of the selected school or dispensary can provide services to 5000 children. Dentist, Ophthalmologist and ENT specialist can be roped in for the health examination.

A national health programme known by the name of RBSK i.e. Rashtriya Bal Swasthya Karyakram is being implemented in the country. RBSK includes provision for child health screening and early intervention services through early detection and management of 4 Ds prevalent in children from birth till age of 18 years.

The 4 Ds are:

1. Defects at birth
2. Diseases in children
3. Deficiencies in children
4. Developmental delays

ii. *Health checkup of school personnel*

All the persons working in the school should undergo an annual checkup.

iii. *Prevention of communicable diseases*

Immunisation services should be carried out in school. This includes booster-2; tetanus toxoid at the age of 10 and 16 years.

iv. *Mental health*

Juvenile delinquency, maladjustment and drug addictions are becoming a major mental health problems in school children. School teacher plays a very positive role in helping the child attain a positive mental health. A school teacher should also be trained to identify behavioural problems that are consequence of an underlying mental health issue and require immediate attention.

v. *Dental health*

Dental caries being a major problem in school children. Dental examination should be a part of a school health checkup, preferably done by a dentist. Children should be taught proper technique of brushing and the need to brush atleast two times a day.

vi. *Eye health*

Refractive errors are the most eye common problem seen. Other problems like squint, amblyopia; eye infections like trachoma, or signs of vitamin A deficiency should be looked for.

vii. *Nutritional services*

The mid-day meal provided in the school should provide atleast 1/3rd of the calories and half the proteins required for the child.

viii. *First aid and emergency care*

Teachers should be trained in providing first aid in situations where a child sustains minor injuries.

ix. *Health education*

- a) Personal hygiene
- b) Good posture
- c) Environmental hygiene
- d) Family life education

x. Education of handicapped child

xi. Maintenance and appropriate use of school health records

A school health record should have

- Identifying data - name, age, sex
- Past health history
- Record of current assessment (history, examination, lab tests)

A school health record will be useful to analyse and evaluate school health programme.

xii. Maintaining healthy school environment

Schools in India, should have the following minimum standards

- Location :** Should be centrally located with a proper approach road and at a distance from the busy roads, railway stations, markets, cinema houses etc.
- Site:** School should be on a suitable high land, which can drain the water properly. Primary schools and secondary schools should have a minimum of 5 and 10 acres of land respectively with an additional one acre of land for every 100 students. It should be fenced. Facility for playing should be available within the school premises and in case it is not available, the nearest public park should be made available.
- Structure:** Nursery and secondary schools should preferably be single storied. Walls should be heat resistant with a thickness of 10 inches.
- Doors and Windows:** Windows should be broad, at a height of two and half feet from the floor with a window sill. The combined area of the door and window should be atleast 25% of the floor space area. Ventilators should not be less than 2% of the floor area. The windows and doors should be placed in such a way, so as to allow cross-ventilation.
- Classroom:** One classroom should accommodate not more than 40 students. Per capita space for a student in a classroom should not be less than 10 square feet.
- Furniture:** There should be single desks and chairs of the "minus" type.
- Colour:** Walls should be white in colour. Periodic white washing is a must.
- Lighting:** Sufficient natural light, preferably from the left.
- Water supply:** Independent continuous source of safe and potable water, made available through taps.
- Eating facilities:** Non-approved vendors should not be allowed inside school premises. Separate room should be provided for mid-day meals.
- Lavatory:** One urinal for 60 students and one latrine for 100 students. Separate for boys and girls.

13. HEALTH EDUCATION AT SCHOOL

Why Health Education is important in school?

Children take back the instruction they receive in school to their parents at home and when they become adult they will apply it to their families. In developing country like India where ill health is main problem 'every school child is a health worker'.

Goal

Health education aims to bring desirable changes in knowledge and attitude; and inculcate in the children healthy habits.

Who should do Health Education?

- The teacher is the key person to impart health education. It should be lively and practical and simplified according to the age of the child.
- Health officer, public health nurse, health worker, health assistant can prepare the teaching material and provide it to the teachers. They can also support the teachers while they are conducting the health education sessions.
- The teacher should be well versed with health education techniques and be sincerely interested in welfare of pupils.

Topics

- 1) Personal hygiene
- 2) Prevention of disease
- 3) First Aid: Children should be taught to tackle health emergencies.
- 4) Safety education: Recognition and avoidance of hazards causing death and disability like road safety rules.
- 5) Mental health: Importance of positive attitude towards life and tackling the difficult situations in life.
- 6) Nutrition education
- 7) Improvement in environment sanitation: Encouraging the children to take part in health activities like fly control campaign, construction of sanitary latrines etc. e.g. National Social Service (NSS).
- 8) Consumer health: Educating them about the food adulteration practices.
- 9) Hazards of alcohol, tobacco, drugs etc.
- 10) Family life education: Reproductive health including changes during adolescence, successful marital relationship and family relations.
- 11) Negotiation and Assertion skills
- 12) International health: Make them aware of various international agencies for social cause and encourage them to participate.

Teaching Methodology

- Information sessions
- Group discussions
- Role plays
- Case-studies
- Games
- Agree-Disagree statements
- Complete the sentence
- Draw pictures
- Essay, Elocution, Drawing, Singing, Skit Competitions

Teaching Material

- Posters
- Flip charts
- Pamphlets
- Case-studies
- Statements on myths and misconceptions

Child to Child – A special approach

Some children are selected and educated in an interdisciplinary manner about selected subject of national and regional importance. e.g. pulse polio immunization, diarrhoea, environmental sanitation.

These children become health messenger not only for children in school and family but also community at large.

They convey the message in community by

- Singing subject based folk songs.
- Telling stories and street plays.
- Taking out rallies carrying placards describing preventive action to be taken.

14. HANDICAPPED CHILDREN

Definition

Handicap is defined as reduction in a person's capacity to fulfill a social role because of impairment, or disability. In children, this interfere with normal growth and development or capacity to learn.

Classification

- 1) Physical handicap
- 2) Mental handicap
- 3) Social handicap

Physical handicap

Physical handicap could be due to

- Birth defects - cleft lip, cleft palate, deaf, blind, congenital heart disease etc.
- Infections - poliomyelitis
- Accidents - loss of limb

Mental handicap

Refer to short note 15.

Social handicap

Socially handicapped child is a child whose full potential and development of healthy personality is hampered because of certain elements in the environment like parental inadequacy, environmental deprivation, and emotional disturbances.

e.g. death or loss of parents, destitute children, children who are exploited or victimised, delinquent children.

Prevention of handicap in children

1. Primary prevention

- Genetic counselling
- Educating women regarding the ideal age for child bearing i.e. 20-30 years
- Educating community, about risk of handicap in a child being born in consanguineous marriages
- Identifying people at risk of transmitting inherited diseases and offering them advise accordingly
- Immunization against poliomyelitis, rubella
- Adequate antenatal care of pregnant women
- Avoiding exposure to X-rays; smoking; use of teratogenic drugs etc.

2. Secondary prevention

- Early diagnosis of handicap
- Treatment - Physiotherapy, occupational therapy, speech therapy, provision of prosthetics
- Training the handicapped child for an independent living i.e. vocational guidance

15. MENTAL RETARDATION

Definition

Mental handicap is the present term used for mental retardation.

It is a condition of sub average intellectual function combined with deficit in adaptive behavior and is based on the Intelligent Quotient.

Concept

IQ score is based on assumption that intelligence distribution in general public follows normal or Gaussian curve, with mean of 100. Half of the general population achieves score above 100 and one half below. The lower 3% or so of the population achieve score of 70 or less. They are considered as mentally retarded.

WHO Classification of Mental Retardation (MR)

$$IQ = (\text{mental age} / \text{chronological age}) \times 100$$

Degree of MR	IQ score	% of total
Mild mental retardation	50-70	70
Moderate mental retardation	35-49	20
Severe mental retardation	20-34	5
Profound mental retardation	Under 20	5

However IQ range suggested must not be applied too rigidly. Its not necessarily constant during individual span of life.

Causes of Mental Retardation

- Prenatal causes
- Perinatal causes
- Postnatal causes

Prenatal Causes

1. Genetic conditions
 - Down's syndrome
 - Klinefelter's syndrome
 - PKU
 - Tay Sach disease
 - Galactosemia
 - Microcephaly
 - Congenital hypothyroidism
 - Chromosomal abnormalities
2. Antenatal factors
 - Neural tube defect
 - Rh incompatibility
 - Certain infection for e.g. rubella, cytomegalovirus, toxoplasmosis, syphilis.
 - Drugs
 - Radiations

Perinatal causes - Birth injuries, hypoxia, cerebral palsy.

Postnatal causes - Head injuries, accidents, encephalitis.

16. JUVENILE DELINQUENCY

Definition

The children's act 1960 in India defines Delinquent - ('*delinquere*') as

- A child who has committed an offence

All deviations from normal youthful behavior

This includes all children who are ungovernable and habitually disobedient and who desert their homes, with behavioural problems and anti-social practices.

Juvenile- 'Juvenis' - young - boy who has not attained 16 years, and girl aged less than 18 years. Now it is redefined as boy or girl aged < 18 years.

Incidence

- In India it is increasing since last 2 - 3 decades due to change in cultural pattern, and urbanization.
- It is 5 times more in males than females. The highest incidence is found in age group of 15 and above.

Causes

- 1) Biological: Hereditary defect, feeble mindedness, physical defect, glandular imbalance.
- 2) Chromosomal anomalies like child with extra Y chromosome (XYY) suffer from severe disturbance of whole personality.
- 3) Social: Broken homes (e.g. death or divorce of parents, step mother treatment) disturbed home condition (poverty, alcoholism).
- 4) Other causes: Absence of recreation facilities, cheap recreation, sex thrillers, urbanization, industrialization, cinema, television, slum dwelling etc.

Common Problems seen in Juvenile Delinquents

- 1) Behavioural problems e.g. lying, stealing, gambling, aggressiveness, destructiveness, disobedience, over activity
- 2) Learning disabilities
- 3) Emotional problem e.g. depression, refusal to go to school, fears, timidity, shyness
- 4) Adjustment reactions e.g. school related problem, grief
- 5) Development disorder e.g. autism, bedwetting & soiling
- 6) Intellectual deficit
- 7) Psychosomatic disorders
- 8) Bizarre and abnormal behaviours
- 9) Relationship (including parent-child, sibling and marital) problem
- 10) Socio-legal issues e.g. child custody, sexual offences, child abuse and head injuries
- 11) Other e.g. eating and sleep disorders, sexual problems in adolescence, tics (movement disorder) & stress reaction

Prevention & Management of Juvenile Delinquency

- 1) Improvement of family life - A well-adjusted family can stem the tide of delinquency. Parent should be prepared for parenthood and needs of children should be well appreciated and met.
- 2) Life Skills development - Adjustment to the life situation with positive outlook should be imposed on children from childhood itself.
- 3) Schooling - There should be healthy teacher pupil relationship. The school teacher should be trained for warning signs of maladjustment in students.
- 4) Social welfare services - Child guidance clinics, juvenile court, child placement (Orphanages, Foster homes, Borstals, Remand home), recreational facilities, parent counselling, educational facilities etc.
- 5) Juvenile Welfare Boards - Under the Juvenile Justice Act, 1986, separate provisions have been laid down for the neglected and uncontrollable juveniles. They are dealt with by the Juvenile Welfare Boards and not by Juvenile Courts.

17. CHILD GUIDANCE CLINIC

Child Guidance Clinic (CGC) deals with those children and adolescents who are not adjusted with their environment. It operates on the premises that if sound foundation of mental health are laid in childhood and adolescent it will continue into adulthood.

Objective

To prevent children from becoming neurotics, psychotics, criminals in later life by offering a gamut of services so as to ensure physical and mental health.

Team at CGC

- 1) Psychiatrist
- 2) Clinical psychologist
- 3) Educational psychologist
- 4) Psychiatric social worker
- 5) Public health nurse
- 6) Paediatrician
- 7) Speech therapist
- 8) Neurologist
- 9) Occupational therapist

The composition of the team is variable depending on the need and the resources available.

Services

The clinic offers a number of services for these children

- 1) Psychotherapy to restore the positive feelings of security in the child.
- 2) Physical health checkup by Paediatricians.

Treatment

- 1) Medical treatment
- 2) Individual psychotherapy
- 3) Family and marital therapy
- 4) Behavioural / Cognitive therapy
- 5) Occupational therapy
- 6) Group therapy
- 7) Play therapy
- 8) Social case work

CGC is said to be Children's One-Stop Psycho-Educational Services (COPES).

18. UNDER FIVE CLINIC

What is an Under Five Clinic?

Under Five Clinic (UFC) is a centre where preventive, promotive, curative, referral and health educational services are provided in a packaged manner under one roof to children below five years of age.

Why it is necessary to have a separate under five clinic?

Children below 5 years of age constitute 15% of the total population and are nutritionally vulnerable therefore it is important to focus on them.

Aim of an UFC

It is to provide comprehensive care to the children below five years of age with the available resources.

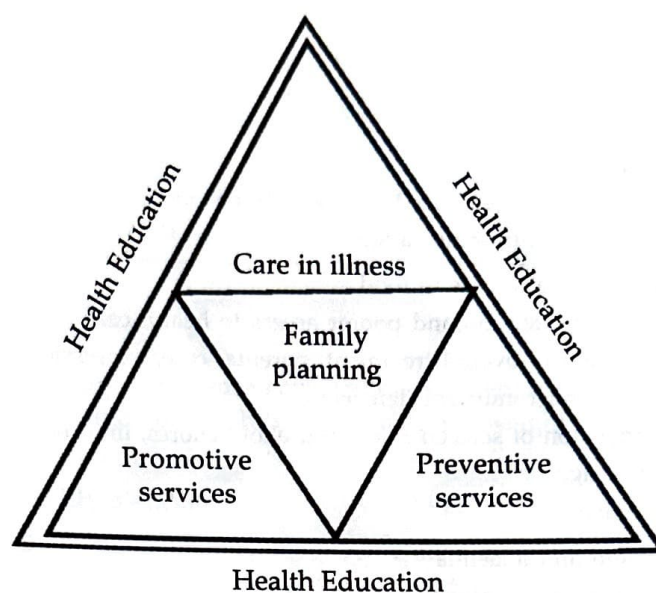


Fig. 12.1 Under Five Clinic

Services provided in UFC

1. Curative services

- Mother's felt need is treatment during illness. It is the primary reason why mothers approach UFC initially.
- Respiratory and diarrhoeal infections are common in children.
- Antibiotics and Oral Rehydration Therapy given if required after initial assessment by a trained nurse.
- Referral to MO if no response to treatment or child is critically ill.

2. Promotive services

- Growth monitoring - Monthly till 1 year of age, thereafter once in two months till 2 years of age and quarterly from 2 to 5 years of age. Weight is plotted on the growth chart and mother explained about the child's growth.
- Health checkup is done even if no complaints.
- It helps in early detection of malnutrition and detects causes of growth faltering.

3. Preventive services

- Routine Immunization
- Vitamin A prophylaxis
- IFA prophylaxis (20 mg elemental iron and 100 mcg of folic acid) biweekly along with tablet Albendazole in child above 1 year of age

4. Family Planning Services

- UFC provides an effective opportunity to provide family planning services to the mother accompanying the child.
- Condoms, and OCPs are provided free of cost at the clinic. Referral for other family planning methods is done.

5. Health Education

Mothers are provided health education on the following topics

- Care of the child
- Growth monitoring
- Oral rehydration therapy
- Breast-feeding
- Immunization
- Personal hygiene
- Female literacy

19. GIRL CHILD AND GENDER BIAS

Gender bias pose a specific threat to girl child across social and economic strata. The life chart of girl child and many life threatening problems she faces are as below :

Age	Problems faced
Before birth to 1 year	Unwanted, risk of prenatal detection Foeticides and infanticides Infant mortality Discrimination in breast feeding and infant food Neglect of health (immunization)
1 - 5 yrs	Discrimination in access to food Poorer health attention and poorer access to health care, high risk of nutritional anaemia Discrimination in overall treatment, parental care, expression of value and worth Vitamin and micronutrient deficiency Early imposition of societal roles, household chores, limit on learning and play Child marriages Sexual abuse
6 - 11 years	Malnutrition and anaemia Health problem like diarrhoea Iodine and vitamin A deficiency Low school enrolment or school drop out Trafficking, child labour or child marriage Increased domestic duties and workload Looking after siblings Restriction in mobility and play
12 - 18 years	Poor health and poor health attention High risk / level of anaemia Frequent illness due to micronutrient deficiency or malnutrition Early child bearing related mortality or morbidity Child marriage Denied information, mobility and access to service Low literacy Marital and domestic violence Dowry harassment, desertation, polygamy, divorce Trafficking, child labour STI / HIV / AIDS Unpaid or unrecognised work and drudgery No voice in home or society

The girls in India needs to be protected by strict laws, policies and intersectoral co-ordination. To change the mindset of the community is still the distant goal and nation cannot afford the delay in protecting the girl child.

Specific goals for girls in National plan of action for children 2005:

- 1) Assurance of **equality of status** for girl child as an individual and a citizen in her own right through promotion of special opportunities for her growth and development.
- 2) To ensure **survival, development and protection** of the girl child and to **create an environment** wherein she lives a life of dignity with full opportunity for choice and development.
- 3) To **stop sex selection**, female foeticide and infanticide.
- 4) To eliminate **child marriages**.
- 5) To ensure the girl child's **security and protect** her from abuse, exploitation, victimization and all other forms of violence.
- 6) To protect the girl child from deprivation and neglect and to ensure the girl child **equal share of care and resources** in the home and the community and equal access to services.

- 7) To take measures to protect girl children from any treatment which undermines their **self esteem** and causes their exclusion from social mainstream and also to **break down persistent gender stereotype**.
- 8) To eliminate all obstacles that prevent girls from **full enjoyment of human rights and fundamental freedom** including **equal rights in succession and inheritance**.
- 9) To ensure equal opportunity for **free and compulsory elementary education** to all girls.

20. HEALTH PROBLEMS IN ADOLESCENTS

Definition of Adolescence

Adolescence is defined as the period between 10-19 years of age.

Problems in Adolescence age group:

1) *Anaemia in Adolescence*

Anaemia is a common problem in adolescence especially adolescent girls. An adolescent who is anaemic, will tend to be anaemic during pregnancy giving birth to a low birth weight baby.

2) *Teenage pregnancy and its consequences*

- High mortality and morbidity associated with pregnancy and child birth during adolescence period.
- There is an increase in number of teenage pregnancies, some within the context of marriage.
- There is an increase in number of abortions, many of which are conducted by poorly qualified persons and unsafe, unhygienic conditions leading to increased mortality.
- Increase in the number of abandoned and abused children born to adolescent mothers.

3) *Reproductive Tract/Sexually transmitted Infections*

Increase in number of adolescents with sexually transmitted infections.

4) *Problems related to menstruation*

Dysmenorrhoea, Menorrhagia

5) *Substance abuse*

Tobacco consumptions in smoke and smokeless form, alcohol abuse.

6) *Emotional problems*

Adolescent are trying to adjust to the changes occurring and coping with the expectations of the peers and elders.

Strategies to address adolescent health problems

a) Adolescent Reproductive and Sexual Health Programme

- *Adolescent Friendly Health Clinic*: Weekly clinics on a fixed day should be held.

1. Management of RTI/STI; menstrual health problems; anaemia

2. Antenatal care

3. Family Planning services

4. Counselling on issues like

- a. Pubertal changes
- b. Nutrition
- c. Prevention of RTI/STI
- d. Appropriate age of marriage and child bearing
- e. Substance abuse
- f. Emotional issues etc.

- *Outreach services*: Awareness sessions conducted in the community at places where they normally gather.

b) Weekly Iron Folic Acid Supplementation

- In schools as well as in anganwadi for non-school going adolescents, weekly iron folic acid supplementation is given to children. 60 mg of elemental iron and 500 microgram of folic acid is given under supervision every week.
- Biannual deworming with 400 mg of Albendazole.
- Screening target group for anaemia and referring those with moderate and severe anaemia for therapeutic doses.

- c) Menstrual Hygiene Scheme
 - Distribution of Sanitary Napkins.
 - Educating the ASHA and nodal teachers on menstrual hygiene.
- d) Nutritional Supplementation at Anganwadi
 Undernourished adolescent girls (11-15 years old girls weighing < 30 kgs; and 15-19 years old girls weighing < 35 kgs) are given 6 kgs food grain per month.
- e) Kishori Shakti Yojana/SABLA Programme of ICDS
 Kishori Shakti Yojana addresses the adolescents needs for self development; nutritional and health status; literacy and numerical skills; vocational skills etc.
 SABLA aims to improve the nutritional and health status of the adolescent.

21. PERINATAL MORTALITY RATE (PMR)

Perinatal period is the period extending from 28th weeks of gestation to less than 7 days of life, after birth.

Calculation (for international comparison)

$$\text{PMR} = \frac{\text{Late foetal and early neonatal death weighing over 1000 gms at birth}}{\text{Total live births weighing over 1000 gms at birth}} \times 100$$

Where Foetal death is defined as "death prior to the complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy and which is not an induced termination of pregnancy. The death is indicated by the fact that after such expulsion or extraction, the foetus does not breathe or show any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles".

If birth weight is not available, then gestation of 28 weeks or body length (Crown to heel) of at least 35 cms should be used. However the preferred criterion is birth weight.

Importance

- 1) Perinatal mortality rate is a sensitive indicator of essential maternal and newborn care provided before and around the time of childbirth. It indicates both QUANTITY & QUALITY of health care services.
- 2) It is an indication of extent of pregnancy wastage.
- 3) Many deaths that occur immediately after birth are recorded as stillbirths even though they were not, thereby inflating the stillbirth rate. Thus by combining the two figures, the error in reporting of deaths is minimized and uniformity in reporting is maintained.
- 4) The factors responsible for stillbirth and early neonate are common and therefore it makes sense to combine these two deaths under one heading.
- 5) Many factors related to late foetal death and early neonatal death are preventable.

Incidence

- It accounts for 90% of all foetal and infant mortality rates in developed countries.
- In India the sample registration system estimate for PMR was 37 per 1000 births (live and still births).

Causes of Perinatal Mortality

It includes one or more complication in mothers during pregnancies or labour, placenta or foetus or neonate.

a) Prenatal

1. Maternal factors - age (teenage, elderly)
2. Maternal diseases - hypertension (toxaemia), cardiovascular diseases, diabetes, anaemia etc.
3. Pelvic diseases - Uterine myoma, endometriosis, ovarian tumour
4. Anatomical - Uterine and cervical defects
5. Blood incompatibilities

6. Toxaemia of pregnancy
7. Malnutrition, anaemia
8. Antepartum haemorrhage
9. Foetal- congenital defects

b) Intranatal

1. Birth trauma
2. Birth asphyxia
3. Prolonged or difficult labour
4. Obstetric complications

c) Postnatal

1. Preterm baby/Low birth weight
2. Respiratory distress syndrome
3. Congenital anomalies
4. Respiratory and Intestinal infections

Prevention of Perinatal Mortality

The preventive strategy will be based on some direct and indirect measures.

Direct measures

These measures if taken can modify the problem of perinatal mortality pretty quickly. These measures act both at primary and secondary prevention levels.

- 1) Safe and clean delivery with skilled birth attendant
- 2) Essential Care of the newborn at birth
- 3) Newborn resuscitation
- 4) Infection control measures
- 5) Exclusive breast feeding
- 6) Early diagnosis and management of complications
- 7) Special care for the preterm and premature infants
- 8) ORS and antibiotics for diarrhoea and ARI respectively
- 9) Immunization

Indirect measures

These factors though intangible, have a role of immense importance and operate at the level of family, community, health care and society at large. These factors are mostly acting at promotion and primary prevention levels.

- 1) Family planning - Timing, spacing births, limiting family size
- 2) Prenatal nutrition of mothers
- 3) Education of the mother on pregnancy and child care
- 4) Antenatal care
- 5) Growth monitoring of child
- 6) Prevention of malnutrition - weaning practices
- 7) Breast feeding
- 8) Vitamin A prophylaxis

22. MORTALITY RATE IN CHILDREN BELOW FIVE YEARS OF AGE

STILL- BIRTH RATE (SBR) : Death of foetus weighing 1000 gms (roughly corresponds to 28 weeks) or more amongst total births (live plus still birth) in a year.	PERINATAL MORTALITY RATE (PMR): Late foetal deaths (28 weeks of gestation and more) and early neonatal deaths (first week of life) weighing over 1000 gms at birth amongst the total live births weighing over 1000 gms at birth in a year.	UNDER FIVE DEATH RATE: Deaths in children below 5 years of age per 1000 live births in the same year.		
		INFANT MORTALITY RATE: Deaths in children less than one year of age amongst total live births in a year.		
		NEONATAL MORTALITY RATE (NMR): Deaths in children upto 28 days of birth amongst the total live births in a year	POST-NEONATAL MORTALITY RATE (PNMR): Deaths in children from 28 days of birth till one year of age amongst the total live births in a year.	CHILD DEATH RATE (CDR): Deaths in children aged 1-4 years amongst children of the same age group.
Antenatal Causes				
1. Infectious diseases 2. High blood pressure and its complications 3. Diabetes 4. Rh incompatibility 5. Multiple pregnancies 6. Foetal malformations 7. Placental anomalies 8. Cord anomalies	1. Previous past obstetric history of still-births, neonatal death, premature births 2. Malnutrition 3. Anaemia 4. Tuberculosis 5. Hypertension 6. Toxaemia of pregnancy 7. Diabetes 8. Cardiovascular diseases 9. Blood incompatibilites 10. Pelvic diseases like uterine myomas, endometriosis, ovarian tumours. 11. Anatomical defects of reproductive organs-uterine anomalies, incompetent cervix 12. Endocrine imbalance and inadequate uterine preparations 13. Multiple pregnancies 14. Congenital defects 15. Antepartum haemorrhage			
Intranatal Causes				
1. Premature rupture of membranes	1. Intrauterine and birth asphyxia 2. Birth trauma 3. Prolonged effort time 4. Obstetric complications 5. Intrauterine infections	1. Birth asphyxia 2. Birth injuries 3. Intrapartum related complications		

SBR	PMR	NMR	PNMR	CDR
Postnatal Causes				
	1. Prematurity 2. Respiratory distress syndrome, respiratory infections 3. Alimentary infections 4. Neonatal infections 5. Congenital anomalies	1. Low birth weight Preterm birth complications 2. Pneumonia 3. Diarrhoea 4. Tetanus 5. Sepsis 6. Congenital anomalies complications	1. Malnutrition 2. Respiratory tract infections 3. Diarrhoea 4. Other communicable diseases 5. Congenital anomalies 6. Accidents	1. Malnutrition 2. Respiratory tract infections 3. Diarrhoea 4. Other infectious diseases like Measles, Whooping cough, Diphtheria, Malaria, Meningitis, Tetanus, HIV 5. Accidents
Biological Causes				
	1. Maternal age > 35 years 2. Maternal age < 16 years 3. High parity 4. Heavy smoking > = 10 cigarettes/day	1. Birth weight of the baby < 2.5 kg and > 4 kg 2. Maternal age > 30 yrs 3. Maternal age < 19yrs 4. Risk to life of babies born within a year of each other is 2-4 times higher than for babies born more than 2 years apart. 5. Multiple pregnancies	1. Mortality rate is highest in first birth order and increases after the third birth 2. Family size-As family sizes increases, number of episodes and durations of illness increases; Deprivation of maternal care.	
Economic Causes				
	1. Low socio-economic status	1. Low socio-economic status	1. Neglect of girl child in terms of nutrition and health care	1. Low socio-economic status
Social and Cultural Causes				
		1. Low literacy levels	1. Not exclusively breastfeeding 2. Bottle feeding 3. Faulty feeding practices and early weaning 4. Early marriages 5. Gender discrimination 6. Quality of mothering 7. Maternal education-higher the education - later is the marriage, delayed child bearing and likely to practice family planning 8. Broken families 9. Illegitimacy 10. Traditional birth attendants following unhygienic practices 11. Quality of health care	1. Low literacy levels

SBR	PMR	NMR	PNMR	CDR
Social and Cultural Causes				
			12. Brutal habits and customs-branding of skin; application of cowdung to cut end of umbilical cord. 13. Poor environmental sanitation: Lack of safe water supply, poor housing conditions, poor drainage system, overcrowding and insect breeding.	

Preventive Measures

SBR	PMR	IMR(NMR + PNMR)	CDR
	Direct Measures 1. Safe and clean delivery with skilled birth attendant 2. Essential Care of the newborn at birth 3. New born resuscitation 4. Infection control measures 5. Exclusive breastfeeding 6. Early diagnosis and management of complications 7. Special care for the preterm and premature infants 8. ORS and antibiotics for diarrhoea and ARI respectively 9. Immunization. Indirect Measures 1. Family planning-timing, spacing births, limiting family size 2. Prenatal nutrition of mothers 3. Education of the mother on pregnancy and childcare 4. Antenatal care 5. Growth monitoring of child 6. Prevention of malnutrition-weaning practices 7. Breastfeeding 8. Vitamin A prophylaxis	1. Pre-natal Nutrition by ICDS to prevent Low Birth Weight. During pregnancy nutritional supplementation by Anganwadi's is provided which gives 600 kcal; and 18-20 gms proteins. 2. Immunization of Infants and Pregnant woman 3. Malnutrition Exclusive breastfeeding and initiation of complementary feeds at the appropriate age. 4. Growth monitoring 5. Adoption of Family Planning Methods for restricting family size and ensuring adequate and appropriate spacing between pregnancies. 6. Training of ANMs in IMNCI 7. Health Education to a. Promote adoption of family planning methods to ensure spacing and limiting the family size. b. Use of ORS c. Importance of immunization d. Breastfeeding and Complementary feeding 8. Gender Sensitisation 9. Improving environmental sanitation - provision of safe water supply; build toilets; sewage disposal system 10. Measures for overall socio-economic development 11. Improving female literacy 12. Provision of Primary Health Care	

23. UNIVERSAL PROGRAMME OF IMMUNIZATION

Introduction

- Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine.
- Vaccines are substances that stimulate the body's own immune system to protect the person against subsequent infection or disease.
- The Immunization Programme in India was introduced in 1978 as 'Expanded Programme of Immunization' (EPI) by the Ministry of Health and Family Welfare, Government of India.
- In 1985, the programme was modified as 'Universal Immunization Programme' (UIP) to be implemented in a phased manner to cover all districts in the country by 1989-90 which is one of largest health programmes in the world.
- Under UIP, vaccines against twelve vaccine preventable diseases are provided to infants, children and pregnant women.

National Immunization schedule for infant, children and pregnant women

Vaccine	Protection against	When to give	Dose	Route	Site
For pregnant women					
Tetanus and adult diphtheria (Td) -1	Tetanus and diphtheria	Early in pregnancy	0.5 ml	Intra-Muscular	Upper arm
Td - 2		4 weeks after first dose			
Td Booster		If received 2 doses of TT/Td within last 3 yrs			
For infant					
Bacillus Calmette Guerin (BCG)	Childhood tuberculosis	At birth or as early as possible till 1 yr of age	0.1 ml (0.05 ml until 1 month age)	Intradermal	Left upper arm
Hepatitis B-Birth dose		At birth or as early as possible within 24 hours	0.5 ml	Intramuscular	Anterol-lateral side of mid thigh
Oral polio vaccine (OPV) - 0	Poliomyelitis	At birth or as early as possible within 15 days	2 drops	Oral	Oral
OPV 1,2,3		6,10 and 14 weeks (can be given till 5 yrs)			
Pentavalent vaccine 1,2,3	Diphtheria, Pertussis, Tetanus, Hepatitis B, Haemophilus Influenzae	6,10 and 14 weeks (can be given till 1 yr)	0.5 ml	Intramuscular	Anterol-lateral side of mid thigh
Pneumococcal conjugate vaccine (PCV)*	Pneumococcal	Two primary dose at 6 and 14 weeks followed by booster at 9-12 month	0.5 ml	Intramuscular	Anterol-lateral side of mid thigh
Rotavirus vaccine (RVV)	Rotaviral diarrhoea	6,10 and 14 weeks (can be given till 1 yr)	5 drops (0.5 ml)	Oral	Oral
Inactivated Polio vaccine (IPV)	Boost protection against Poliomyelitis	Two fractional dose at 6 and 14 weeks	0.1 ml	Intradermal	Right upper arm
Measles -Rubella (MR) 1st dose	Measles and Rubella	9 completed months to 12 months (measles can be given till 5 yrs of age)	0.5 ml	Subcutaneous	Right upper arm

Vaccine	Protection against	When to give	Dose	Route	Site
Japanese encephalitis (JE)* - 1st dose	Japanese encephalitis	9 completed months to 12 months	0.5 ml	Subcutaneous	Left upper arm (live attenuated vaccine)
				Intramuscular	Anterolateral side of mid thigh (killed vaccine)
Vitamin A (1st dose)	Prevent Vit A deficiency	At 9 completed month with MR	1 ml (1 lakh IU)	Oral	Oral
For children					
DPT booster 1		16-24 months	0.5 ml	Intramuscular	Anterolateral side of mid thigh
MR 2nd dose		16-24 months	0.5 ml	Subcutaneous	Right upper arm
OPV Booster		16-24 months	2 drops	Oral	Oral
JE* - 2nd dose		16-24 months	0.5 ml	Same as JE - 1st dose	
Vit A (2-9th dose)		16- 18 months then one dose every 6 months till 5 yrs of age	2 ml (2 lakh IU)	Oral	Oral
DPT booster 2		5-6 years	0.5 ml	IM	Upper arm
Td		10 years and 16 years	0.5 ml	IM	Upper arm

* JE in endemic states and PCV in some selected states only.

24. MISSION INDRADHANUSH

Introduction

- Through Universal Immunization Programme, Government of India is providing vaccination free of cost against 12 vaccine preventable diseases.
- The diseases against which vaccines are given are diphtheria, pertussis, tetanus, polio, measles, severe form of childhood tuberculosis, hepatitis B, meningitis and pneumonia caused by *Haemophilus influenzae* type B infections, Pneumococcal infections, Rubella, Japanese Encephalitis and Rotavirus.
- Despite being operational for many years, UIP has immunised only 65% children in the first year of their life.
- Mission Indradhanush and Intensified Mission Indradhanush (IMI) was launched to boost the routine immunization coverage in 2014 and 2017 respectively.

Mission Indradhanush(MI)

MI is focused and systematic immunization drive through a catch up campaign mode with the ultimate goal to ensure full immunization with all available vaccines for children up to two years of age and pregnant women.

Objective

To strengthen and re-energize the programme and achieve full immunization coverage for all children and pregnant women at a rapid pace.

Areas under focus for special immunization campaigns:

- High risk areas identified by the polio eradication programme.
 - urban slums with migration, nomads, brick kilns, construction sites, other migrants (fisherman villages, riverine areas with shifting populations etc.)
 - underserved and hard to reach populations (forested and tribal populations etc.).

2. Areas with low routine immunization (RI) coverage (pockets with Measles/vaccine preventable disease (VPD) outbreaks).
3. Areas with vacant post of ANM for more than three months (subcentre).
4. Areas with missed Routine Immunisation (RI) sessions - ANMs on long leave and similar reasons.
5. Small villages, hamlets, dhanis or purbas clubbed with another village for RI sessions and did not have independent RI sessions.

Intensified Mission Indradhanush (IMI)

Campaigns	Year	Objective	No of rounds
Intensified Mission Indradhanush (IMI)	October 2017 - Jan 2018	To improve immunisation coverage in select districts and cities to ensure full immunisation to more than 90% by December 2018.	Four rounds for 7 days every month
Intensified Mission Indradhanush (IMI) 2.0	December 2019 - March 2020.	To achieve targets of full immunization coverage in 272 districts in 27 States and at block level (652 blocks) in Uttar Pradesh and Bihar among hard-to-reach and tribal populations.	Four rounds for 7 working days
Intensified Mission Indradhanush (IMI) 3.0	Feb 2021 - March 2021	Focused in on those who have missed the dose during covid 19 pandemic (targets migrating population and hard to reach areas)	Two rounds of 15 days each

25. IMNCI

In India 61.3% of infant death occur in first month of life and more than half die in first week of life. Therefore IMNCI (Integrated Management of Neonatal Childhood Illnesses) guidelines were developed by India based on guidelines of WHO for childhood illnesses.

It focuses on the preventive, promotive and curative aspects of the disease management with participation of the mother in the entire process.

It gives a comprehensive and holistic outlook to the programme.

Age categories

- a) Young infants (age up to 2 months)
- b) Children (2 months up to 5 years)

Childhood Illnesses

This encompasses a range of interventions to prevent and manage five major childhood illnesses i.e.

- 1) Acute Respiratory Infections
- 2) Diarrhoea
- 3) Measles
- 4) Malaria
- 5) Malnutrition

Approach

The IMNCI approach has some distinct features which are given as under:

- a) **Syndromic approach:** Mostly the children suffer from a constellation of symptoms and need to be treated as a whole. Many sick children present with overlapping signs and symptoms of illnesses, and a single diagnosis may not be feasible or appropriate, especially in a primary care level with scarce resources. The syndromic approach gives the advantage of not missing out on co-existing conditions while presenting with a particular condition.
- b) **Holistic approach:** This means that taking care of all the factors that determine the health of the child. e.g. while treating diarrhoea, the immunization and nutritional factors are also addressed.

- c) **Triage:** Management is planned after triage of the patient into those needing emergency, early treatment, referral or care at home. Different colour codes are used.
- d) **Standardized case management:** Standardized case management based on the classification/severity of illness.
- e) **Primary health care model:** Based on primary health care model and referral to a facility when required.
- f) **Community participation:** The IMNCI approach gives due importance to the role of the mother in the whole process of prevention, early diagnosis and management of the case at home by providing counselling to the caretaker.

Components of IMNCI

The major components of this strategy are:

- a) Strengthening the skills of the health care workers
- b) Strengthening the health care infrastructure
- c) Involvement of the community

The first two components are the facility based IMNCI and the third is community based in which mother is actively involved in the care of child in health and disease.

Steps in Management (ACT - assess, classify and treat)

The basic steps in the management of the sick children are as under:

- a) **Assess** the child for group of symptoms by asking questions on common conditions, examining child, checking nutrition and immunization status. Also assess for other health problems.
- b) **Classify** the severity of disease using colour codes. Pink for urgent pre-referral treatment and referral; yellow for specific medical treatment & advice; and green for simple advice on home management.
- c) **Identify** specific treatment. If child requires referral give essential treatment before transfer. If child require care at home develop integrated plan and give first dose of drug at clinics. If child requires to be immunized, give immunization.
- d) **Treatment** instructions, including teaching caretaker how to give oral drug, how to feed and give fluid etc. Ask caretaker to return for follow up on specific date, and teach her how to recognize the danger signs.
- e) **Counsel** the mother to solve feeding problem or her own health problems.
- f) Give **Follow up** care and if necessary reassess the child for new problems.

Limitation

- 1) The guidelines are very exhaustive for health workers to remember.
- 2) Does not address some of the major illnesses and less common illness, which may require special care.
- 3) Does not address management of trauma or other acute emergencies.
- 4) AIDS although not addressed is a common reason for a child with HIV to seek care. However common opportunistic infections like diarrhoea and respiratory infection are addressed.
- 5) Only if the families bring the sick child timely to clinics or trained health worker before he/she becomes seriously ill, then only IMNCI approach can help to decrease the burden of child mortality.

In addition to these guidelines meant for peripheral health workers, Guidelines for training at other levels have also been developed:

Pre-service IMNCI

- It is being included in the curriculum of medical colleges of the country.
- It will help in providing the much needed trained IMNCI manpower in the public and private sector.

Facility based IMNCI (F - IMNCI)

- F-IMNCI training provide the optimum skills needed by the Medical officers and Staff Nurses at the FRU's (First Referral Unit).
- Helps to address the acute shortage of Pediatricians at facilities.
- Focuses on providing appropriate inpatient management of the major causes of neonatal and childhood mortality (e.g. asphyxia, sepsis, low birth weight, pneumonia, diarrhoea, malaria, meningitis and severe malnutrition in children) at the FRU.
- Master trainers at state and district level are Paediatricians from tertiary hospitals and medical colleges.

26. NAVJAT SHISHU SURAKSHA KARYAKRAM

Introduction

- According to WHO, out of 9.2 million deaths in children below 5 years of age globally, India accounts for 2.2 million which is the highest in the world.
- Two-third of the neonatal deaths occurred in the first week of life, two-third of those took place within the first 24 hours due to non-availability of institutions conducting deliveries in villages and smaller towns.
- 23% of neonatal deaths occur due to asphyxia at birth. It is important to anticipate the need of resuscitation and deliver it timely.
- Navjat Shishu Suraksha Karyakram (NSSK) was launched in September 2009.

Goal

Aimed at reducing the Infant Mortality Rate (IMR) from 55 to 30 per 1000 live births.

Objectives

To have a trained health personal in basic newborn care and resuscitation at every delivery point so as to enable the paramedical staff to save new born child at various health centres by addressing care at birth issues i.e.

- Prevention of Hypothermia
- Prevention of Infection
- Early initiation of Breastfeeding
- Basic Newborn Resuscitation

27. JANANI SHISHU SURAKSHA KARYAKRAM

Introduction

- Large number of women die every year due to pregnancy related complications.
- Two thirds of infants' death occurs within the first four weeks of life.
- Both maternal and neonatal deaths could be reduced by timely access to both essential and emergency services in public health facilities without out of pocket expenditure.
- With the Janani Suraksha Yojana the number of institutional deliveries increased significantly but many factors affecting the access were observed. These factors included.
 - High pocket expenses on user charges for OPD, admission, discharge;
 - Purchasing medicines or other consumables;
 - High expenses in case of Cesarean section;
 - Non availability of diet in hospitals
 - Transportation cost for pregnant women from home to hospital and other referred hospitals in case of referral and back to home
- The Government of India launched Janani Shishu Suraksha Karyakram (JSSK) on 1st June, 2011.
- JSSK gives emphasis on entitlement and elimination of out of pocket expenditure by providing free and no expense delivery including cesarean section.

Target population

The scheme benefits all pregnant women who access Government health facilities for their delivery and their sick newborn.

Services under JSSK

- 1) *Free Entitlements for pregnant women:*
 - Delivery
 - C-Section
 - Drugs and consumables
 - Diagnostics

- Diet during stay in the health institutions
- Provision of blood
- Exemption from user charges
- Transport from home to health institutions
- Transport between facilities in case of referral
- Drop back from Institutions to home after 48 hours stay

2) *Free Entitlements for Sick newborns till 30 days after birth:*

This has now been expanded to cover sick infants

- Treatment
- Drugs and consumables
- Diagnostics
- Provision of blood
- Exemption from user charges
- Transport from Home to Health Institutions
- Transport between facilities in case of referral
- Drop Back from Institutions to home

28. RASHTRIYA BAL SWASTHYA KARYAKRAM

Introduction

- According to the March of Dimes report (2006) among 100 babies born, 6-7 have birth defects.
- Many of them had nutritional deficiencies. If these conditions are not treated timely it may lead to permanent disabilities.
- Rashtriya Bal Swasthya Karyakram (RBSK), an innovative and ambitious initiative, which envisages Child Health Screening and Early Intervention Services was launched in 2013.
- RBSK is a systemic approach of early identification of medical conditions and link to care, support and treatment.

Objectives

Early identification and early intervention free of cost for children from birth to 18 years to cover 4 'D's viz.

- 1) Defects at birth
- 2) Deficiencies
- 3) Diseases
- 4) Development delays including disability

Target group and Mechanism for screening and referral

Categories	Age Group	Screened	Referred to	Management at
Babies born at public health facilities and home	Birth to 6 weeks	Facility based new born screening at public health facility Community level - MHT at anganwadi	DEIC	DEIC
Preschool Children in rural areas and urban slum	6 weeks to 6 years	MHT at anganwadi	DEIC	DEIC
School Children enrolled in class 1st to 12th in government and government aided schools	6 yrs to 18 yrs	MHT at School	DEIC	Public health facilities

DEIC - District Early Intervention Centre

MHT - Mobile Health Team

The Mobile Health Team consists of four members - two Doctors (AYUSH), one male and one female, at least with a bachelor degree from an approved institution, one ANM/Staff Nurse and one Pharmacist with proficiency in computers for data management.

The District Early Intervention Centre consists of Paediatrician, Medical officer, Staff Nurses, Paramedics at the level of District Hospital.

DEIC is the hub of all activities, acts as a clearing house and also provides referral linkages.

Health conditions for screening

RBSK envisages to cover 30 selected health conditions for screening, early detection and free management.

Defects at Birth 1. Neural tube defect 2. Down's Syndrome 3. Cleft Lip & Palate / Cleft palate alone 4. Talipes (club foot) 5. Developmental dysplasia of the hip 6. Congenital cataract 7. Congenital deafness 8. Congenital heart diseases 9. Retinopathy of Prematurity	Deficiencies 10. Anemia especially Severe anemia 11. Vitamin A deficiency (Bitot spot) 12. Vitamin D Deficiency, (Rickets) 13. Severe Acute Malnutrition 14. Goitre
Diseases of Childhood 15. Skin conditions (Scabies, fungal infection and Eczema) 16. Otitis Media 17. Rheumatic heart disease 18. Reactive airway disease 19. Dental conditions 20. Convulsive disorders	Developmental delays and Disabilities 21. Vision Impairment 22. Hearing Impairment 23. Neuro-motor Impairment 24. Motor delay 25. Cognitive delay 26. Language delay 27. Behavior disorder (Autism) 28. Learning disorder 29. Attention deficit hyperactivity disorder 30. Congenital Hypothyroidism, Sickle cell anemia, Beta thalassemia (Optional)

29. RASHTRIYA KISHOR SWASTHYA KARYAKRAM

Introduction

Adolescents (10-19 years) constitute about one-fifth of India's population. This represents a huge opportunity that can transform the social and economic fortunes of the country.

Launch of Rashtriya Kishor Swasthya Karyakram

The previous ARSH programme is now planned in a holistic manner and renamed as Rashtriya Kishor Swasthya Karyakram (RKSK) on 7th January, 2014.

The key principles of this programme are:-

- 1) Adolescent participation and leadership,
- 2) Equity and inclusion.
- 3) Gender Equity and strategic partnerships with other sectors and stakeholders.

To guide the implementation of this programme, MOHFW in collaboration with UNFPA has developed a National Adolescent Health Strategy (NAHS).

Target Groups

Age groups 10-14 years and 15-19 years with universal coverage, i.e.

- Males and females
- Urban and rural
- In school and out of school

- Married and unmarried
- Vulnerable and under-served

Objectives

- 1) Improve nutrition
 - Reduce the prevalence of malnutrition
 - Reduce the prevalence of iron-deficiency anaemia (IDA)
- 2) Improve sexual and reproductive health
 - Improve knowledge, attitudes and behaviour, in relation to SRH
 - Reduce teenage pregnancies
 - Improve birth preparedness, complication readiness and provide early parenting support for adolescent parents
- 3) Enhance mental health
 - Address mental health concerns
- 4) Prevent injuries and violence
 - Promote favourable attitudes for preventing injuries and violence
- 5) Prevent substance misuse
 - Increase awareness of the adverse effects and consequences of substance misuse
- 6) Address NCDs
 - Promote behaviour change to prevent NCDs such as hypertension, stroke, cardio-vascular diseases and diabetes

Strategies

Strategies/interventions to achieve objectives can be broadly grouped as:

1) Community based interventions

- *Peer Education (PE)*: Four peer educators (2 male and 2 female) per ASHA worker is selected. In both the categories of peer educator, one will be school going and one out of school respectively. Each Peer Educator forms an adolescent group with 15-20 adolescents and facilitates 4 peer education sessions in a month with their group.
- *Adolescent friendly club*: Under each sub centre one Adolescent friendly club (AFC) will be formed with 20 Peer Educators. The group will meet once in a month facilitated by ANM.
- *Quarterly Adolescent Health Day (AHD)*: The AHD to be planned in every village once every quarter on a convenient day (preferably on a Sunday) or the 2nd half of VHND session. Peer Educators, ASHAs, AWWs, and others mobilize adolescents, parents and other stakeholders, to assemble at the nearest VHND site.
- *Weekly Iron and Folic Acid Supplementation Programme (WIFS)*: Mentioned in chapter 11 short note 11
- *Menstrual Hygiene Scheme (MHS)* : Sanitary napkin to be provided to adolescent girls by trained ASHA at a subsidized rate of Rs. 6/- per pack. From the sale of each pack, ASHA receives Rs. 1/- (the amount would be split equally between ASHA & PE wherever PE is involved).

2) Facility based interventions

- *Strengthening of Adolescent Friendly Health Clinics (AFHC)*: AFHCs would provide a combination of commodities, IEC and curative services at PHC, CHC and DH levels plus outreach and referral services.

3) Convergence

- Within Health & Family Welfare - FP, Maternal Health (incl VHND), RBSK, NACP, National Tobacco Control Programme, National Mental Health Programme, NCDs and IEC.
- With other departments/schemes - WCD (ICDS, KSY, BSY, SABLA), HRD (AEP, MDM), Youth Affairs and Sports (Adolescent Empowerment Scheme, National Service Scheme, NYKS, NPYAD).

4) Social and Behaviour Change Communication with focus on Interpersonal Communication.