

UNIT-I: PERSPECTIVES IN DISABILITY

a. Definition and classification of disabilities.

Disability is defined as “any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being”.

Different types of disabilities:

Disabilities are of different types:

1. Sensory disabilities
 - ✓ Vision disability
 - ✓ Hearing disability
 - ✓ Speech disability, etc.
2. Motor disability or Orthopedic disability labeled as “crippled”
 - ✓ Loss of limbs
 - ✓ Paralysis
3. Mental disability
4. Neurological disorder
 - ✓ Autism
 - ✓ Cerebral palsy
5. Psychological disorders
 - ✓ Anxiety neurosis
 - ✓ Sleeplessness
 - ✓ Personality disorders
 - ✓ Anorexia
 - ✓ Obsessive compulsive reaction
 - ✓ Psychosis
 - ✓ Manic – depressive psychosis
6. Multiple disabilities(having more than one disability)

Causes of disabilities:

- Genetic disorder
- Severe malnutrition
- Diseases (Polio, Paralysis, Brain fever, Cerebral palsy etc.)
- Adverse effect of drugs consumed during pregnancy

- Artificial fertilization
- Problems during delivery
- Severe accidents met with

c) Prevention of disabilities.

- Starts from genetic assessment of aspiring couples
- Maternal serum assessment
- Amniotic fluid examination
- Prevention of infection (MMR)
- Folate & Iron supplements
- Maternal ultra sounds
- Intra uterine surgeries to correct deformities
- Nutritional support
- New born screening, Diagnosis and treatment or earliest possible rehabilitation
- Earliest possible enrolment in family, community rehab systems

UNIT-II: BLINDNESS AND LOW VISION

a. Definition and identification. Incidence and prevalence.

Visual Impairment:

Visual impairment including blindness is defined as “Vision that, even with correction, adversely affects a child’s educational performance. The term includes both low vision and blindness.”

Blindness:

The person with disabilities Act (PWD Act), 1995 uses the terminology ‘Blindness’ and defines it as:

- Total absence of light or
- Visual acuity not exceeding 6/60 or 20/200 (Snellen) in the better eye with correcting lenses or
- Limitation of the field of vision subtending an angle of 20 degree or worse

Total Blind:

No eyesight is available in both eyes of person with total blindness. Therefore, totally blind is defined as a complete absence of visual perception.

Partially sighted:

A person who has the visual acuity of 6/21 (20/70) or less in the better eye after the best possible correction is known as partially sighted.

Low vision:

It is defined as “markedly reduced functional vision. Usually applied to the person with vision of legal blindness or poorer, who nevertheless has some remaining sight which is useful for certain purposes or which can become so with special appliances and/or training.”

Identification of blindness and low vision:

Watery eye, reddish eye etc. are identified and understood that there is a problem in eye. Several techniques are also used by the field experts to identify those children with impaired vision.

- Identification of Infants and Toddlers
 - ✓ Lack of visual fixation on parent’s faces/Interesting objects
 - ✓ Abnormal eye movement
 - ✓ Family history
 - ✓ Visual acuity
- Identification in School-Aged students
 - ✓ Snellen charts are used for screening
 - ✓ Teacher report of frequent mannerisms that indicate problems seeing
- Indicators to Identify Visual Problems
 - ✓ Rubs eyes excessively
 - ✓ Watery eyes
 - ✓ Eyelids are often red
 - ✓ Holds objects and book too close to eyes
 - ✓ Squints
 - ✓ Blinks more frequently

✓ Regular headaches etc.

Methods of identifying children with visual impairment:

- Eye hospitals
- Eye camps
- Population centers
- Voluntary organization
- Through school teachers
- Through school children
- Through village functionaries

Incidence and prevalence of visual impairment (VI): Incident rate of VI:

S.NO.	AGE GROUP	RURAL	URBAN
1	0-4	7	9
2	5-9	3	2
3	10-14	4	2
4	15-19	1	1
5	20-24	2	3
6	25-29	3	2
7	30-34	2	2
8	35-39	4	2
9	40-44	17	5
10	45-49	27	17
11	50-54	36	50
12	55-59	106	71
13	60 & above	225	221

	All	25	20
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Prevalence rate of VI:

S.NO.	AGE GROUP	RURAL	URBAN
1	0-4	34	30
2	5-9	85	47
3	10-14	85	62
4	15-19	89	74
5	20-24	82	72
6	25-29	121	56
7	30-34	143	98
8	35-39	185	112
9	40-44	275	152
10	45-49	391	273
11	50-54	826	514
12	55-59	1236	788
13	60 & above	5060	3253
	All	525	302

b) Characteristics. Causes and prevention. Intervention and educational programmes – Plus curriculum

Characteristics of blindness:

- Reduction in range and variety of experience
- Reduction in the ability to motive about

- Reduction in control of environment and of self in relation to it

Specific characteristics of low vision:

- A person may have low vision from birth. Some conditions which results in low vision begin during childhood or later
- Children with low vision from birth or a very early age are sometimes not aware that their vision is limited and different from other people's vision
- During early childhood most learning occurs through the use of vision

Other characteristics:

- Intellectual characteristics
- play and social interaction skills
- language and concept development
- academic achievement
- perceptual abilities
- psychological and social adjustment

Causes:

- common eye diseases
 - ✓ cataract
 - ✓ Glaucoma
 - ✓ Age-related macular degeneration
 - ✓ Corneal ulcer
 - ✓ Diabetic retinopathy
 - ✓ Childhood blindness
 - ✓ Xerophthalmia
 - ✓ Conjunctivitis
 - ✓ Onchocerciasis
- Other eye disorders
 - ✓ Retinal detachment
 - ✓ Albinism
 - ✓ Astigmatism
 - ✓ Nystagmus
 - ✓ Optic atrophy
 - ✓ Retinitis pigmentosa (RP)
 - ✓ Trachoma

- Loss in the visual field
 - ✓ Defect in the visual field
 - ✓ Loss of peripheral vision
- Genetic causes

Prevention:

- Global initiative for eliminating blindness
- National and collaborative efforts
- ICDS – anganwadi
- Primary health care institution
- Through public awareness

Intervention programs:

- Family support service
- Early identification
- Medical intervention
- Rehabilitation intervention

Educational programs:

- Special school
- Integrated education
 - ✓ Resource model
 - ✓ Itinerant model
 - ✓ Combined model
 - ✓ Cooperative model
 - ✓ Dual teaching model
- Inclusive education

UNIT-III: HEARING IMPAIRMENT

- a. **Definitions and identification. Incidence and prevalence. Causes and prevention.**

Definition:

“The loss of hearing, temporary or permanent, ranging, from

Mild to profound and sometimes total”

The persons with disabilities act (1995) defines hearing impairment as “a loss of sixty decibels or more on the better in the conversational range of frequencies.”

Identification of hearing impairment:

- `Infant / toddler hearing checklist
 - ✓ Birth to 4 months
 - ✓ 4 to 9 months
 - ✓ 9 to 15 months
 - ✓ 15 to 24 months
- Preschool and older hearing checklist
- Indicators to identify hearing impairment
- Methods of identifying hearing impaired children
 - ✓ ENT hospitals
 - ✓ Special camps
 - ✓ Population centers
 - ✓ Voluntary organizations
 - ✓ Through schoolteachers
 - ✓ Through schoolchildren
 - ✓ Through village functionaries

Incidence and prevalence of hearing impairment:

- World scenario
- Estimation of hearing impairment in India
 - ✓ Geographical data
 - ✓ Chronological data
 - ✓ Qualitative data
 - ✓ Quantitative data
 - ✓ Socioeconomic data
 - ✓ Incidence of hearing impairment

Causes of hearing impairment:

- Conductive loss
- Sensorineural loss
 - ✓ Accidents
 - ✓ Infections
 - ✓ Environmental hazards
 - ✓ Medication
 - ✓ Old age
 - ✓ Diseases
 - ✓ Miscellaneous causes

Prevention of hearing impairment:

- Levels of prevention
 - ✓ Primary prevention
 - ✓ Secondary prevention
 - ✓ Tertiary prevention
- National efforts for prevention
 - ✓ Immunization
 - ✓ National Iodine Deficiency Disorder Control Programme (NIDDCP)
 - ✓ Child Survival and Safe Motherhood (CSSM) Programme
 - ✓ National Nutritional Policy
 - ✓ National Awareness Programme
- Efforts of other agencies
 - ✓ AYJNIHH
 - ✓ Other national institutes and NGOs
 - ✓ RCI

b) Types of hearing loss and characteristics. Communication approaches – sign language and educational programmes

Types:

- Conductive hearing loss
- Perceptive or sensory-neural hearing loss
- Congenital hearing loss
- Adventitious hearing loss
- Pre-lingual hearing loss
- Post-lingual hearing loss

Characteristics:

- Soft sounds can't be heard, such as some speech sounds like 's' and 'p' and 'ch'
- Key parts of particular speech sounds may not be audible, meaning sounds are mislead and words misunderstood
- Sounds are difficult to separate, so voices can become jumbled up with background noise

- There is a reduced range of hearing in the impaired ear, meaning that soft sounds can't be heard but loud sounds may actually be intolerable
- Hearing impaired child misses the tone of voice which conveys so much
- Hearing impaired child suffers the humiliation of being thought stupid
- Hearing impaired child is not able to appreciate verbal art to repartee
- Child lacks stimulation of discussion and debate and the sharpness of mind

Communication approach:

- Oral/aural methods include
 - ✓ Auditory-verbal approach
 - ✓ Auditory-oral approach
- Manual method include
 - ✓ Cued speech
 - ✓ Sign language
 - ✓ Finger spelling
 - ✓ Signed English
 - ✓ Sign supported English
 - ✓ Total communication (TC)
 - ✓ Bi-lingual/Bi-cultural (Bi-Bi)

Educational Programs:

- Special schools
- Integrated education
 - Models of integrated education
- Inclusive education

UNIT-IV: ORTHOPAEDIC IMPAIRMENT

DEFINITIONS:

The word orthopedics was synthesized by Nicholas Andry from the Greek roots 'orthos' and 'paidios'.

Orthopedically impairment refers to defects in size and structure of bones and joints with deviation in muscle strength, co-ordination and control.

According to Whitehouse conference : "The crippled child, in orthopedic sense is a child that defect which cause a deformity or an interference with normal function of bones, muscles or joints. The condition may be congenital or due to disease or accident; it may be aggravated by neglect or by ignorance".

An orthopedic handicap means a condition of malformation, malfunction due to loss of bones, muscles or body tissue which requires Special Education or related services.

According to Public Law 94 - 142 "Orthipedically impaired means, a severe orthopedic impairment hich adversely affects a child's educational performance. The term includes impairments caused by congenital anomaly [e.g. : club foot], impairment caused by disease (e.g. : poliomyelitis, bone tuberculosis etc.) and impairments from other causes [e.g. : cerebral palsy, amputation and fractures or burns which cause contractures]."

"Crippled children are those who suffer from a defect. That is accompanied by one or another type of deformity that inhibits the normala exercise of his/her muscles, joints, or bones".

IDENTIFICATION:

- Look at cumulative records of children to see if there is any evidence of a crippling disease for a specific child.
- *One legged race* - Ask the children to hop a certain distance on the right foot and then return hopping on the left foot.
- *Side ways race* - Have the children run sideways, keeping their feet at right angles to the direction in which they are running.
- *Backwards race* - Mark two lines on the gym floor. Have the children walk on one line and race backwards, until they have

crossed the second line.

- *Ball throwing games* - Ask the boys and girls to choose games they like that involve throwing and catching a ball. These and other similar activities will get the children into action. So you can observe them.
- Give a standardized test, pre-test of vision, hearing and motor co-ordination.
- After the above testing, these must be referred to a doctor or specialist for final identification.

Orthopaedically impaired children are identified by orthopaedic surgeons regarding degree of disability.

CAUSES:

The causative factors of all types of impairments are many. But a thorough knowledge of some main causative factors is necessary for planning a programme for them. The deformities may be congenital or acquired and they may reflect an underlying abnormality of bone, joint or soft tissue. The essential material which leads to orthopaedic impairment is bone.

1. Congenital Deformities:

Congenital deformities or malformations are present at birth, though they may not be recognized until later. They vary from severe malformations that are incompatible with life and may be found in stillborn infants, to minor abnormalities of structure that have no practical significances.

The congenital abnormality of development may be caused by

- a) Genetic abnormality
- b) Environment abnormality,
- C) combined genetic and environmental abnormalities.

a) Genetic Causes:

It includes mutation of a whole chromosome, as in Down's syndrome (Mongolism) and mutation of a small part of a chromosome

or of a single gene, as in achondropasia. The defect is not necessarily always inherited from an affected parent it may arise from a mutation in the germ cell.

b) Environmental Causes:

These causes are not well understood. Experiments in animals have shown that many different types of environmental influence dietetic, hormonal, chemical, physical or infective may cause abnormalities of development, and the environmental 'insult' ; The specific agents whose influence in man are well attested include radiation, the virus of rubella, and certain drugs (notably aminopterin&thalidamids).

c) Combined Genetic and Environmental Factors :

These seem to be the usual cause of the more common congenital malformation in man. It is thought probable that developing embryos react differently to environmental influences. Some have a natural resistance whereas others are susceptible. A malformation is therefore likely to arise when an environmental 'insult ' is inflicted upon cells that have a genetically determined lack of resistance to it.

E.g. Congenital dislocation of the hip, congenital club foot, spinabifida, congenital scoliosis, osteogenesis, imperfecta, cervical rib, certain types of osteoarthritis (especially of the hips), ankylosing spodylitis.

2. Acquired deformities:

Acquired deformities may be classified in two groups: those in which deformity arises at a joint, and those in which it arises in a bone.

a) Deformity arising at a joint:

Deformity may be said to exist at a joint when the joint cannot be placed voluntarily in the neutral anatomical position.

Causes:

The causes for this deformity are,

- Dislocation or subluxation
- Muscle imbalance.
- Feathering or contracture of muscles or tendons.
- Contracture of soft tissues
- Arthritis
- Posture
- Unknown causes.

b) Deformity arising in a bone:

Deformity exists in a bone when it is out of its normal anatomical alignment.

Causes:

There are three causes of deformity arising in bone.

- Fracture
- Bending
- Uneven epiphysial growth.

E.g.

- Polio in a non - immunized child may result in the loss of use of limbs.
- Meningitis can cause deafness or blindness.
- Accidents in the home or street or child battering may produce physical or sensory defects or even cerebral palsy.

TYPES:

Some of the major types of orthopedically disorders are:

1. Arthritis or Rheumatism
 - a) Rheumatoid Arthritis
 - b) Osteo - arthritis
2. Club foot
3. Scoliosis
4. Poliomyelitis
5. Osteogenesis imperfecta
6. Rickets.
7. Osteoporosis

1. Arthritis or Rheumatism:

The terms arthritis or rheumatism are commonly used to describe pain, swelling and stiffness of joints; Arthritis literally means inflammation of joints, rheumatism means pain and stiffness in the muscles, bones, joints and tendons.

Arthritis reveals two major types:

- a) Rheumatoid arthritis,
- b) Osteo arthritis.

a) Rheumatoid Arthritis:

Inflammation is a primary event in rheumatoid arthritis typically starting in the synovial membrane that lines the joints and spreading to the cartilage and underline bone. In serve cases the inflammation may spread to other connective tissue and some times even to eyes, arteries and internal organs.

b) OsteoArthritis :

Osteiarthritis is the most common type of arthritis. It is most commonly found among children with disabilities. Here the cartilage around the joint is damaged, the space between bones becomes smaller and looses its lubrication and movement becomes painful and impossible Osteoarthritis is also called degenerate joint disease.

2. Club foot:

The club foot is another type of deformity. It accounts for 26% of congenitally crippled children. Club foot means one or both the feet turned or the wrong angle of the ankle. This can be completely cured and later noted that the person fully recovers and leads a normal life.

3. Scoliosis:

Scoliosis is the lateral curvature of the spine due to which the person might bend on one side. The curvature may progress with age. In very severe cases it may cause heart and lung problems and limitation of movement.

4. Poliomyelitis:

The poliomyelitis is a most common neuromotor disease noted in a large number of children. Polio is caused by polio virus which attacks the nerve cells in the spinal cord leading to paralysed muscles, pain and deformity. This disease does not affect intellectual functioning or the ability to learn.

5. Osteogenesis Imperfecta:

This disease appears to be congenital and is known as brittle bones. Here bones are formed imperfectly and break very easily. It hinders bone growth both in length and thickness, and dwarfism and deafness may occur.

6. Rickets:

Rickets in case of children is a condition in which bones fail to harden because of shortage of vitamin D in the diet and by inadequate exposure to sunlight. Rickets in case of children is called nutritional ricket and usually occurs in children about one year old. The general health is impaired; the predominant signs are a large Head, retarded skeletal growth, enlarged epiphysis, curvature of long bones and deformity of chest. Rickets in case of adults is called osteomalacia, which is also caused by Vitamin D deficiency. Increased susceptibility to bone fracture is the main symptom in adult. It is more common among pregnant women and older people.

7. Osteoporosis:

It is a serious and very common condition in which skeletal bones may lose strength to such a degree that they break with little or no trauma. Hip, wrist and spinal bones are those most likely to fracture.

CHARACTERISTICS:

1. Physical Characteristics:

- Involuntary contraction of muscles when they are suddenly stretched,
- Lack of voluntary control of fingers or toes and they will be on

constant motion.

- Lack of control all over the body, unable to co-ordinate the movement of two or three parts of the body.
- Widespread continuous muscles tension or stiffness.
- Rhythmic, involuntary, uncontrollable motions limited to certain groups.
- Generalized seizure with tensing of muscles and /or twitching and tremor with loss of consciousness.
- Brief lapse of consciousness (3-10 second), sometimes rhythmic 3 seconds blinking.
- Sudden generalized jerk or loss of tone without detectable alteration of parts.
- Rhythmic movement of one part of body, stationary or progressing to other parts.
- One or both feet turned downward and outward at ankle.
- Lateral curvature of spine, body thrown out of alignment resulting in growth and deformities.
- Congenital amputation or malformations of the extremities (lacks hands or legs or fingers or toes or some deformity from birth)
- Deviations in the running pattern - such as failure to alternate sides automatically, jerkiness, whipping of the leg or the foot in or out.
- Deviations in standing or sitting patterns, such as weight shifted more to one side than the other or one part of the body twisted (e.g. : the trunk) with regard to the rest of the body.
- Throwing or catching deviations, such as loss of balance while throwing or catching, inability to control the object, inability to adjust to different speeds or heights incatching the object.
- Loss of limb or extremities for one or the other reason (by accident)

2. Psychological Characteristics:

- They are passive, less persistent, having shorter attention span, engage themselves in less exploration and display less motivation.

- They are more dependent on adults and have high anxiety and frustration.
- They are tender minded and somewhat tense.
- Social relationships constitute a problem area for many crippled youngsters as they feel inferior and depressed.
- They possess a poor ego, and unconscious guilt feelings.
- They have the strong sense of fear and lack confidence in their abilities.

Depending on these characteristics the orthopedically impaired child can be identified.

Prevention:

- Levels of prevention
 - ✓ First level or primary prevention
 - ✓ Second level or secondary prevention
 - ✓ Third level or tertiary prevention
- National programs for prevention
 - ✓ Universal immunization programme
 - ✓ National leprosy eradication programme
 - ✓ National tuberculosis control programme
 - ✓ National AIDS control programme
 - ✓ National cancer control programme
 - ✓ Child survival and safe motherhood programme

Educational programs:

- Educational status
- Special schools
- Integrated education of disabled children (IEDC)
 - ✓ Facilities under IEDC
 - ✓ Service delivery of IEDC
 - ✓ Equipment and instructional material
 - ✓ Architectural barriers
 - ✓ Relaxations
 - ✓ Grants to state and voluntary organizations
- Inclusive education
 - ✓ Classroom management

- ✓ Special facilities/equipment
- ✓ Teacher orientation
- ✓ Providing equal opportunity

UNIT-V: MENTAL RETARDATION AND MENTAL ILLNESS

DEFINITION:

"Mental retardation refers to significantly sub average general intellectual functioning resulting in or associated with concurrent impairment in adaptive behaviour, manifested during the developmental period".

The definition includes essentially three components to call a person as mentally retarded

1. Significantly subaverage general intellectual functioning.
2. Deficits / impairment in adaptive behaviour.
3. Manifested during developmental period.

IDENTIFICATION:

Measuring Intellectual Functioning:

Use of standardized intelligence test such as WISC-R or Stanford-binet intelligence scale indicates the IQ range of the MR Child. According to AAMR definition a child could be labeled MR on the basis of IQ score of two standard deviations below the mean, which is 68 or 70 on the two tests.

Measuring Adaptive Behaviour:

AAMR defines the areas where deficits in adaptive behavior can be found with different age groups - during infancy and early childhood.

1. Sensory - motor skills.
2. Communication skills (speech and language).
3. Self - help skills (eating, grooming, bathing, toilet use, personal hygiene, and clothing).
4. Socialization skills (interacting and getting along with others).

During childhood and early adolescence:

- a. Application of basic academic skills in daily life activities.
- b. Application of appropriate reasoning and judgement in mastery of the environment.
- c. Social skills (participation in group activities and interpersonal relationship)

During late adolescence and adulthood:

- 5. Vocational and social responsibility and performance

The most frequently used instruments in assessing adaptive behaviour are the

- a. AAMR Adaptive Behaviour Scale (ABS)
- b. Vineland Social Maturity Scale (VSMC)
- c. Assessment of Social Competence (ASC)

CAUSES:

There are various factors that lead to mental retardation. Causes for mental retardation can be **preconceptional, prenatal, natal and post-natal factors.**

Preconceptional Factors:

This Includes factors before a women conceives: Some of the preconceptional factors are history of mental retardation in the family of either the husband or the wife, maternal age at conception and history of infertility or repeated abortions in the mother.

Prenatal Factors :

Factors affecting during pregnancy are called prenatal factors. This includes

- 1. Infection in the mother such as jaundice, chickenpox and measles especially in the first three months of pregnancy.
- 2. Injury to the abdomen of the mother due to accidents,
- 3. X-ray exposure of the abdomen especially in the early months.
- 4. Drug intake without medical advice.
- 5. Attempted abortion,
- 6. Mother getting fits during pregnancy and Rh blood incompatibility and so on.

7. Rh blood incompatibility is a result of maternal and fetal blood being different from each other.
8. Consuming alcohol and tobacco is harmful to the growing child during pregnancy.
9. Chromosomal aberrations also cause mental retardation, when at conception an extra chromosome may be formed resulting in Down's syndrome.
10. Maternal malnutrition is reported to be one of the causes for the birth of a retarded child.

Natal Factors:

Natal causes are those factors that affect the child during birth. This would include

1. Premature delivery.
2. Prolonged labour when the oxygen supply to the child's brain may be insufficient thus damaging the brain.
3. Abnormal presentation of the baby at delivery, too small sized pelvis of the mother to allow easy birth of the baby.
4. Inappropriate use of forceps or improperly attended delivery by untrained persons.
5. Delayed birth cry of the baby.

Post - Natal Factors:

The post-natal causes or the factors affecting after the birth of the child leading to mental retardation include

1. Low birth weight,
2. Metabolic disorders
3. Brain fever or meningitis.
4. Encephalitis, epileptic fits, measles, chickenpox.
5. Head injury
6. Poor nutrition and jaundice in infancy and childhood.

PREVENTION :

The primary steps towards prevention of mental retardation is to have regular medical checkup during pregnancy, intake of healthy and nutritious food, being careful to avoid contact with people who have

infections such as measles and chickenpox and avoiding physical trauma or accidents such as carrying heavy weights or reaching for object which are at a height. If the parents choose to have an abortion it should be conducted by medical personnel. If the elder child is retarded, it is better to get medical advice before having another child. It is advisable to restrict the maternal age of conception between 20 and 30 years.

The delivery should be attended by trained persons and ideally, conducted in the hospitals where facilities are available in case of emergency. The mother should make it a point to have the delivery in a hospital especially if her other baby is already mentally retarded due to birth trauma.

After the birth of the child, he should be duly immunized against tuberculosis, poliomyelitis, diphtheria, whooping cough and tetanus. Care must be taken to see that he does not develop high fever leading to loss of consciousness. Prompt medical attention should be given to keep the temperature reduced. Epileptic fits should be attended by doctors immediately and the medicines prescribed should be given regularly. If there is a delay in the development of the child such as sitting, standing, walking or talking, immediate professional attention should be sought.

It is important that the teachers are aware of the basic facts about causes and prevention, as it would help her to guide and refer the parents who need.

Characteristics of MR:

- Sub-average intelligence
- Less academic achievement
- Lack of motivation
- Delayed language and speech
- Slow physical development
- Difficulty in generalization
- Limitation in adaptive skills

Types and classification of MR and Mental Illness:

- **Medical classification**
 - ✓ Infection and intoxication
 - ✓ Trauma or physical agent
 - ✓ Metabolism or nutrition
 - ✓ Grossbrain disease
 - ✓ Unknown prenatal influence
 - ✓ Chromosomal abnormality
 - ✓ Gestational abnormality
 - ✓ Gestational disorder
 - ✓ Psychiatric disorder
 - ✓ Environmental influence
 - ✓ Other influences
- **Educational classification**
 - ✓ Educable
 - ✓ Trainable
 - ✓ Custodial
- **Psychological classification**
 - ✓ Mild - 50-70 IQ
 - ✓ Moderate - 35-49 IQ
 - ✓ Severe - 20-34 IQ
 - ✓ Profound - below 20 IQ

Types and classification of Mental Illness:

- Anxiety disorders
- Mood disorders
- Psychotic disorders
- Eating disorders
- Impulse control and addiction disorders
- Personality disorders

Intervention for MR:

- Home-based intervention
- Center-based intervention
- Eclectic model

- Intervention activities
- Early childhood education for formal schooling
- Orientation to other family members and caretakers

Educational programs for MR:

- Early intervention services
- Special schools
 - Advantages of special school
 - Disadvantages of special school
- Residential schools
- Integrated schools
 - Options in integrated education
 - ✓ Education in the regular classroom
 - ✓ Education in the regular classroom with part-time withdrawal from the class for special attention
 - ✓ Special class in the regular school
- Inclusive education
- Home-based training and education
- Open learning system

UNIT-VI: MULTIPLE DISABILITIES

a) Meaning and Definition of the term Multiple Disabilities

Definition:

Person with *multiple disabilities* have a combination of two or more serious disabilities (e.g., cognitive, movement, sensory) such as mental retardation with cerebral palsy.

The U.S federal government definition includes those who have more than one impairment, “The combination of which causes such severe educational needs that they cannot be accommodated in special education programs solely for one of the impairments”

b) Causes of Multiple Disabilities

- Chromosomal abnormalities
- Developmental disorders of the brain
- Metabolic disorders
- Negative prenatal environmental influence

Characteristics:

- Speech
- Physical mobility
- Learning
- Mental retardation
- Visual
- Hearing
- Brain injury
- Possibly others

c) Educating the Children with Multiple Disabilities

Incidence and prevalence:

- Less than 5% of total special education population
- 124,199 total of 5 million
- 94,034 multiple disabilities
- 28,813 autism
- 1,352 deaf blindness

Educational programs:

- Curriculum related to functioning in projected environment:
 - Interacting with peers
 - Working in groups
 - Participating
 - Communicating, complying with adult requests
 - Community skills

UNIT-VII: LEARNING DISABILITIES

DEFINITION:

- SAMUEL KIRK first defined a learning disability as a disorder or a retardation of development affecting specific academic area, such as reading, spelling, arithmetic, and writing as well as delays in language in general.

- BATEMAN (1964) later offered a definition that "An educationally significant discrepancy between their estimated intellectual potential and the actual level of performance related to basic disorders in the learning process".
- CLEMENTS (1966): The level of the intellectual potential that must be present in order that the underachievement be labeled as a learning disability - near average, average, or above average general intelligence with certain learning or behavioural disabilities ranging from mild to severe.

IDENTIFICATION:

- Normal intelligence: performance or verbal IQ equal or greater than normal range.
- Normal sensory functioning (after correction).
- Retardation in learning areas such as reading, writing and arithmetic. Minimum of 2 years of retardation when compared to relative chronological age.
- Average or above average in socio-economic status.
- Not suffering from serious emotional disturbance.
- Adequate educational opportunity.
- At or above 8 years of age.
- Exhibits symptoms of perceptual deficits.

CAUSES:

Heinicke has described four widely accepted hypotheses about learning disorders. The four hypotheses are that learning disability results from

1. Maturation lag.

2. Minimal brain dysfunction,
3. Inherited neurologic disorder (constitutional organicity,)
4. Psychological conflict.

Maturation Lag:

According to this hypothesis the affected child demonstrates a slower rate of acquisition of reading ability, motor co-ordination and right-left orientation. The rate at which children learn is considered while assessing maturation. If the child performs less considerably when compared to normal development test then it is said there is a maturation lag - lag in the maturation of structural and functional changes within the central nervous system together with the effects of cumulative experience.

Minimal Brain Dysfunctions:

This hypothesis says that learning disability is caused by a type of brain dysfunction that it is so minimal that it is difficult to detect except through behaviour observation. Subtle aberrations in the brain may have developed during perinatal period of the nervous system. Any damage to the brain during delivery by using forceps may also cause minimal brain dysfunction. High BP, low oxygen supply to brain, foetal distress during delivery may cause death of cell in the brain which leads to minimal brain dysfunction.

Constitutional Organicity:

This hypothesis focusses on central nervous system deficit and the cause is innate neurologic organisation. It may be due to faulty genetic constitution. Learning disability may also run in families.

Psychological Conflict:

The fourth hypothesis is advanced by psycho-dynamically oriented theorists. They say that learning disorder may be caused by inadequate resolution of conflicts that are either intra psychic or environmental. Blanche Chard found both internal and intrapsychic conflict (such as overuse of neurotic defenses) and external or environmental conflicts (such as disturbed family interaction) in learning disabled children.

Characteristics:

- Reading disabilities
- Mathematical disabilities
- Written or oral language difficulties
- Average or above average intellectual ability
- Hyperactivity
- Perceptual motor impairment
- Emotional liability
- General coordination deficits
- Disorders of attention
- Impulsivity
- Disorders of memory or thinking
- Specific learning disabilities
- Language deficiencies
- Equivocal neurological signs

Prevention:

- Prevention of risks before pregnancy
 - Poor health
 - Age factor
 - Previous problem pregnancies
 - Inherited condition
- Prevention of risks during pregnancy
 - Alcohol and smoking
 - Exposure to X-ray, chemicals or other radiation
 - Infections
 - Premature or low birth weight
- Prevention of risk during delivery
- Prevention of risk after birth
 - RH incompatibility
 - Poisoning and infections
 - Brain injuries
 - Nutritional influences

Intervention program:

- Medical intervention
- Psycho-educational intervention

- General interventions for children with LD
 - Show, demonstrate and model
 - Utilize multi-sensory learning
 - Avoid distractible surroundings
 - Break information down into smaller units
 - Use a developmentally appropriate approach
 - Provide small group instruction

Educational programs:

- Self-contained classrooms
- Integrated education programs
 - Resource model
 - Itinerant model
 - Dual teaching model
 - Consultant model
- Inclusive education

UNIT-VIII: AUTISM AND OTHER ASSOCIATED DISORDERS

Autism is a developmental disorder which affects around 91 people in every 10,000. It is also a spectrum disorder and affected people may display a range of disabilities at many levels. The autism spectrum disorder consists of a number of classifications, including PDD-NOS (Pervasive Developmental Disorder - Not Otherwise Specified), Aspergers Syndrome (sometimes referred to as 'high functioning autism') and autism. The disorder also affects three to four times more male children than female.

“Autism is a condition of uneven skill development primarily affecting the communication and social abilities of a person, marked by repetitive and ritualistic behavior”

Autism and other associated disorders:

- Epilepsy in autism
 - Epilepsy is a chronic condition produced by

temporary

Changes in the electrical function of the brain, causing seizures which affect awareness, movement, or sensation. It is estimated that as many as 1/3 of individuals with autism spectrum disorder also have epilepsy.

- Behavioral disorders in autism

Children with autism may have problem behaviors such

As property destruction, physical aggression, self-injury and tantrums which are major barriers to effective social and educational development.

- Emotional disorders in autism

Autism is a developmental disorder involving Emotional deficits also in the brain. Autistic people have difficulty processing emotion and may therefore display abnormal emotional reactions to various stimuli. Autistic spectrum disorders (ASD) are at increased risk of anxiety and anxiety disorders.

Autism - Characteristics

The following are some of the typical characteristics exhibited by autistic children:

- Fascinated by spinning objects
- Not frightened by threatening situations
- Difficulty relating to others
- Inconsistent gross/fine motor skills
- Difficulty making eye contact
- Extreme hyperactivity or passivity
- Preoccupied by obsessive games
- Inappropriate laughter or giggling
- Behaves as if deaf
- Resists cuddling
- Crying fits. Extreme distress for no apparent reason
- Resists conventional teaching methods
- Echolalic - the immediate and involuntary repetition of words or phrases just spoken by others
- A preference to be alone
- Seemingly insensitive to pain

- Resist changes in routine
- Indicates needs by gestures
- Inappropriate attachment to certain objects

Causes of Autism:

There are structural and functional changes in the brain in the patients with autism. However, the exact cause for these changes are not fully understood.

Some of the triggering factors considered responsible for Autism are:

- Genetic predisposition
- Exposure to environmental chemicals
- Intake of some drugs, medicines during pregnancy
- Metabolic imbalance
- Vaccinations

Symptoms of autism:

Autism can present with a wide spectrum of symptoms, also in varied severity, mild, moderate to severe. The symptoms may present in different combinations. The major symptoms relate with:

- Marked deficits in communication and social interaction
- Language impairment
- Preoccupation with fantasy
- Abnormal behavior, such as repetitive acts and excessive possessiveness to certain objects such as car, doll, keys
- Intellectual impairment

The common end symptoms could be some or many of the following:

- Annoying obstinacy in behavior
- Poor verbal expression, uses gesture to point out for his needs
- Repeating words or phrases
- Laughing, crying without apparent cause
- Prefers solitude
- Throws Tantrums
- Difficulty in social interaction with his age or elders
- No eye contact while communication

- Unresponsive teaching
- Failure to perceive fears of danger, leading to jumping from high place, playing with pointed objects
- physical hyper-activity or under-activity
- Underdeveloped fine motor skills
- Not responsive to verbal instructions with normal hearing
- Spinning objects
- Inappropriate possessiveness to objects
- Over-sensitivity or under-sensitivity to pain
- Screaming and shouting out of proportion
- Repeats the same words (echolalia)

It may be noted that autism affects the developmental of the intellectual faculties. The autistic children are able to express love and affection and also can respond to love.

Prevention of autism:

- Prevention of genetic causes
- Prevention of environmental causes
- Immunization
- Prevention of brain injuries
- Avoiding drugs and medicines

Intervention programs for autism:

- Medical intervention
- Educational intervention

Educational programs for autistic children:

- Special school
- The special needs classroom in regular school
- Inclusive education
 - SSA – IED
 - SSA-IEDSS

UNIT-IX: CEREBRAL PALSY

The general meaning of Cerebral Palsy is “brain paralysis.” Cerebral palsy is a term which encompasses a set of neurological

conditions that cause physical disability in human development- they affect the brain and nervous system. The word *cerebral* refers to the are in the brain that is affected, while *palsy* means complete or partial muscle paralysis, frequently accompanied by loss of sensation and uncontrollable body movements or tremors.

Characteristics:

- a) Children with cerebral palsy have disturbances of voluntary motor functions. These disturbances may include paralysis, extreme weakness, lack of co-ordination, involuntary convulsions, and other motor disorders.
- b) Children with cerebral palsy may have little or no control over their arms, legs, or speech, depending on the type and degree of impairment.
- c) They may also have impaired vision or hearing.
- d) Intellectual impairments.
- e) A child with only mild motor impairment may experience severe developmental delays whereas a student with severe motor impairments may be intellectually gifted.

Causes:

The causes of cerebral palsy are varied and not clearly known. It has often been attributed to occurrence of injuries, accidents, or illness that are:

- Prenatal (before birth)
- Perinatal (at or near time of birth)
- Postnatal (soon after birth)
 - Periventricular leukomalacia
 - Abnormal development of the brain
 - Intracranial hemorrhage
 - Brain damage after birth

An extensive study of children with cerebral palsy found that the factors most likely to be associated with cerebral palsy were mental retardation of mother, premature birth, low birth weight, and a delay of five minutes or more before the baby's first cry.

Types of cerebral palsy:

- Spastic (pyramidal)
 - Diplegia (both legs)
 - Hemiplegia (one side of the body)
 - Quadriplegia (the entire body)
- Dyskinetic (Extrapyramidal)
 - Athetoid
 - Ataxic
- Mixed
