Lecturer:Ass.Prof.DR.Luay Farhood

Class:4th class

Time:1hour

Intellectual Disability (Mental Retardation)

* *New Nomenclature*

- **Mental retardation** (MR) is a developmental disability that first appears in **children under the age of 18**.
- The term MR as offensive & the term **intellectual disability (ID)** or **intellectually development disorder (IDD)** is now preferred by most advocates in most English-speaking countries.

➲ The most prominent organization in this field is the **American Association on Mental Retardation (AAMR)**, which has been most influential in educating the public about mental retardation and in supporting research relating to mental retardation.

Criteria for MR

A. **Significantly subaverage intellectual functioning**: an IQ of approximately **70 or below** on an individually administered IQ test (for infants, a clinical judgment of significantly subaverage intellectual functioning).

B. **Concurrent deficits or impairments in present adaptive functioning**
(i.e., the person's effectiveness in meeting the standards expected for his or her age by his or her cultural group) in **at least two** of the following areas:
communication, self-care, home living, social/interpersonal skills, use of community resources, self-direction, functional academic skills, work, leisure, health, and safety.

C. The onset is **before age 18 years**.

Classification :(5 grades)

	I. Mild	II. Moderate	III. Severe	IV. Profound
Other name	Educable	Trainable	Dependent	Life Support
IQ	50–70	35–49	20–34	<20
Proportion in people with MR	85%	10%	3-4%	1-2%
Self care	- Most live **independently** with appropriate support - Raise their own families	- Usually need supported accommodation or live with family - need **mild** supervision - Often adapt well to life in the community in supervised settings (performing **unskilled** or **semiskilled** work)	- need **much** support - has **minimal** self care - **Very limited** skills - Able to perform simple tasks as adults in closely supervised settings - Most adapt well to life in the community, living in group homes or with families	- **Non** trainable - **NO** self care - need **total** supervision. - Optimal development may occur in a highly structured environment with **constant aid**
Language & social skills	- Typically develop social/communication **skills** during preschool years	- Most acquire communication **skills** during early childhood years - Difficulties in recognizing **social conventions** which interferes with peer relations in adolescence - Unlikely to progress beyond the **2nd grade** academically	- Acquire **little or no** communicative speech in childhood; **a)** may learn to **talk** by school age **b)** maybe trained in **elementary** self-care skills	
motor & sensory abnormalities	- **Minimal** impairment in sensorimotor areas - Often **indistinguishable** from "typicals" **until later age**			- Most have an identifiable **neurological condition** that accounts for their MR - Considerable **impairments** in sensorimotor functioning - **Death** may occur **d.2** variety of problems or complications

Epidemiology :

- Prevalence : **1- 3%.**
- Highest incidence : **school age** children with the peak at the ages **10 - 14 years**.
- **1.5 times** more common among **men** than among women.

Comorbidity Prevalence :

- **40.7 %** of MR children between 4 and 18 years of age met criteria for at least one psychiatric disorder.
- The **severity** of retardation affected the **type** of psychiatric disorder.
- The mental disorders among mentally retarded persons include; (*mood disorders, schizophrenia, ADHD and conduct disorder*).
- Approximately **1/3** also had **autistic** disorder OR an **autistic- like** condition.

Etiology:

- - No clear etiology can be found in about 75% in mild MR & 30 – 40% in severe impairment
- - Specific etiologies are most often found in those with Severe & Profound MR
- - No familial pattern (although certain illnesses resulting in MR may be heritable)
- - Over 150 MR syndromes have been related to the X-chromosome

- ? Most common cause of MR:
- 1. Down's Syndrome (most common genetic cause)
- 2. Fragile X Syndrome (40% of all X-linked syndromes; most common inherited cause)
- 3. Fetal Alcohol Syndrome

Other Causes of MR

1. Heredity	2. Early Alterations of Embryonic Development
5% of cases	**30%** of cases
1. Autosomal recessive inborn errors of metabolism (e.g., **Tay-Sachs**, **PKU**) ٢. Single-gene abnormalities with Mendelian inheritance and variable expression (e.g., **tuberous sclerosis**) ١. Chromosomal aberrations (e.g., **Fragile X**)	1. Chromosomal changes (e.g., **Down**) ١. Prenatal damage due to toxins (e.g., Maternal **Alcohol** Consumption, **infections**)

3. Environmental Influences	4. Pregnancy & Perinatal Problems	5. Acquired conditions in Infancy or Childhood
15-20% of cases	**10%** of cases	**5%** of cases
1. Deprivation of nurturance, social/linguistic and other stimulation ٢. Mental Disorders e.g. **Autism** ٣. Cultural deprivation ٤. Low socio-economic status ٥. Inadequate caretakers ٦. Child abuse	1. Fetal malnutrition, prematurity, hypoxia, infections, trauma ١. Metabolic : - **Congenital hypothyroidism** - Amino acid disorders e.g **Phenylketonuria** - Carbohydrate disorder e.g. **Galactosemia**	1. Infections ٢. Trauma ٣. poisoning (e.g., lead)

Diagnosis

- • Multidisciplinary evaluation should be individually tailored to the child.
- A team of professionals like pediatric neurologist, developmental pediatrician, psychologist, social scientist, speech therapist, physical therapist, special educator, social worker and nurse will evaluate the child.
- • Complete history is collected from family members and care takers.
- • Mental history
- • Physical examination to exclude physical illness.
- • Neurological assessment
- • Assessment of milestones like intellectual levels, cognitive ability, language pattern and communication skills, hearing, behavior.

Investigations

- 1. Chromosome Studies
- - Amniocentesis- Chronic villi sampling (CVS) is a screening technique to determine fetal chromosomal abnormalities.
- - 8 to 10 weeks of gestation
- 2. Molecular cytogenetics techniques:
- - FISH (Fluorescent In Situ Hybridization) for diagnosis of microdeletion syndromes.
- 3. Molecular techniques: PCR
- 4. for amino acids, and MPS, Reducing Substances as Galactose.
- 5. : for Amino acids, T4 & TSH estimation, serum lactate, ammonia.
- 6. Serologic investigations: for antenatal infections: IgM at birth.
- 7. X-ray Skull: for cranial anomalies, and intra-cranial calcifications.
- 8. Neuroimaging: MRI can show abnormalities in the brain such as myelination patterns.
- 9. Fundus examination: sTORCH, optic atrophy
- 10. Screening for visual and auditory acuity.
- 11.Psychological Assessment:
- - For infants :
- The Bayley Scales of Infant Development (BSID)
- The Gesell Developmental Schedules
- The Cattell Infant Intelligence Scale
- - For children :
- The Stanford–Binet Intelligence Scales
- The 3rd edition of the Wechsler Intelligence Scale for Children

Treatment

- I. “Health education & Health promotion “
- - Education to increase the general public’s knowledge and awareness of mental retardation
- - Proper antenatal, natal, and immediate postnatal care
- - Vaccination of all females against rubella before child bearing period
- - Antenatal diagnosis of fetal illness in certain diseases e.g. Triple screening in DS, chromosomal analysis of amniotic fluids
- - Neonatal screening for all babies for common preventable causes of MR
- e.g. PUK, Galactosemia, Cretinism
- - Genetic counselling for hereditary causes after accurate diagnosis

- II. “2ry=Early Diagnosis & treatment, 3ry=Rehabilitation & prevent complications“
- - Should be treated to shorten the course of the illness.
- - To minimize the sequalae or consequent disabilities.
- - Hereditary metabolic & endocrine disorders, such as PKU and hypothyroidism, can be effectively treated in an early stage

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- III. Active Treatment
- - Education for the Child
- - Behavioral, Cognitive, and Psychodynamic Therapies
- - Family Education
- - Social Intervention

- IV. Pharmacology
- - Some studies have focused on the use of medications for the following behavioral syndromes that are frequent among mentally retarded persons
- Common Comorbid Psychiatric Disorders:
- ADHD, Aggression and self-injurious behavior, Rage behavior, depressive behavior.

- V. Parental counseling
- Stage-I - Impart information regarding condition of the mentally retarded child.
- - Avoid giving misleading information or building false hopes in the parents.
- Stage-II - Help the parents develop right attitude towards their mentally retarded child (to prevent overprotection, rejection, pushing the child too hard).
- - Handle guilty feelings in parents.
- Stage-III - create awareness in parents regarding their role in training the child.