Mental retardation

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Mental retardation

Definition

Mental retardation is defined as limitations in performance due to impairments in measured intelligence and adaptive behavior.

Intelligence: is a multi-factorial mental process of abstract of thinking, visual, auditory, memory, verbal expression and manipulative capacities.

Impaired intelligence from early life leads to inadequate mental development throughout growth period. Intelligence is usually expressed in term of intelligence quotient (IQ).

$$\textbf{IQ} = \frac{\text{Mental age}}{\text{Chronologic age}} \times 100$$

(**Normal IQ** = 90-110)

Prevalence of mental retardation is

Mental retardation presents in general population 2 – 3 % children. About 3/4 of the total cases are only mild type and 5 % are having severe to profound mental retardation.

Classification

According to the degree of mental retardation

Table: Classification by the degree of mental retardation

Degree	IQ	Prognosis
* Borderline	* 68 - 83	* Educational problem, self care
* Mild	* 51 - 70	* Educable in special class, self care
* Moderate	* 36 - 50	* Trainable , self care
* Severe	*21 – 35	* Non- trainable, minimal self care, need much supervision
* Profound	* ↓ 20	* Non- trainable, need total supervision

Etiological classification (predisposing factors)

1- Genetic

a. Chromosomal abnormalities (Down syndrome)
b. Metabolic disorder
c. Cerebral degeneration disorder
d. Structural disorder or congenital anomiles (e.g. genetic microcephaly, hydrocephalus).

2- Intrauterine

a. Congenital infections e.g. rubella toxoplasmosis.
b. Drugs and toxins e.g. phenytoin, alcohol, tobacco.
c. Radiation
d. Placental insufficiency

3- Perinatal

a. During pregnancy: ante-partum hemorrhage, toxemia.
b. During labor: asphyxia, trauma, intracranial hemorrhage

4- Neonatal

a. Intracranial hemorrhage, intracranial infections, hypoglycemia, kernicterus.

5- Postnatal

1- Trauma**:** e.g. intracranial hemorrhage.
2- Infections: e.g. encephalitis, meningitis.
3- Anoxia: e.g. asphyxia, status epilepticus.
4- Metabolic: e.g. hypoglycemia.
5- Endocrine: e.g. hypothyroidism.
6- Poisoning: e.g. lead, copper.

Clinical picture

Delayed achievement of development milestones is the cardinal symptom of mental retardation

In infancy:

The main clinical finding is:-

- Delayed social development (delayed social smile, and delayed recognition of the mother).
- Poor feeding (weak or uncoordinated sucking leading to poor weight gain).
- Delayed or decreased visual and auditory response
- Reduced spontaneous activity.
- Delayed head and trunk control (hypotonia, or spastic muscle tone).

In early childhood:

The most important feature is:-

- Delayed speech and language disabilities
- Delayed standing and walking (usually associated with delayed sphincter control)
- Failure to achieve independence (self-feeding, dressing and toilet training)
- Short attention span and hyperactivity, poor memory, poor concentration
- Sleep problems and convulsion.

In late childhood:

The main manifestations are:

- School failure or underachievement and learning difficulties.

Diagnosis

***** Delayed development milestones suggest the diagnosis
* Detailed history, examination (physical, neurological and IQ test), and investigation are required to find the cause of mental retardation (urine test, chromosomal studies, hormonal assay, enzyme estimation, serological test, CSF study, X- ray skull,, EEG, CT scan and MRI. In some cases no cause can be identified.

Conditions that may be confused with mental retardation are: cerebral palsy, blindness, deafness, and social deprivation.

Prevention of mental retardation

1- Prevention of delivery of retarded children:

a. Vaccination of all females against rubella before child bearing period.
b. In untreatable inherited disorders, avoid further pregnancies, especially when the recurrence risk is high
c. Avoidance of conditions that may lead to acquired retardation during intrauterine perinatal and postnatal periods.

2- Early diagnosis and treatment of preventable / treatable conditions e.g. congenital hypothyroidism, galactosemia and phenylketonuria by suitable screening tests.

Management of mental retardation

1- in treatable conditions, the specific therapy will prevent further impairment of mental abilities.

- Congenital hypothyroidism requires life long therapy with thyroid hormone

- Galactosemia requires elimination of galactose from the diet and using galactose – free diet.

2- In untreatable conditions management is supportive:

a. Treatment of associated problems e.g. epilepsy or hearing defect.
b. Education and training according to the degree of mental retardation.
c. Emotional support to the family.
d. institutionalization for the profoundly retarded children.

General Nursing care

1. The nurse helps family adjust to the Diagnosis. By:-

* Provide opportunity for family to adjust to discovery of diagnosis.
* Anticipate the usual grief reaction to loss of the perfect child.
* Explore family's feeling regarding child and their ability to cope with the discover.
* Encourage family to express their concerns.
* Repeat information as often as necessary.
* Serve as a role model regarding attitude and behavior toward child.

2. Increase Family's Understanding of the Discover. By:-

* Help family to understand the disorder, and implications.
* Reinforce information given by others.
* Clarify misconception.
* Provide accurate information at family can absorb.
* Discuss advantages and limitations of therapeutic plan.

3- Reduce family's fears and anxieties. By:-

* Explore family's concerns and feeling of irritation, guilt, anger, disappointment, inadequacy.
* Help family distinguish between realistic fears and un founded fears, eliminate unfounded fears
* Discuss with parents their fear regarding.
    - Dealing with child's anxiety about condition.
    - Fear of dreadful development.
    - Fear of death.
    - Fear of tests and procedures.
    - Child's ability to compete with peers.

4- Promote Family's Ability To Provide Child's Care By:-

* Help family develop a thorough plan of care.
* Teach skills needed to provide optimum care.
* Interpret Child's behavior to parents (e.g., anger, depression, regression, physical modification as result of disorder.
* Help family plan for the future.

5- Support Family Siblings of Affected Child by:-

* Assess siblings to identify areas of concern.
* Communicate honestly with siblings about child's disease or disability.
* Provide opportunity for siblings to ask questions and express feelings but avoid.
* Encourage parents to spend special time with their children who are not ill or disabled.