

Intellectual Disability

LEARNING OBJECTIVES:

1. Define intellectual disability.
2. Grade the severity of intellectual disability according to IQ scores.
3. Know the important list of investigations for intellectual disability.

Definition

Diagnostic criteria for intellectual disability :

- A. Significantly subaverage intellectual functioning (i.e. 2 standard deviations below the mean of the intelligence quotient IQ): an IQ score of approximately 70 or below on an individually administered IQ test.
- B. Concurrent deficits in adaptive behavior in at least 2 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.

Classifications of intellectual disability:

Intellectual disability can be subdivided into mild, moderate, severe, and profound categories depending on the severity of the deficits.

Mild	IQ level 50-69
Moderate	IQ level 35-49
Severe	IQ level 20-34
Profound	IQ level below 20

Epidemiology

The prevalence of intellectual disability is 2.5% of the population, and 85% of these individuals fall into the range of mild intellectual disability.

The prevalence of severe intellectual disability is approximately 0.3-0.5% of the population.

Intellectual disability occurs more frequently in boys than in girls.

Etiology

- Prenatal
 - . Chromosomal: e.g. trisomy 21 and fragile X syndrome.
 - . Genetic syndrome e.g. tuberous sclerosis.
 - . Inborn errors of metabolism /neurodegenerative disorders.
 - . Congenital infections.
 - . Developmental brain anomalies.
 - . Drugs e.g. alcohol.

- perinatal
 - . Infections.
 - . trauma.
 - . Metabolic abnormalities.

- Postnatal
 - . Head injury.
 - . Meningitis or encephalitis.
 - . poisons.

Clinical presentation

Common presentations include:

1. Dysmorphisms: are the earliest signs that bring children to the attention of the pediatrician .e.g. Down syndrome.
2. associated dysfunctions.
3. Failure to meet age –appropriate expectations (i.e. developmental delay).

Investigations

It is important to establish etiology where possible in order to understand prognosis, provide genetic counseling and to ensure that associated problems are detected.

There is no specific lab test for intellectual disability. The testing needed should be based on the history and physical examination.

The most commonly used medical diagnostic testing for children with intellectual disability are:

1. Genetic testing e.g karyotyping, and testing for fragile X syndrome.
2. Metabolic tests: e.g. urinary organic and amino acids, plasma amino acids, blood lactate, thyroid function tests, mucopolysaccharide screen ...
3. Head MRI.
4. EEG.
5. Investigations for congenital infections.

Diagnosis

The formal diagnosis of intellectual disability requires the administration of individual tests of intelligence and adaptive functioning .The most commonly used intelligence tests are the Bayley Scales of Infant Development , the Stanford- Binet Intelligence Scale , and the Wechsler Intelligence Scales .

Treatment

There is no specific cure for intellectual disability. Therapy should consist of appropriate treatment for any underlying or associated medical condition.

Prognosis

The long-term outcome of individuals with intellectual disability depends on:

1. The underlying cause.
2. The degree of cognitive and adaptive deficits.

3. The presence of associated medical and developmental impairments.
4. The capabilities of the families.
5. The school/community supports and services.
6. The training provided to the child and family.