Intellectual Disability

DSM-IV Diagnostic Criteria

- A: Significantly sub-average intellectual functioning (an IQ of approximately 70 or below on an individually administered IQ test).
  - $\leq 2$ SD of population mean
- B: Concurrent deficits or impairments in present adaptive functioning 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: Onset is before age 18 years.

Intelligence

DSM-IV Diagnostic Criteria (Continued)

- Mild Mental Retardation: IQ level 50-55 to approximately 70.
- Moderate Mental Retardation: IQ level 35-40 to approximately 50-55.
- Severe Mental Retardation: IQ level 20-25 to approximately 35-40.
- Profound Mental Retardation: IQ level below 20-25.
- Mental Retardation, Severity Unspecified: There is a strong presumption of mental retardation, but the person’s intelligence is untestable by standard tests.

Levels of Intellectual Disability

<table>
<thead>
<tr>
<th>Level</th>
<th>IQ Range</th>
<th>% of MR Pop</th>
<th>Social</th>
<th>Communication</th>
<th>Sensorimotor</th>
<th>Academic Potential</th>
<th>Vocational/Living</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>50-55</td>
<td>85%</td>
<td>Develops normally in preschool years</td>
<td>Develops normally in preschool years</td>
<td>Minimal deficits</td>
<td>6th grade</td>
<td>Usually achieves adult skills for self-support. May need assistance.</td>
</tr>
<tr>
<td>Moderate</td>
<td>35-40</td>
<td>10%</td>
<td>Benefits from training</td>
<td>Develops normally in early childhood</td>
<td></td>
<td>2nd grade</td>
<td>Attends vocational training with support. Supervised Community Living. Performs minimal/skilled work.</td>
</tr>
<tr>
<td>Severe</td>
<td>20-25</td>
<td>3-4%</td>
<td>May learns to talk by school age</td>
<td>Limited benefits of preacademic training</td>
<td></td>
<td></td>
<td>Minimal self-care. Simple tasks with supervision. Adult Community living with family or group home.</td>
</tr>
<tr>
<td>Profound</td>
<td>Below 20</td>
<td>1-2%</td>
<td>Limited</td>
<td>Improvements with training</td>
<td>Improvements in childhood</td>
<td>Limited</td>
<td>Simple, supervised tasks. Requires structure and constant supervision.</td>
</tr>
</tbody>
</table>

Implications of Diagnostic Criteria

- Deficits in both intellectual functioning and adaptive behavior must be present.
- MR is not diagnosed when an individual is adequately meeting the demands of his/her environment.
- Assessment must focus on descriptions of present behavior.
- Individually administered intelligence tests are needed.
- The diagnosis is tied to the individual’s age level.
- MR diagnosis does not rule out the presence of other disorders.
Adaptive Behavior

- “Adaptive behavior is defined as the effectiveness or degree with which individuals meet the standards of personal independence and social responsibility expected for age and cultural group” (Grossman, 1983, p.1).
- Assessment of adaptive behavior stresses an individual’s typical performance.
  - Actual behavior, and not abilities or constructs believed to underlie behavior, is important.
- Adaptive behavior varies as a function of age.
  - Increasing demand for meeting the demands of the environment.
- Cultural expectations will also be important, especially when evaluating social functioning.

Etiology of MR

- Etiological factors may be primarily biological, primarily psychosocial, or some combination of both.
- For 30-40 percent of individuals with MR seen in clinical settings, no clear etiology can be determined.
- Major predisposing factors:
  - Heredity (5%).
  - Early alterations of embryonic development (30%).
  - Pregnancy and perinatal problems (10%).
  - General medical conditions acquired in childhood (5%).
  - Environmental influences and other mental disorders (15-20%).

Helpfulness of Determining Etiology

- Family members often have a desire to understand why a child has cognitive and adaptive deficits.
- If a genetic basis is identified, there may be a need for other family members to pursue genetic counseling.
- With a clear etiology, clinicians may be able to provide information on long-term course and type of supports individual will need.
- There may be a clear treatment implication for certain etiologies.
- Determining the etiological basis allows individuals to be placed in more homogeneous groupings.

Etiology of MR

(Continued)

- Organic Group (25-50%): This group is primarily composed of individuals in the more severely retarded range.
  - May be associated with a genetic component linked to single gene effects, chromosomal abnormalities, or brain damage.
  - Demonstrate a severe lag in behavioral development.
  - Fail to reach normal motor and language developmental milestones.

Epidemiology

- 1-3% of the general population
- More severe cases noticed earlier
- Childhood peak time for identification
- More prevalent in males
- Mild cases more prevalent in low SES group
- For mild MR, early intervention and training can result in a child no longer meeting the criteria for diagnosis
Factors Associated with MR

- Fetal Alcohol Syndrome.
- Phenylketonuria (PKU).
- Chromosomal Anomalies.
  - Down’s Syndrome.
  - Klinefelter’s Syndrome (XXY).
  - Fragile X.
- Birth factors and growth factors (e.g., inadequate prenatal care).
- Social-environmental factors (e.g., psychosocial disadvantage).

<table>
<thead>
<tr>
<th>Genetic Syndromes</th>
<th>Table 11-8 Down Syndrome</th>
<th>Fragile X Syndrome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Down Syndrome</strong></td>
<td>Most common single disorder</td>
<td>Fractured X chromosome</td>
</tr>
<tr>
<td>Caused by Trisomy 21</td>
<td>Higher risk with maternal age</td>
<td>More common in boys - they have more severe forms</td>
</tr>
<tr>
<td>Moderate to severe MR</td>
<td>Alzheimer’s</td>
<td>Long faces, prominent jaws, large ears (males)</td>
</tr>
<tr>
<td>Delayed speech, verbal short-term memory and auditory processing deficits</td>
<td>Visual-spatial, sequential processing, motor coordination and executive function deficits</td>
<td>Social impairments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Genetic Syndromes</th>
<th>Williams Syndrome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Williams Syndrome</strong></td>
<td>Rare</td>
</tr>
<tr>
<td>Deletions on Chromosome 7</td>
<td>Cardiac and kidney problems, sound sensitivity, depth perception weaknesses</td>
</tr>
<tr>
<td>Mild to moderate MR</td>
<td>General knowledge &amp; visual spatial deficits</td>
</tr>
<tr>
<td>Relative strengths in language</td>
<td>Elfin appearance</td>
</tr>
</tbody>
</table>

### Down Syndrome
- Most common single disorder
- Caused by Trisomy 21
- Higher risk with maternal age
- Alzheimer’s
- Moderate to severe MR
- Delayed speech, verbal short-term memory and auditory processing deficits

### Fragile X Syndrome
- Most common inherited form
- Fractured X chromosome
- More common in boys - they have more severe forms
- Long faces, prominent jaws, large ears (males)
- Visual-spatial, sequential processing, motor coordination and executive function deficits
- Social impairments
Prader-Willi Syndrome

70% of cases result from paternal deletion chromosome 15
IQ ranges from borderline to moderate impairment
Hyperphagia and food hoarding
Other compulsions, skin picking
Strengths and weaknesses may vary depending on cause

Family

Adjustment is a lifelong process
May be related to the severity of the impairment
Stressors
Diagnostic
Medical
Financial/employment
Social
Marital
Parental distress

Coping
Ethnic differences
Beliefs/parenting style
Skills
Support
Parental IQ
Siblings
Stressors
Rewards
Access to resources is key

Prevention

Prenatal care and diet
e.g., Phenylketonuria (PKU)
Education on the impact of toxins
Early intervention programs
Educational services

Treatment of MR

Behavioral Intervention

Discrete trial learning
Naturalistic or incidental learning
Operant conditioning to build adaptive skills
Positive behavioral support
Functional assessment vs. functional analysis
Research supports use of behavioral interventions for increasing prosocial and adaptive behaviors, and reducing maladaptive behaviors, e.g., self-injurious behavior (SIB)
**Functional Analysis**

Matt, 5 y.o. boy w/ moderate MR
Observations during 4 conditions:
- low teacher attention during a task, low access to a preferred object during a task, a more difficult task, and a control condition
Observations determined Matt engaged in SIB most during difficult tasks
Matt trained to ask for help with difficult tasks

**Intervention**

Pharmacological
- Frequently prescribed
- Usage increases when child exhibits behavioral problems
- Stimulant medications
- Antipsychotic medications
- Overused
- Lack of research

Psychotherapy
- Talk therapies not widely employed or researched
- Modifications necessary

**Comorbid Diagnoses**

- Between 20% and 35% of non-institutionalized individuals with MR have a comorbid psychiatric diagnosis or behavioral disorder.
- The rates of psychiatric and behavioral diagnoses are four to five times those of individuals without MR.
- Rates increase with age and cognitive impairment.

**Relevant Legislation**

**Individuals with Disabilities Education Act (IDEA)**

- In 1975, Congress passed Public Law 94-142 (the Education for All Handicapped Children Act).
- This law was updated in 1990, and its name was changed to IDEA.
- IDEA was reauthorized and amended in 1997, becoming IDEA ‘97.

**IDEA ‘97 Principles of Interest**

- Children with disabilities must receive a **Free Appropriate Public Education** that provides special education and related services.
- Children with disabilities should be placed in the **Least Restrictive Environment** to the maximum extent possible.
- “Mainstreaming”.
- This decision is made by the IEP team after evaluation.
- School systems must maintain a full continuum of alternative placements to meet the needs of children with disabilities.
IDEA ‘97 Principles of Interest
Continued

- Each child being considered for special education must receive a full, individualized, and appropriate evaluation.
  - Schools are responsible for finding, identifying, and evaluating these children.
  - Assessment measures must be nondiscriminatory.
  - No single procedure must be used as the sole criteria for making determinations of eligibility.
  - Standardized tests must be validated for the specific purpose in which they are used and must be administered by trained personnel.

- Procedural safeguards are provided so that:
  - The rights of children with disabilities are protected.
  - Children and their parents are provided with the information they need to make informed decisions about the educational opportunities available.
  - Procedures are in place to resolve disagreements between the parents and the school district.

IDEA ‘97 Principles of Interest
Continued

- State- or district-wide group tests administered to children without disabilities should also be administered to children with disabilities.
  - Accommodations can be made.
  - Alternative assessments can be provided.

IDEA ‘97 Principles of Interest
Continued

- The Individualized Education Plan (IEP) and the IEP team.
  - It is determined that children are eligible for services when they have a disability and that disability affects their educational performance adversely.
  - The IEP spells out the needs of the child and how the agency will meet these needs.
  - The IEP must be reviewed at least once per year, and the child must be reevaluated at least once every three years.

IDEA Part C: Infants and Toddlers with Disabilities

  - These rights can be extended to 2-year olds.
- In identified cases, an Individualized Family Service Plan is developed with parental consent.

Section 504 of the Rehabilitation Act of 1973

- It was designed to protect individuals with disabilities from discrimination in any setting receiving funds from the federal government.
- Reasonable accommodations must be made for children and adults with disabilities.
Americans with Disabilities Act (ADA)

- Also known as P.L. 101-336.
- It provides protection from discrimination for individuals with disabilities in all settings, regardless of whether federal funding is involved.

Potential Quiz Questions (Chapter 12a)

- The primary symptoms of autism will fall within three broad areas…name these.
- Girls are affected with autism more often than boys. True or false?
- List 3 categories of secondary symptoms of autism.
- List 3 well-established facts regarding treatment of autism according to Schreibman (2000)
- List 3 hypothesized causes of autism.