Disorders of Infancy, Childhood and Adolescence (Part I)

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Objectives

- Following this presentation the student will be able to:
  - Explain the components involved in the assessment of an infant, child or adolescent presenting with a Psychiatric Disorder.
  - Delineate the basic criteria for these disorders including etiology and epidemiology.
  - Describe the best evidenced based treatments for the various disorders.

Disorders to be Covered

- Eating Disorders
- Learning Disorders
- Mental Retardation
- Autistic Disorder
- Attention-Deficit/Hyperactivity Disorder
- Oppositional Defiant and Conduct Disorders
- Tourette’s Disorder

Evaluation of the Child and Adolescent

- A comprehensive evaluation involves a biopsychosocial approach.
- Before the evaluation, the parents should be told to honestly inform the youth of the purpose of the visit.
- The clinician must be constantly aware of the developmental level of the patient.

Structure of the Evaluation

- Determined by the age of the child, presenting problem and practicality.
- Usually begin with a brief meeting with the parents and the child.
- For preschool age children, they will be the primary source of information.
- For school-age children and adolescents, separate interviews from the parents should occur with reassurance about confidentiality.

Use of Multiple Informants

- Often there are multiple agencies involved with the child (e.g., school, social services, courts, etc.).
- Other family members may also have valuable input.
- Information should be collected from each of these sources.
- Must obtain consent.
- Assent issue.
Outline of the History

- Basically the same as that of an adult evaluation.
- Strong emphasis on developmental history.
- Parents are often unaware of internalizing symptoms, only the external manifestations.
- For young children, toys, puppets, drawings, etc. are often invaluable.

Assessment of the Family

- Should include all members living in the home.
- Purposes:
  - Ascertain each member’s view of the problem.
  - Establish a relationship with each member to enhance the treatment alliance.
  - Obtain an idea of the “ecology” of the patient’s symptoms.

Psychological Testing

- May be an extremely useful adjunct.
- Intelligence—Stanford-Binet and Weschler
- Academic Achievement—Woodcock-Johnson and Wide Range Achievement Test
- Adaptive Behavior—Vineland Adaptive Behavior Scales

Developmental Disorders

- Includes:
  - Mental Retardation
  - Autistic Disorder
  - Specific Developmental Disorders (e.g., Learning Disorders)

Mental Retardation

- Three basic criteria:
  1. Low intelligence—I.Q. below 70
  2. Deficits in adaptive functioning such as communication, self-care, home living, social skills, community resource use, self-direction, health and safety, functional academics, leisure and work
  3. Onset before the age of 18 years

Classification of Mental Retardation

- **Mild**: I.Q. between 50-70; functions in the 9-12 year old age range; often not detected until latter part of elementary school.
- **Moderate**: I.Q. between 50-35; functions in the 6-9 year old age range; trainable in self care and requires sheltered residence.
- **Severe**: I.Q. between 35-20; functions in the 3-6 year old age range; can learn simple skills; live in highly structured and supervised settings.
- **Profound**: I.Q. less than 20; functions in the less than 3 year old range; totally dependent.
**Epidemiology**
- Prevalence in the U.S. ranges from 1-3%
- All levels of severity are more common in males
- The more profound the degree of retardation, the more likely a biological etiology may be determined
- Where an etiology is not known, lower socioeconomic groups predominate and degree is usually mild

**Comorbidity**
- 30-70% have a psychiatric disorder
- Most common is ADHD
- Autism and other Pervasive Developmental Disorders occur 100X more often than in nonretarded children
- Depression and anxiety

**Etiology**
- 30-40% of cases have no discernible etiology
- Most mild mental retardation is idiopathic, associated with sociocultural or psychosocial disadvantage
- There are more than 200 recognized biological syndromes that cause mental retardation

**Biological Causes of Mental Retardation**
- **Genetic**: Single gene disorders; inborn errors of metabolism; chromosomal abnormalities.
- **Prenatal**: Maternal infections; toxins; extreme malnutrition.
- **Perinatal**: Extreme prematurity; brain trauma; cerebrovascular accidents.
- **Infancy and Childhood**: Trauma; brain infections; lead intoxication; severe malnutrition.

**Fragile X Syndrome**
- Most common form of inheritable mental retardation.
- Features include long face, prominent ears and jaw, macroorchidism, high arched palate, hyperextensible joints and flat feet.
- I.Q. ranges from normal to profound.
- Frequent co-morbid psychiatric disorders.

**Treatment of Mental Retardation**
- Parental education.
- Treat any possible causes.
- Behavior modification.
- Developmentally oriented psychotherapeutic and educational interventions.
- Medication for co-morbid condition.
- Folate in Fragile X Syndrome.
Autistic Disorder

- Falls into the category of Pervasive Developmental Disorders which includes:
  - Autistic Disorder
  - Asperger’s Syndrome
  - Pervasive Developmental Disorder NOS
- Development is not only delayed but “atypical” or “deviant.”

Autistic Disorder

- Onset before age 3 years.
- Impairments in three areas:
  1. Social interactions
  2. Communication and play
  3. Interests and activities

Social Deficits

- Fail to seek out peer interaction (in their own world)
- Relate to others primarily as “objects”
- Lack social or emotional reciprocity
- Marked impairment in nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to communicate social interaction

Communication and Play

- Delay or total lack of development of spoken language
- Inability to initiate or sustain a conversation
- Stereotyped and repetitive use of language or idiosyncratic language
- Lack of varied, spontaneous make-believe play

Interests and Activities

- Preoccupation with stereotyped and restrictive patterns of interest that are abnormal in intensity or focus
- Inflexible adherence to specific, nonfunctional routines and rituals
- Stereotyped and repetitive motor mannerisms (hand flapping, complex body movements)
- Persistent preoccupation with parts or objects

Intelligence in Autistic Disorder

- 80% are mentally retarded
- Subtests on I.Q. testing are greatly scattered and inconsistent over time (compared to children with just mental retardation who are generally blunted in all areas)
- May have unusual or special capacities in music, drawing, arithmetic, or calendar calculations (savant skills)
Epidemiology

- 4.8 per 10,000 in the U.S.
- Male:female = 5:1
- Girls tend to be more severely retarded
- No association with socioeconomic class

Etiology

- Strongly genetic disorder
- Involves multiple genes
- May be associated with postnatal neurological infections, congenital rubella, PKU, cerebral palsy, Down syndrome and neurofibromatosis
- Strong association with Fragile X Syndrome and tuberous sclerosis
- Overrepresented in autoimmune disorders (40% have specific autoantibodies to serotonin 1-A receptor)
- Neurochemical and brain imaging studies inconclusive.

Course and Prognosis

- Gradual, but erratic improvement in school age years.
- Medical and environmental stressors cause regression.
- Seizure disorders may occur in adolescence.
- Higher I.Q., better language skills, greater social skills and later onset are best prognosticators.

Asperger’s Syndrome

- Demonstrate deficits in social interaction
- Repetitive, restricted, and stereotyped behavior and interests
- No mental retardation or language impairment

Treatment

- Multimodal:
  - Highly structured milieu
  - Special education
  - Speech therapy and language instruction
  - Vocational and adaptive skills
  - Behavior therapy
  - Parental guidance

Role of Medication in Autistic Disorder

- Used to control behavior or treat co-morbid psychiatric disorders.
- Antipsychotics for severe aggression, interpersonal withdrawal, paranoia and stereotypies.
- Psychostimulants for impulsivity, distractibility.
- SRI’s for obsessive-compulsive behavior.
- Naltrexone for self-injurious behavior.
Specific Developmental Disorders

- Delay in expected cognitive development in a specific domain.
- Functions below age or grade level.
- Academic and adaptive functioning is impaired.
- Not secondary to a sensory deficit or known neurological disorder.

Specific Developmental Disorders

- Learning Disorders:
  - Reading Disorder
  - Mathematics Disorder
  - Disorder of Written Expression
- Developmental Coordination Disorder
- Communication Disorders:
  - Expressive or Mixed Expressive-Receptive Language Disorder
  - Phonological Disorder
  - Stuttering

Etiology

- Involves dysfunction in a particular part of the cortex.
- Associated with:
  - Maternal smoking in pregnancy
  - Low birth weight
  - Prenatal and perinatal mishaps
  - Overt neurological disorders
  - EEG abnormalities

Course and Prognosis

- Usually diagnosed in grade school.
- In high school, have significant problems with organizational skills.
- In college, have problems with learning foreign languages, writing efficiently, or reading fluently.
- Strong relationships between learning disorders and ADHD.

Treatment

- Individuals with Disabilities Act mandates appropriate education.
- An Individualized Education Plan is designed for each child.
- Special accommodations and techniques are taught to strengthen other skills and improve deficits.

Attention-Deficit/Hyperactivity Disorder

- Three types are identified:
  1. Combined type (inattention and hyperactivity-impulsivity)
  2. Predominantly inattentive type (daydreamers, spacey, co-morbid anxiety and depression, neglected by peers, lack behavioral problems)
  3. Predominantly hyperactive-impulsive type (usually very young children for whom the inattention criterion is not yet developmentally appropriate).
### Diagnostic Criteria

**Impairments in attention** for six months:
- Inattentive in school work; careless errors
- Cannot sustain attention in tasks or play
- Does not seem to listen when spoken to
- Does not follow through on instructions
- Difficulty organizing tasks and activities
- Loses things
- Forgetful and easily distracted

**Symptoms of hyperactivity-impulsivity** for six months:
- Fidgets and squirms
- Cannot remain seated
- Runs about or climbs excessively
- Cannot play quietly
- “On the go” or “driven by a motor”
- Talks excessively

### Diagnostic Criteria

**Symptoms must cause some impairment before the age of 7 years**

**Symptoms must be present in two or more settings (e.g., home, school, recreational groups)**

**Must cause significant impairment in social, academic or occupational functioning**

**May not be explained by another disorder**

### Epidemiology

Prevalence varies due to differences in diagnostic criteria, samples and assessment:

- In elementary school, boy:girl = 9:1.
- Girls usually have inattentive type.
- Greater prevalence in the U.S.—differing diagnostic practices and cultural expectations.

### Comorbidity

- 50% have a Conduct Disorder
- Many others have Oppositional Defiant Disorder
- 1/3 have a mood or anxiety disorder
- Mental retardation, learning disorders and Tourette’s Disorder

### Etiology

- Heterogeneous syndrome
- Common factor is dysfunction in the prefrontal cortex which controls “executive functions”
- One group seems to be genetic and the other biological environmental insults
- Norepinephrine and dopamine involved
- Smaller frontal lobe volume, asymmetry of the caudate and smaller volume of the cerebellar vermis
Medical Conditions Contributing to ADHD

- Prenatal
  - Young mother
  - Poor maternal health
  - Tobacco, ETOH, drugs
- Birth Complications
  - Bleeding
  - Hypoxia
  - Toxemia
  - Prolonged labor
- Infancy—Malnutrition
- Toxicity—Lead
- Genetic Disorders
  - Fragile X
  - G6PD deficiency
  - PKU
  - Resistance to thyroid hormone
- Brain Injury:
  - Trauma
  - Infection

Course and Prognosis

- Diagnosis usually made in elementary school
- As children mature, so does hyperactivity
- 30-50% continue with all symptoms into adulthood
- Increased risk for school failure, accidents, legal involvement, suicide attempts and substance abuse
- Absence of conduct problems predicts best outcome

Differential Diagnosis

- Adjustment Disorder
- Hyper- and hypothyroidism
- Medications:
  - Theophylline
  - Carbamazepine
  - Benzodiazepines
  - Phenobarbital
- Drugs of abuse
- Child abuse and neglect
- Anxiety or mood disorders

Treatment

- Parent education
- School-related interventions:
  - Consistent classroom structure and routines
  - Seat the child near the teacher to avoid distractions
  - Divide assignments into small segments
  - Daily Report Card
  - Cubicles to reduce extraneous stimuli
  - Special education classroom

Pharmacotherapy

- Psychostimulants: A positive response does not mean the child has ADHD
- Atomoxetine
- Alpha adrenergic agents
- Antidepressants

Psychotherapeutic Interventions

- Behavior modification
- Teaching social skills
- Cognitive-behavior therapy
- Individual, family and group psychotherapy
Monitoring Treatment

- Best evaluated by caregivers in various settings.
- Rating scales very useful:
  - Child Attention Problems (CAP)
  - Conners Rating Scales
- Continuous Performance Test
- Always assess for unwanted side effects from medications