

COGNITIVE DISORDERS

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Cognitive Disorders

- **Lecture Overview**
 - **Autistic Spectrum Disorder**
 - **Mental Retardation**
 - **Rett's Disorder**
 - **Dementia**
 - **Childhood Psychosis**
 - **ADHD**
 - **Tourette's Disorder**

Cognitive Disorders

- **Occur throughout the lifespan**
- **Interfere with learning and the processing and assimilating of knowledge, and memory**

Developmental Disorders (PDD)

- **Definition:**
- **Characterized by severe and pervasive impairment in reciprocal social interaction and communication skills**
- **Usually accompanied by stereotypical behavior, interests, and activities (p.640)**

Autistic Spectrum Disorder

- **Neurological disorder**
- **Interferes with normal brain development**
- **Affects sensory input processing**
- **Deficits in:**
 - **Learning**
 - **Reasoning**
 - **Communication**
 - **Social relationships**

Autism cont.

- **Cause unknown**
- **Believed to be a disturbance in the central nervous system**
- **4 times more prevalent in boys**
- **Affects 15 in every 10,000 children**

Autism defined cont.

- **Spectrum disorder—differs in degree and severity along a continuum**
- **Left hemisphere dysfunction—**
 - language, reasoning, logic
 - savant syndrome

Theories

- **Abnormality in brain function--- hemispheric specialization, arousal and neurotransmitters--- dopamine and serotonin both elevated**
- **Genetic link**
- **Opiate excess theory**
- **Viral and immune theories**

Autism Assessment

- **Four Major Areas**
 - Language Development
 - Intellectual Development
 - Interpersonal Relationships
 - Motor Skills

Autism Assessment cont.

- **Language Development**
 - Autism present from birth but usually diagnosed 18 to 24 months
 - Failure to develop language is a hallmark defining characteristic of autism

Language cont

- Many parents present with complaint that they believe their child is deaf (motor behavior of covering their ears)
- Normal toddler by 18 months has vocabulary of at least 10 words, by 24 months 300 words and can comprehend speech

Language cont.

- Delayed or absent
- Echolalia
- Unusual vocalizations
- Pronoun reversal—I and You
- Inability to name objects
- Symbolic meanings
- Monotonous or singsong speech

Language cont

- **Language is such a clear defining characteristic that it is also a prognostic indicator**
Failure to develop language by age 5 often hails a poor prognosis

Communication assessment

- **Severe language disturbance creates serious communication problems**
- **Many theorists believe the abnormal behavioral traits are primitive means of communication for the child with autism**

Communication cont

- **Signing is controversial**
- **Child with Autism frequently points or tugs on caregiver to get needs met**
- **Child easily frustrated in great part related to inability to communicate**

Intellectual Development

- **Intellectual functioning difficult to measure**
- **Standard IQ Tests inadequate**
- **Many mentally retarded due to learning difficulties**
- **Severity of language & communication impairment makes learning very difficult**
- **Attending skills**
- **Savant Syndrome (idiot savant)**

Interpersonal Assessment

- **Numerous disturbances in mood and emotions**
- **An initial complaint of parents is a lack of emotions, failure to bond, not wanting to be held, "appears to be in own world", autistic aloneness**

Interpersonal cont

- **Play is the work of children**
- **Child preoccupied with objects**
- **Doesn't engage in play with other children**
- **Prefers to be alone**
- **Temper tantrums**
- **Family problems**

Motor Disturbances

- **Poor coordination**
- **Tiptoe walking**
- **Peculiar hand movements—
flapping and clapping**
- **Stereotyped body movements**
- **Prone to injury**

Nursing Diagnosis (NANDA)

- **Impaired verbal communication**
- **Social isolation**
- **Risk for injury**

Treatment and Interventions

- **Special education**
- **Behavior therapy**
- **Early intervention**
- **Medication**
 - **Major Tranquilizers interfere with
the growth hormone—on 3 months,
off one**

Treatment cont.

- **Medication cont.**
 - **Naltrexone**
 - **decreases opiates in the brain**
 - **decreases self-injurious behavior**
 - **no effect on language skills**
- **Most children with autism will need some form of care throughout their lives**

The Hospitalized Child with Autism

- **Thorough assessment of child's routines vital necessity**
- **Involve parents**
- **Decrease stimulation**
- **Clear, concise communication**
- **Limit procedures**
- **Limited restraint**

Hospitalized cont

- **Provide parents with respite**
- **Allow self-stimulating behavior when possible**
- **Introduce new situations slowly**
Limit unnecessary procedures
- **Use a consistent approach**

Asperger's Disorder

- **Resembles Autism**
- **Usually recognized later in childhood because language and communication development is normal**
- **Severe disturbance in social interactions**

Asperger's Disorder cont

- **Development of restrictive, repetitive behavior patterns**
- **Delayed motor milestones**
- **Prognosis more favorable than that of autism but social problems often persist into adulthood**

Childhood Disintegrative Disorder

- **Usually manifests around age 2 after a period of normal development**
- **Bizarre behavior, symbolic communication, marked regression, possible hallucinations and delusions**
- **Stereotypical behaviors similar to autism**
- **Treatment similar to that of autism with a slightly more favorable prognosis because there has been a period of normal development**

Rett's Disorder

- **Observed only in females**
- **Development of severe neurological deficits after period of normal pre and post natal development**
- **Head circumference normal at birth but growth rate slows between 5 and 48 months**

Rett's Disorder cont

- **Progressive loss of previously acquired motor skills**
- **Stereotypical hand movements**
- **Severe psychomotor retardation**
- **Severe language problems**
- **Limited social interaction**

Mental Retardation

- **Many causes**
- **Exists on a continuum**
- **Many treatment options**
- **Differs greatly from autism and childhood psychosis**

ADHD

- **No exact known cause**
- **Brain imaging shows changes in striatal region of the brain—reduced blood flow**
- **Ritalin shown to increase blood flow to this area**
- **Excessive gross motor activity is a defining characteristic**

ADHD

- **Inattention continues in multiple areas of learning**
- **Child develops low self-esteem**
- **May in severe cases also present with enuresis and/or encopresis**

Drug Interventions ADHD

- **methylphenidate HCL (Ritalin)**
 - **Major side effects**
 - **weight loss**
 - **delayed growth**
 - **Ritalin LA—long acting**
 - **can be given once daily**
 - **Most need twice daily dosing**
 - **Often needed to be given by school nurse**

Drug interventions ADHD cont.

- **Atomoxetine HCL (Strattera)**
 - **Similar to Ritalin**
 - advantage is once daily dosing
 - can be given in divided doses.
 - **Black Box Warning: Some studies have shown children on this drug have increased risk of suicide**
 - **Must monitor weight and growth similar to Ritalin.**

Dementias

- **Dementia of Alzheimer's Type (DAT)**
 - **Approx. 2/3 of all dementias in elderly caused by Alzheimer's disease**
- **Vascular dementia**
- **Parkinson's disease**
- **Pick's disease**
- **Diffuse Lewy-Body disease**
- **Substance-induced persisting**
- **Due to multiple causes**

Dementia Prevalence

- **1900—3 million (4%) of US pop. > 65**
- **Now 1 in 9 Americans is over 65**
- **4-5 million (16%-18%) have neurodegenerative disorders**
- **50% in NHs**
- **Est. by 2030 number over 65 will increase to 1 in 5, or 65 million**
- **Projected dementia > 10 million**
- **(S. Branski, RN, MSN, CS)**

Alzheimer's Disease (DAT)

- **Chronic, progressive, degenerative disease**
- **Characterized by progressive deterioration in cognitive functioning**
- **Exists on a continuum from mild to severe—4 stages (p. 588)**

DAT continued

- **Exact etiology unknown**
- **Several theories & risk factors proposed**
- **Risk factors—age, family HX, Down's syndrome, H/O head trauma, presence of E4 variant of apolipoprotein E (APOE) on chromosome 19**
- **Late onset positively correlated w/occurrence of E4**

DAT continued

- **Structural Changes in the Brain seen in normal aging**
- **Greatly accelerated in DAT**
 - **Reduction in brain weight**
 - **Widening of cerebral sulci and fissures**
 - **Enlargement of cerebral ventricles**
 - **Narrowing of the gyri**

DAT continued

- **Microscopic changes**
 - **Neurofibrillary tangles**
 - **Senile plaques**
 - **Granulovascular degeneration**

DAT continued

- **Chemical Changes in the Brain**
 - **Cholinergic Hypothesis**
 - **Acetylcholine (Ach) reduced as much as 75%**
 - **Leads to dec. acetyltransferase in hippocampus**
 - **Dec. interferes w/cholinergic innervation to cerebral cortex**
 - **Results in problems w/cognition & memory**
 - **In addition to cholinergic transmission, NE, 5HT, and DA systems which innervate hippocampal & cortical areas are also severely affected**

Alzheimer's Assessment cont

- **Defensive Behaviors**
 - **Denial**
 - **Confabulation**
 - **Perseveration**
 - **Avoidance of questions**

Alzheimer's Disease cont.

- **Four defining characteristics—**
- **(p.457)**
 - **Aphasia**
 - **Apraxia**
 - **Memory Impairment**
 - **Disturbances in Executive Functioning**

Alzheimer's Assessment Cont.

- **More than 30% will present with**
 - **Depression**
 - **Hallucinations and delusions**
 - **Aggressive and irritable behavior**
 - **Paranoia**
 - **Wandering and insomnia**

Alzheimer's Interventions (NIC)

- **Tertiary level of prevention**
 - **Safety**
 - **Maintenance of optimal level of functioning**
 - **Simple Structured environment**
 - **Clear Communication—multiple channels**
 - **Family support**

Alzheimer's Medications

- **Tacrine (Cognex, THA)**
- **Donepezil (Aricept)**
- **Vitamin E**
- **Ibuprofen**
- **Estrogen**
- **Antipsychotics**

Pick's Disease

- **Rare progressive degenerative disorder (1%-5% of dementias)**
- **Onset after 40; less common after 60**
- **Similar to Alzheimer's**

Pick's disease cont.

- **Affects frontal & temporal lobes first**
- **Decreased ability to initiate, organize and follow through**
- **Earliest signs:**
 - **Personality changes**
 - **Decline in functioning @ home or work**
 - **Frequently 1st Dx'd as stress or depression**
 - **Later Dx'd Alzheimer's**

Tourette's Disorder

- **Neurological disease marked by motor and verbal tics**
 - Causes marked distress in social and occupational functioning
 - May appear as early as age two, but most commonly around age seven

Tourette's Assessment

- **Motor Tics**
 - Usually involve head
 - Eye blinking usually first symptom
 - Change in location, frequency and severity over time

Tourette's Assessment Cont.

- **Verbal Tics**
 - Words and Sounds
 - Coprolalia (uttering obscenities)

**Tourette's Assessment
Cont.**

- **Obsessions and Compulsions**
- **Hyperactivity**
- **Distractibility**
- **Impulsivity**
- **Low self-esteem**

Tourette's Interventions

- **Drug Therapy**
- **Psychotherapy**
- **Behavior Therapy**
- **Family Support**
