



CLDDV 168: Autism I

Week 3: **Prevalence, Conditions Associated with
Autistic Spectrum Disorders**

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From:

The Autistic Spectrum, by Lorna Wing, MD

Parts of the Brain Affected by Autism

Amygdala:
This is responsible for all emotional responses including aggressive behavior.

Cerebral Cortex:
A thin layer of gray matter on the surface of the cerebral hemispheres. Two thirds of this area is deep in the tissues and folds. This area of the brain is responsible for higher mental functions, general movement, perception and behavior reactions.

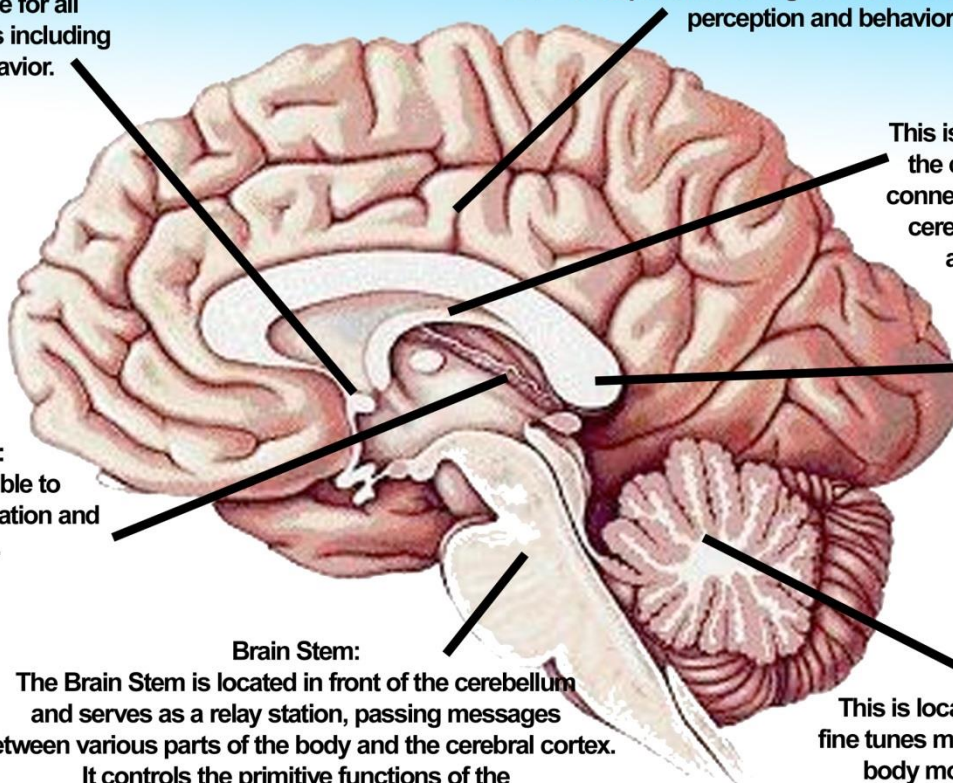
Basal Ganglia:
This is gray masses deep within the cerebral hemisphere that connects the cerebrum and the cerebellum. It helps regulate automatic movement.

Corpus Callosum:
This consists of closely packed bundles of fibers that connect the right and left hemispheres of the brain and allows them to communicate with one another.

Hippocampus:
This makes it possible to remember new information and recent events.

Brain Stem:
The Brain Stem is located in front of the cerebellum and serves as a relay station, passing messages between various parts of the body and the cerebral cortex. It controls the primitive functions of the body essential to survival including breathing and heart rate.

Cerebellum:
This is located at the back of the brain. It fine tunes motor activity, regulates balance, body movements, coordination and the muscles used for speaking

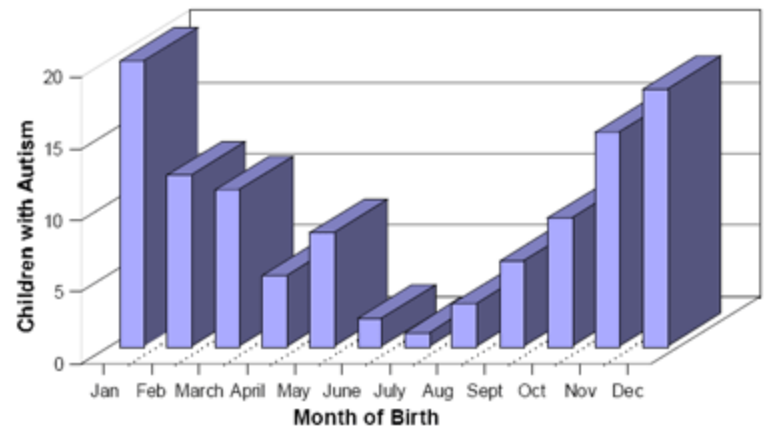


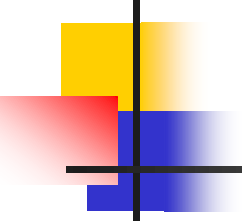
Are the Numbers Increasing?

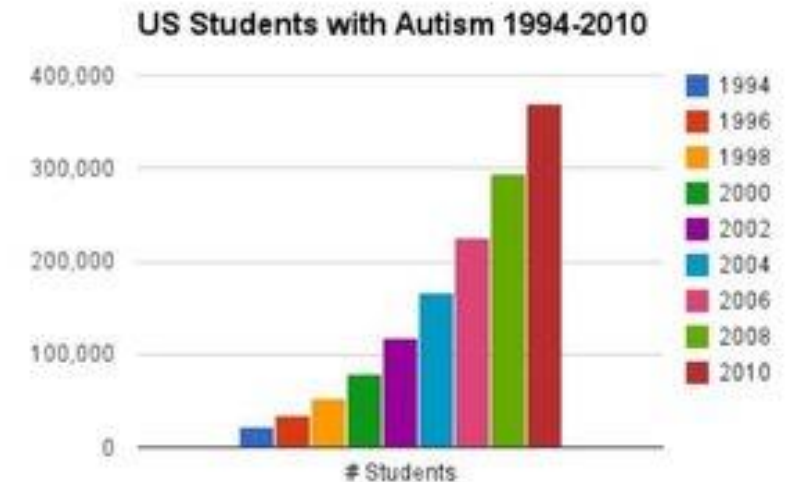
- Prevalence studies vary
- How to count children
 - Severe lack of affective contact
 - Insistence on elaborate repetitive routines
- 1970 4-5 per 10,000 (UK, Denmark)
- Recent, 40-50 per 10,000 (UK, Sweden)
- Three possible reasons
 - 1. Marked widening of the definition
 - 2. Steadily growing interest in autistic disorders, child is much more likely to be recognized
 - 3. May be a real increase



Figure 1: Correlational Study: Children With Autism and Month of Birth

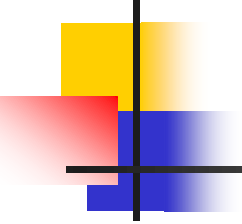


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- Where are the adults with autistic disorders?
 - If there is a rise, the reasons are unknown
 - Pollution, additives in diet, evils of the urban environment have no evidence to support those theories



Source: vacinfo.org
TheHealthyHomeEconomist.com

Age of Onset

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- Atypical autism is onset of behavioral pattern after one to two years of normal development
 - Sometimes onset follows a fever, encephalitis or some kind of trauma
 - Relies on parental memory

Number of Boys Compared with Girls

- Four times as many boys as girls
- Reasons unknown



Parents' Occupations

- Kanner found fathers with higher intelligence and educational level
- No longer assumed, other factors related to that phenomenon





Other Neurological Conditions

- ***(Diagnosis of all conditions depends on recognition of the physical signs and the history and observation of the behavior pattern)***
 - Learning difficulties
 - Epilepsy
 - Tuberosc sclerosis (genetic) abnormal tissue in brain, skin, organs
 - Untreated PKU (genetic, diet)
 - Viral infection in the mother during pregnancy, particularly rubella
 - Infantile spasms (rare, severe form of epilepsy occurring in first year of life)
 - Encephalitis from various kinds of viral infections, especially if it occurs in early years of life



Other Conditions

- Congenital conditions, some genetic others unknown cause, often have one or more features of behavior that occur in autistic disorders but not the whole picture
 - Fragile X
 - Williams Syndrome (also known as infantile hypercalcemia)
 - Repetitive speech and questioning
 - Naïve, inappropriate social approaches
 - Cornelia de Lange syndrome
 - Self-injury can be severe problem
 - Tourette syndrome
 - Grunting, twitching, obsessions, uttering obscenities, attention deficits, over-activity



Other Conditions (cont)

- Severe hearing impairments
 - Difficulty to understand and use spoken language, may have difficult behavior and behavior may have some features of behavior seen in children with autism
 - May need dual diagnosis, but make sure that children with autistic behavior are not also deaf



Other Conditions (cont)

- Severe visual impairments
 - Severe congenital visual impairments may appear normal at birth but begin to show autistic behavior in 2nd or 3rd year of life
 - Some with severe visual and hearing impairments have autistic behavior, especially those affected by maternal rubella
 - Behavior is likely associated with brain damage rather than sensory impairments alone
 - Some with congenital visual impairments have stereotyped movements



Other Conditions (cont)

- Developmental language disorders
 - **Receptive problems** have difficulty understanding words and so will have difficulty learning to speak, tend to ignore sounds and be socially withdrawn, but can gesture, eye point, use facial expression and mime to communicate and can learn formal sign language, comparatively rare (although difficulties in language comprehension are very common in autistic disorders)
 - **Expressive problems** understand but have difficulty producing words, can understand speech, usually sociable (though immature) and pretend play, expressive problems may be associated with poor motor coordination and can occur together with autistic disorders
 - **Articulation** can occur without receptive or expressive disorders
 - Some have **mixture** of all aspects of language disorder



Other Conditions (cont)

- Semantic-Pragmatic disorder
(semantics: meaning of words;
pragmatics: social use of language)
 - Syndrome only a few years old
 - Speech production is fluent and grammatically correct but serious deficit in understanding of speech
 - Lots of repetition and echolalia
 - “Active but odd group” (Brook and Bowler)

Other Conditions (cont)

- Disorders of attention, motor coordination, and perception
 - Associated with language disorders
 - Associated with hyperactivity
 - Associated with under-activity
 - Perceptual problems include muddling letters in words, letter and word reversals, insistence on following routines and resistance to change
 - Gillberg, Sweden, found combination of attention, motor coordination and perception (DAMP syndrome)





Other Conditions (cont)

- Elective mutism
- Psychiatric conditions
 - Diagnostic errors:
 - Mistaking an uncomplicated autistic disorder for a psychiatric illness (schizoid personality disorder)
 - Missing psychiatric illness complicating an autistic disorder
 - Diagnosing a psychiatric illness but failing to recognize the presence of an underlying autistic disorder



Other Conditions (cont)

- Effects of deprivation
 - Seriously deprived of stimulation