

An Introduction to Autism

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What is autism?



- Autism is a neurodevelopmental disorder of onset early in life characterized by problems in
 - Social interaction
 - Communication
 - Behavior (esp. unusual behaviors and restricted interest)
- Autism spectrum disorder (also called PDD)
 - Includes Asperger's disorder (social disability but good verbal skills) and PDD-NOS (atypical autism)

What causes autism?

- Strong evidence in favor of neurobiological causes
 - High rates of seizure disorder (epilepsy)
 - VERY strong genetic component
 - Autism tends to run in families
 - Higher rates in identical twins
 - Appears due to multiple genes interacting
 - Candidate genes have been identified

How is autism diagnosed?

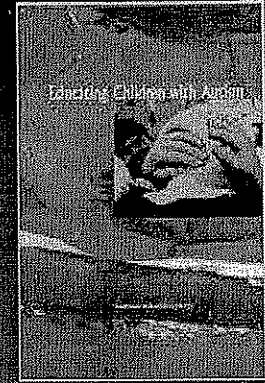
- Current guidelines to diagnosis:
 - DSM-IV
 - Autism is diagnosed based on history and assessment (behavior) – there are NOT yet simple blood tests
 - Need for better approaches to screening

How common is autism

- Autism (strictly defined) is seen in about 1 in 800 children
- PDD-NOS is MUCH more common (but poorly defined) 1 in 100 or so children
- Has the rate of autism increased?
 - Evidence for this is mixed – complications include much greater awareness, use of label to get services, and tendency to equate broader spectrum with autism more strictly defined

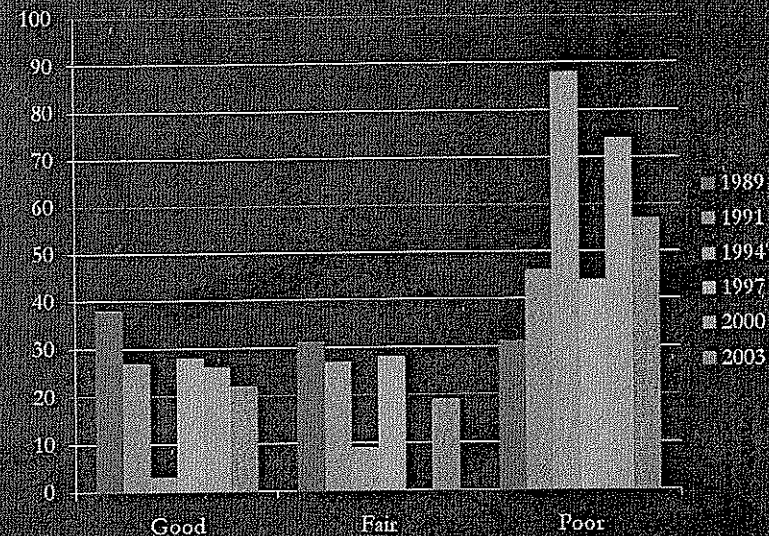
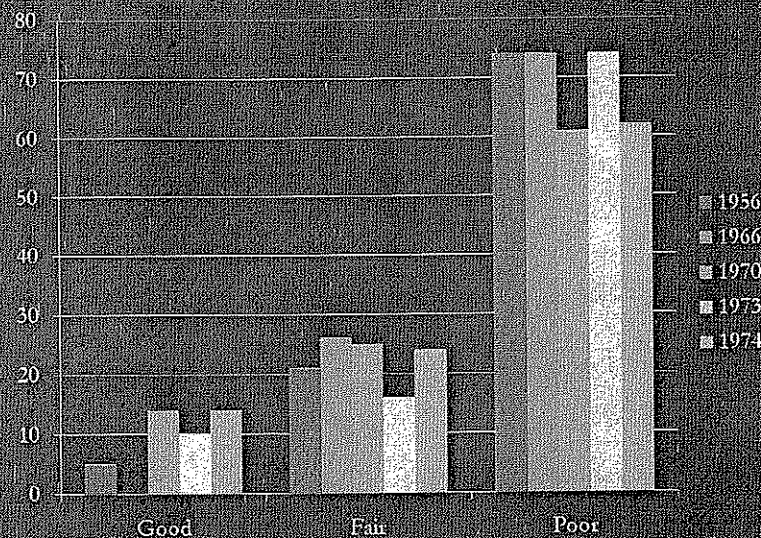
How is autism treated?

- Educational and Behavioral interventions
 - History of interventions in autism
 - A number of model programs around the US
 - NRC report summarizes good practices
 - Importance of early and sustained intervention
 - NOT every child gets better
 - Issues in matching children to treatments
 - Some role for drug therapy
 - Importance of evidence based treatments



What is the outcome in autism?

Outcome changing over time – importance of early diagnosis, Data from Howlin (2005) – Good (independent), Fair (semi-independent), and Poor (24/7 care)



Economic aspects of autism

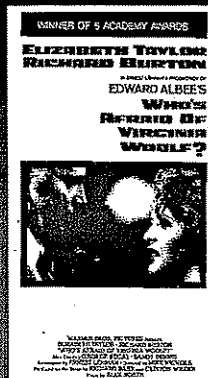
- In the UK (about 1/4th size of the US
 - Autism has been estimated to cost about
 - £ 2.7 billion for children each year
 - £ 25 billion for adults
 - (Source: Knapp_et al. 2009)
 - Preventing disability has major implications for both human and economic costs

Outcome in autism

- Issues in research
 - Howlin, 2005
 - Differences in method, changes in criteria
- In general trend has been towards greater improvement
 - Better adult outcome
 - More individuals with language
 - Higher levels of IQ
- Problems do remain
 - Difficulties understanding 'normal' 'cure'

Research on autism

- Increasingly has clarified some important brain mechanisms
- Clarifies some of the difficulties children with autism face in processing social situations
- Also may have important implications for screening



Viewer with Autism
Typically Developing Viewer



References (see www.autism.fm)

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