Epidemiology

- In the early 1970s several well-designed epidemiological studies reported that 1 in 2,500 children was autistic.
- Subsequent epidemiological studies from America, Canada, various European countries, Japan, and China have tracked the steady rise in the prevalence of ASD over at least the past 15 years.
- Recently, the Centers for Disease Control and Prevention (CDC) reported that 1 in 68 American children was estimated to have ASD.
  - ASD an estimate of 6.6 children per 1,000 is reasonable (Lewis)

- What could account for this remarkable increase?

- No one has been able to answer this satisfactorily.

- Understanding ASD as a social communication spectrum disorder could account for identifying milder cases, some so mild that one wonders if they deserve a formal diagnosis.

- The fact that this almost twentyfold increase in the past 30 years has been reported in first, second, and third world countries makes it hard to conceive of an environmental factor that would be common across the globe, although there are enough environmental and food chain toxins that could affect fetal and early child development in first world countries that one could raise numerous scenarios that account for the increase in ASD as well as other developmental disorders.

- Few of these scenarios have been adequately investigated.
  - Beginning in the late 1990s, vaccination was accused of causing ASD, but numerous studies have since disproven this hypothesis .
  - concluded that while documentation of the increase was important, its cause has remained elusive.

Study	Location	Diagnostic Criteria	Prevalence/10,000	Gender Ratio (M:F)
Lotter (1966)	UK	Rating scale	4.1	2.6
Bohman et al. (1983)	Sweden	Rutter criteria	5.6	1.6
Ritvo et al. (1989)	US	DSM-III	2.47	3.73
Gillberg et al. (1991)	Sweden	DSM-III-R	9.5	2.7
Baird et al. (2000)	UK	ICD-10	30.8	15.7
Chakrabarti and Fombonne (2005)	UK	ICD-10 DSM-IV	22.0	3.8
Fombonne et al. (2006)	Canada	DSM-IV	5.7	21.6
Parner et al. (2011)	Australia	DSM-IV/TR	4.4	39.3
Isakesn et al. (2011)	Norway	ICD-10 + ADI + ADOS	3.2	14
Kcocovscka et al. (2012)	Faroe Island	ICD-10 + DSM-IV	2	21
Parner et al. (2012)	Denmark	ICD-8, 9, 10	4.4	18.65

Data adapted from Hill AP, Zuckerman KE, Fombonne E: Epidemiology of autism spectrum disorders. In: Volkmar F, Rogers S, Paul R, Pelphery K (eds): *Handbook of Autism and Developmental Disorders*, Vol 1. 3rd ed. Hoboken, NJ, John Wiley & Sons, Inc., 63–66, 2005.

- According to one study in Iran about prevalence of different kind of pervasive developmental disorder, probable prevalence of autism disorder and Asperger disorder were reported 1.9 and 0.5 in 100 respectively.

- Another screening study in 1.3 million Iranian 5 years old children showed prevalence of typical autism 6.2 in 10000, that this is lower than western countries.

- Several issues complicate the interrelation of results obtained and comparisons across studies.
- These include:
  - differences in diagnosis approach (e.g., school vs. clinical data),
  - methods of ascertainment,
  - potential problems of under samplings relative to specific populations,
  - and so forth.

- The problem of diagnostic substitution is significant, for example,

  - in the United States in particular a single label is typically used for identifying students for service eligibility and, as awareness of autism has increased, schools and parents may be more likely to use this label for service eligibility thus inflating estimates compared if such data, rather than direct child assessment, are used to establish "caseness."

  - Conversely there are also data suggesting that in some populations, for example, with impoverished students in inner cities, underdiagnosis may be common.

- Overall, however, it appears that for ASD an estimate of 6.6 children per 1,000 is reasonable.

- What is often assumed to be a real secular increase over time most likely reflects:
  - changes in diagnostic concepts,
  - increased awareness of the range of ASD,
  - and availability of services.

- It does appear that boys are three to four times more likely to have ASD than girls, although females can have subtler social difficulties (16).

Thanks Very Much For Your Attention & patient

Presented By:

Dr. Noorazar S.Gh.

M.D.
Subspecialist of child & Adolescent Psychiatry

Associate professor
of Tabriz University of Medical Sciences