Girls on the Spectrum

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Demographics

- Current estimates have prevalence for ASDs at 1 in 59 in US or 1.7% (CDC, 2014)
  - Relatively consistent across US racial and ethnic groups
  - These results are based on previous diagnosis rates from health and education records
  - These are NOT completely standardized epidemiological results
  - Only a single age cohort (age 8 at the time of the study)
- This study found rates 1in 38 for boys (2.7%) and 1 in 152 for girls (0.7%)
  - 4 times more common in boys than girls
  - This has been more or less consistent across studies regardless of base rates
  - Important to remember that a range of neurodevelopmental conditions seem to be more common in males than females
- There may be some other important factors in this gender difference
  - Clients with lower IQ show more “even” gender distribution
  - Seems like we could be missing higher IQ girls on the spectrum

Genetic differences?

- Researchers have suggested that even with better diagnosis there are still likely to be higher rates in males than females due to genetic differences
  - Diagnosed girls have higher rates of genetic abnormalities than diagnosed boys
  - Fraternal twins of girls MORE likely to have ASD symptoms than fraternal twins of boys
  - Also, siblings of diagnosed girls have slightly higher rates of subclinical ASD symptoms than siblings of diagnosed boys
- These findings suggests that a girl’s total “load” of genetic risk factors may need to be greater before ASD phenotype is displayed in girls
  - Even carrying the same genetic load, girls are less likely to be symptomatic
  - People have dubbed this the “Female Protective Effect”

Sex differences in ASD presentation

- Diagnosed girls have lower IQ on average
  - Though this may be bias in diagnostic procedures rather than representing a real population difference
  - Within the average IQ range, ASD girls have better functional and social behavior
- Girls diagnosed later on average
- Girl may have fewer and more “typical” restricted/fixated interests
  - Dolls, horses, cats, books
- Girls less likely to show motor mannerisms than boys and show more subtle ones
- Girls may be less likely to show externalizing behaviors like hyperactivity and aggression
  - More likely to be anxious, withdrawn or depressed
- Girls may have stronger verbal ability at the same IQ level
- Diagnosed girls may have higher total numbers of symptoms than diagnosed boys

Sex differences in ASD presentation (cont)

- Also, symptom profile may change over time with older girls (>11 yo) showing more social impairment relative to boys than younger girls
  - Girls may be more likely to “mimic” typical social behavior and this can be effective until they are a little older and social expectations become more complex
  - Sometimes referred to as “social masking”
- Longitudinally girls seem to have increase in symptoms in adolescence while boys more consistent across time
  - Interestingly, Hans Asperger had discussed this early on when noting infrequency of females in the group of young children he studied

Extreme Male Brain Theory (Baron-Cohen)

- Extreme Male Brain Theory (Baron-Cohen)
  - Males tend toward “systemization” females toward empathizing
    - Systematizing is the desire to interact with and understand “rule based systems”
  - ASD is an extreme of this general tendency
  - Families of children with ASD have more relatives with careers in math, engineering and the sciences (more systematizing fields)
  - Some evidence that higher fetal testosterone levels related to higher ASD rates and higher rates of systematizing traits
  - Some studies find higher rates of androgens generally in children and adults with ASDs

Are diagnostic criteria for ASD sex-biased?

- The initial descriptions of ASD based on primarily male subject pools (for both Asperger and Kanner)
- When DSM criteria developed, based on similarly sex-skewed subject pools because this is how clinicians were identifying subjects
- We then choose research subjects based on these same criteria, reinforcing possible bias in the symptoms we recognize
- We also develop standardized tests (ADOS, ADI, etc) based on these diagnostic criteria, leading to further perpetuation of possible bias
- This is a fundamental problem with a diagnostic system based only on overt behavior and affects ALL DSM diagnoses
- Being able to accurately and consistently “measure” a disorder says nothing about the fundamental construct validity of that diagnosis
- If we discovered an underlying genetic cause for ASD would we then recognize a different symptom presentation in girls?

Sexuality and sexual diversity in ASD girls

- Children with ASD have higher rates of a range of “sexual diversity”
  - More same sex attraction
  - More frequent gender identities incongruent with biological sex
  - More homosexual attraction among women with ASD
  - Higher rates of asexuality
- Not clear that these differences hold for adults on the spectrum
  - It may that sexual identity changes for ASD persons after puberty MORE than for neurotypicals
- Many ASD girls sexually naive and oblivious to sexual cues and are prone to sexual exploitation in adolescence
  - Often trouble with indiscriminate physical contact when younger (poor boundaries)
  - Often upset about changes of puberty

Clinical impressions of girls with ASD

- Often more passive than disruptive in early childhood
- More likely to have clear fantasy play than boys
  - Also more likely to have imaginary friends
  - Reading can be a fantasy escape for girls with ASD
  - But sometimes rigid in fantasy play (will only be the family cat)
- More likely to have significant depression and anxiety in adolescence
  - Though all ASD kids at high risk
- More likely to have comorbid personality disorders when older
  - Often more emotionally labile in adolescence and beyond
- More often have severe sensory defensiveness
- Some with intense and precocious interest in math/science

Clinical impressions of girls with ASD (cont)

- Obsessive interests often more socially appropriate and less intense
  - Music, sports, celebrities, horses, etc
- One close friendship that is intense and jealously guarded
- Can often “fake it” socially until adolescence and may be “cared for” by other girls
- Being female and “on the spectrum” often very isolating in social skills groups, advocacy groups, and treatment settings generally
- Being female and ASD more out of line with gender roles than being male and ASD leading to more peer difficulties
- Often have more male friends as they age and see boys as more straightforward socially

Clinical impressions of girls with ASD

- Often dislike focus on appearance in adolescence and refuse makeup, and dress somewhat androgynously
- Often ambivalent about sexual/romantic relationships in adolescence
- Often seen as simply “immature” in adolescence relative to their peers
- Many girls misdiagnosed repeatedly and eventually find ASD diagnosis liberating
- Often referred for treatment due to mood disorder or oppositional behavior at home
- Often more explicitly interested in social relationships and aware of their own difficulties
- May demonstrate more behavior problems at home and “keep it together” at school

Common comorbidities

- Depression
  - High rates in all persons with ASD as they get older
  - Also bipolar
- Anxiety
  - Similar high rates generally
- ADHD
  - Especially inattentive (almost half of all persons with ASD)
- OCD spectrum
  - More common in women with ASD
- Personality disorders
  - Borderline, schizotypal
- Eating disorders
  - 5 times more common in women with ASD than men

Autistic Triad of Impairments

Social Interaction, Communication and Restricted/stereotyped patterns of behavior/interests

Social Interaction:

- Inability to respond to social cues
- Inappropriately intrusive in social situations
- Problems with turn taking
- Difficulty establishing and maintaining eye contact
- Trouble with back and forth social interaction

Communication:

- Delayed use of gestures
- Echoing what is said directly or later
- Oddities in volume, cadence and pitch (prosody)
- Scripted language
- Problems with reciprocal conversations

Restricted/stereotyped behavior/interest

Preoccupation with topics or intense interest in details

Insistence on routines, resisting change

Unusual response to sounds

Interest in parts of objects

Stereotyped movements (rocking, flapping, twirling)

Treatment

- It takes a Village-in order to effect change you must involve family, school staff and community.
- Comprehensive neuropsychological assessment- must include a school observation preferably during a group activity in the classroom as well as at recess. In addition include interviews with teachers that are with the student during more unstructured or interactive times of the school day.
- A referral to a speech therapist for a pragmatic language assessment to determine whether individual and/or group therapy would be recommended as well as specifying areas of strength and weakness (i.e. eye contact, ability to read nonverbal cues, theory of mind, volume of voice).
- A referral to an occupational therapist to assess and treat sensory and regulatory challenges.

Treatment

- Peer Education- designing curriculum that includes “invisible disabilities” such as autism. Promote inclusiveness, understanding and support. Establishing a peer mentor.
- Social skill support group-Carefully selected group of peers that can provide a safe, nurturing and fun dynamic to learn and practice social skills and establish friendships.
- IEP - critical step in qualifying for public education services (speech, OT, tutoring for writing and organizational skills, goals and objectives, accomodations).
- Family therapy-may include parent and sibling education about ASD, marital therapy, family communication practice, setting up consistent rules and expectations.
- Individual therapy-empowering her to understand herself better-strengths and challenges-to improve her confidence and skills in coping with social and emotional challenges.

References

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