ASD and ADHD
“predictably unpredictable”
“Nothing seems to work”

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Session Plan
- Practical, (evidence based)
- Personal perspectives/experiences
- Learning outcomes
  - To explore current practice in both the diagnosis and treatment of children with ASD/ADHD
  - To consider how to help these children
  - To recognise the gaps in our current knowledge of the comorbidity of ASD and ADHD

Common questions?
- How can you tell if a child has both conditions?
- My child does not fit any box.
- How is this different?
- Why won’t anything work?
- Is there anything that does help?

History
- “ASD” has evolved as a condition
- ADHD emerged from the diagnosis of minimal brain dysfunction/damage
- Both increasingly recognised in last 30 years
- ICD10 and DSMIV (diagnostic manuals)
- Mutually exclusive
  - Most clinicians ignored this
- DSM 5 (May 2013) accepted co-morbidity

Background
- ASD - 1% of children
- ADHD - estimated 3-5% children (15% New Jersey)
- Both probably umbrella terms which accounts for variable presentation and neuroscience findings
- Gillberg and Bilstedt (2000) recognised a number of co-morbidities in autism
- Simonoff (2008) ADHD second most common co-morbidity in ASD and exists with others

How commonly do they co-exist?
- Variable findings depending on research criteria
- ONS (2004) hyperactivity symptoms in 43% of children with Autism
- Rates vary between 14-78%
- Probably about 25-30% have diagnosable ADHD
- Common in across the range of cognitive ability
- Higher rates of ADHD in siblings of children with ASD (Reiterson 2007)
Neuroscience

- Neuroimaging: general conclusion is that the disorders involve the frontostriatal regions
- Inconsistent neuroimaging results in ASD and ADHD
- Functional imaging also inconsistent
- Little evidence on co-morbid group
- Neuropsychology: concentrate on executive function similarities/differences
  - Appear to show (in general) opposite profile
  - Sinzig (2008) variable profile in comorbid group
  - Suggested name of frontal lobe dysfunction

Genetics

- Multiple modes of inheritance in ASD and ADHD
- Small sample size in most studies
- Classical Mendelian (10-20% of cases)
- Familial clustering
  - 10-90% in monozygotic twins
  - 0-30% dizygotic twins
  - Increase risk with older sibling, risk increases with increased probands
  - Core features can vary immensely
- 200-1000 genes associated with susceptibility in ASD
- Up to 65% inheritability in ADHD

Genetics

- Similar gene regions identified for
  - ASD
  - ADHD
  - Bipolar Disorder
  - Schizophrenia
- Having a parent with Bipolar Disorder or Schizophrenia increases change of having a child X3

Diagnostic problems

- Problem 1: diagnosing ASD and ADHD as a cause of the presentation to services
- Problem 2: Diagnosing ADHD in children with diagnosed ASD
- Problem 3: Diagnosing ASD in children with diagnosed ADHD

Diagnosis Issues

- Children with ASD and ADHD consist of a heterogeneous group
- Do they sit on a continuum?
- No specific Diagnostic test
- Concern that the diagnosis of autism is often delayed with a diagnosis of ADHD made (Hertlely and Silkona 2009, Jensen et al 1997)

Defining and diagnosing

- Both ASD and ADHD separately can present with
  - Social difficulties
  - Attention problems
  - Facial recognition problems
  - Challenging behaviours
  - Learning problems
  - Motor deficits
- So a problem if assessing co-morbidity
Defining and Diagnosing

- Difficult in assessing symptoms
- Attention
  - Poor concentration levels
  - Poor understanding of the task
  - Not responding to social cues
  - Sensory processing problems
  - Too many distractions
  - Poor motivation
- Hyperactivity
- Over activity
- Sensory processing problems
- Concentration problems
- Anxiety etc.

Assessment

- Various scales have been developed to assess ADHD and ASD together—see reviews
- Commonly used scales such as Connors Rating Scale used in some studies
- Difficulties in being specific to ASD
- Suggested practice
  - Multiple informants
  - Multiple settings
  - Empirical measurements
  - Observation across settings
  - Expertise is essential

What I have seen

- Possible features (anecdotal)
  - Easily overstimulated/provokable
  - Emotionally available (more)
  - Difficulty sleeping
  - Difficulties in adjusting difficulty readjusting
  - Over activity/inquisitive
  - Apparent more sociable “nonaggressive”
- Wing and Gould “active but odd”
- Aggressive boys with poor social skills
- Immature boys with hyperactivity
- ASD with poor attention
- SAD

Possible way of thinking about these children

- The individual diagnoses of ASD and ADHD of the feel a little inadequate
- May not really describe the child
- They tend to not tick the boxes
- The usual strategies are not that effective or they stop working quickly
- They can be exhausting/no stop button
- Can present very differently in different places
- ADHD—attention on/off or affected all the time

Considerations/thoughts

- ASD and ADHD lie on a spectrum
- The conditions interact to modify each other
- ASD withdrawal
- ADHD expression
- Important when thinking about treatment
- Often describe the situation as a difficulty with regulating their interaction with the world around them
  - Easily overstimulated
  - Reactive to things around them
  - But can be contained in some situations

Regulation problem?

- Regulation (internal)
  - Attention
  - Concentration—think about screens
  - Sensory perceptions
  - Emotional responses
  - Social interactions
  - Impulse control
  - Anxiety
- In many ways the executive functions
- Management is linked to this concept
Observations

- Children may have presented with extreme behaviour pre-school age
- May have concerns that the child has an attachment disorder due to unusual presentation
- Working with the ADHD "shield"
- The changing presentation particularly during puberty
  - Early puberty: period of severe worsening of behaviour
  - Late puberty: dramatic change in behaviour and often over activity
- Possible increase in ASD difficulties in puberty

Genuine problem

- Diagnosis of ASD and also ASD need to show problems in different environments
- However for these children and when combined
  - May be different in different settings
  - Generally better at school
  - Structured
  - Rules are consistent
  - Predictable
  - Peer effects
  - Hardware vs software

Helping

- What have people tried?
- Did it work?
- What would you suggest for others?
- What does the literature say?

Behavioural interventions

- No clear behavioural package exists for children with ASD and ADHD
- ADHD
  - MTA study (1999): behavioural treatments better than no intervention, better added to medication
  - European ADHD guidelines group (2013) less supportive of behavioural Tx
- ASD
  - Treatment better as early intervention (Howlin 2003) depend on problem
  - Interventions to reduce anxiety help
  - No set treatment

Behavioural suggestions

- Understanding the child
- Behaviour in these children can be very provocative
- Their behaviour can be easy to provoke
- Keep instructions simple/time to process
- Keep CALM (very difficult as above)
- Try to pre-empt anxiety (difficult to see)
- Pre-empt executive function problems
- Behavioural strategies may fail sooner than with children with ASD only
- May need to be creative

Provoking Behaviour

- This appears to be the most difficult aspect
- Can be to anyone often siblings
  - Teasing, "joking", irritating noises, swearing, tapping chairs
  - Tend to happen when they are bored
  - Difficulty occupying themselves
  - Something to do, overscheduled
  - Instinctively know how to irritate
  - Will seek out reaction from multiple sources
  - Reaction of the other dictates future response
  - Need to ignore/redirect
  - They appear to be seeking emotional response
  - Hard when tired/stressed/male
Other Considerations

- Essential to sort out sleep
  - ASD 40% ADHD Significant numbers
  - Behavioural and pharmacological
- Occupying their time
  - Problems with executive functioning
  - Following parents to the toilet
  - Coping with holidays
  - Use of special interest
- School and carers working together
  - Home school diary
  - Recognition of effect on each other

Managing meltdown

- Anxiety as anger
- Frustration and no stop button
- Overstimulated
- Prevention and early recognition essential but sometimes tricky
  - Once in rage just have to keep safe
  - Easily re-triggered
  - Management of anger around the child

Sensory Processing problems

- Little research in ASD+ADHD
- Recognised in DSM 5
- May improve over time on ASD
- ADHD research is less clear
- This is probably under recognised as an effect on the unregulated child
- Question
  - Does treating the ADHD improve sensory processing problems by reducing distractibility?

Medication

- Focus on treating ADHD symptoms
- But may impact on socio-communication and self-regulation (Abram et al 2009)
- Can be effective as ADHD only (Santosh 2006)
- Many studies on various treatments over the years - review by Aman (2008)
  - Stimulants - methylphenidate
  - Atosiban
  - Alpha-2 adrenergic agents
  - Antipsychotics
  - Less often used treatments

Medication Issues

- Response can be a bit unpredictable
- Some children appear more autistic and some get less autistic
- Parents and children have higher drop-out rates due to S.E.
  - Personal observations
  - Tend to treat sleep first - Central
  - Follow NICE guideline principles for ADHD
  - Discuss tx options with the families to find the best "fit"
  - Start low and go slow
  - Try different treatments to get optimal results
  - Monitor for S.E. carefully
  - Increased use of unlicensed medication
School Issues

- Schools have had significant training on ASD in many cases but these children may not be responding to standard treatments
- May be a need to manage their anxiety or negative emotions about the child
- They may be wanting additional diagnosis of Pathological Demand Avoidance (Christie, AET)
- Need to optimise medication regime
- Explain
  - Overstimulation
  - Sensory processing problems
  - Need to change teaching approach regularly

ASD/ADHD and Girls

- Much more limited literature
- Under-recognised ASD, ADHD and ASD/ADHD
- Can be similar presentation to boys or can be much more passive
- Less hyperactivity more attention/distraction problems-less disruptive
  - “Day dreaming”
  - Poor concentration
  - Vulnerability-easily led, affected by peers

ASD/ADHD and anxiety

- Anxiety much more common in both conditions
- Anxiety vs Anxiety Disorder
- ASD- anxiety virtually in all
  - ADHD 40% often quoted
  - ASD/ADHD unclear but high
- Causation remains unclear

Anxiety

- Physical symptoms
- Cognitive symptoms
- Behavioural element
  - Problems with generalisation
  - Problems with reassurance

Helping Anxiety

- No clear way of managing anxiety in ASD/ADHD
- ASD approach
  - Routines/change
  - Structure
  - Identify environmental/sensory effects
- ADHD approach
  - Consider tasks in small chunks “15 min rule”
  - Planning in multiple ways
  - Avoid last minuteitis
  - Avoid taking on too much/ difficulty in self awareness
  - Working with any medication

Questions/Comments

- Is there something else that we need to Cover?
- This is a complex area which is constantly evolving and at present there is only limited evidence on what to do in practice.
Useful Review Articles

- Autism and ADHD: How far have we come in the comorbidity debate?
  - Gargaro et al Neuroscience and Biobehavioral Reviews (2011)
- Attention-Deficit/Hyperactivity Disorder in the context of Autism Spectrum Disorders
- The relationship between Autism Spectrum Disorders and Attention-Deficit/Hyperactivity Disorder: an Overview
  - Matson et al Research in Developmental Disorders (2013)
- US papers and pre DSM5