Autism Spectrum Disorders

Aka Pervasive Developmental Disorders

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Pervasive Developmental Disorders
Autism Spectrum Disorders DSM5

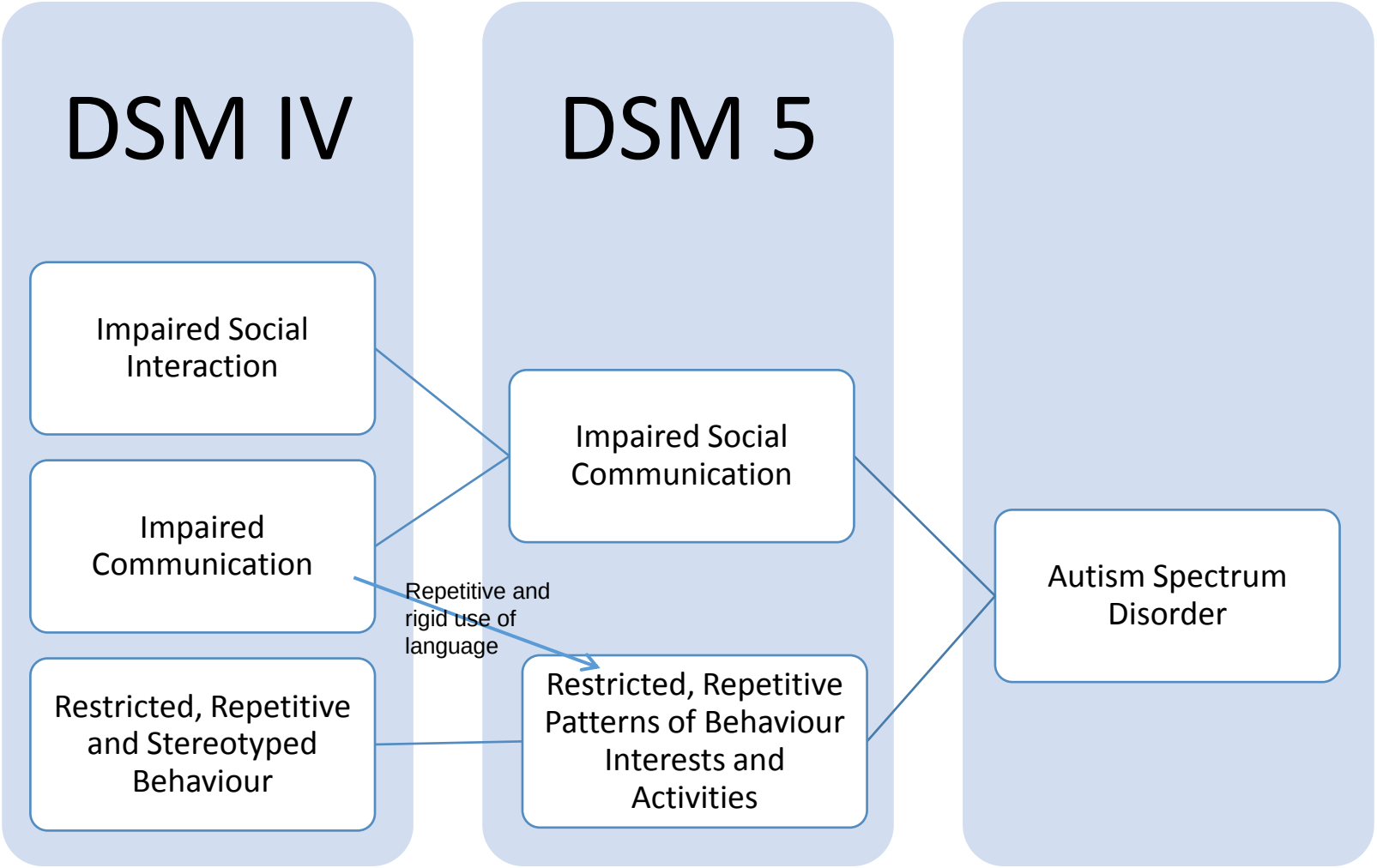
- Autistic Disorder (Autism)
- Asperger Syndrome
- Pervasive Developmental Disorder-Not Otherwise Specified

- Autism Spectrum Disorder

- Rett Syndrome
- Childhood Disintegrative Disorder

- Medical Classification

Change from DSM-IV to DSM 5



Diagnostic Process

- Multi-disciplinary team together or in sequence
  - Paediatrician: Diagnosis; symptoms on history, medical conditions, family situation, care plan
  - Speech Pathologist: functional and formal language skills -pragmatics
  - Psychologist: developmental level/IQ and style of thinking and interaction, adaptive skills
  - Occupational therapist: play skills; sensory profile

Diagnostic Process

- Must gather information from multiple contexts – home,childcare/kindergarten/school and assessment venue
- Some agencies require cognitive and language assessment before proceeding: some children with ASD “look immature” with normal nonverbal IQ
- “Take the parents with you” – diagnosis is useful to the child if parents feel it is appropriate.
- Feedback includes information and proposed plan to parents

Tests

- No single test
- ADOS – Autism Diagnostic Observation Schedule – child play and social interaction
- ADI-R – Autism Diagnostic Interview Revised- structured parent interview
- CARS – Childhood Autism Rating Scale- used to gauge severity prior to intervention, very subjective

Criteria for Autistic Disorder -DSM-IV

Qualitative impairment of social interaction(at least 2)

- impairment in non-verbal behaviour such as eye contact
- failure to develop appropriate peer relationships
- lack of spontaneous seeking to share enjoyment and interests
- lack of social or emotional reciprocity

Criteria for Autistic Disorder -DSM-IV

Qualitative impairment of Communication (at least 1)

- delay in spoken language without non-verbal communication
- inability to sustain conversation
- lack of social imitative or make-believe play
- stereotyped, repetitive or idiosyncratic language

Criteria for Autistic Disorder -DSM-IV

Restricted and Repetitive Patterns of Behaviour, Interests and Activities (at least 1)

- preoccupations with patterns of interest of abnormal intensity or focus
- inflexible adherence to non-functional routines
- stereotyped and repetitive motor mannerisms
- persistent pre-occupation with parts of objects

Asperger Syndrome

- Same criteria for social impairment and for repetitive and behaviour and restricted interests
- No clinically significant language delay defined as sentences + verb by 3 years (disputed)
- No cognitive delay
- Normal self-help skills and curiosity
- Often present late
- Difference between AS and high functioning autism debated

Pervasive Developmental Disorder-Not Otherwise Specified

- poorly defined group that do not meet criteria for autism or Asperger syndrome but have symptoms and thinking style of children with PDD
- alternative often given is Autism Spectrum Disorder

DSM5 Criteria – Social Communication

Deficits in social communication and social interaction across contexts not accounted for by developmental delays. All 3 of

1. deficits in social reciprocity-
2. deficits in nonverbal communication-
3. Deficits in developing, maintaining, and understanding relationships

1. deficits in social reciprocity-

- from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions

2. deficits in nonverbal communication used for social interaction-

- from poorly integrated- verbal and nonverbal communication, to abnormalities in eye contact and body-language, or deficits in understanding and use of nonverbal communication, to total lack of facial expression or gestures.

3. Deficits in developing, maintaining, and understanding relationships

- difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.

DSM5 Criteria- Restricted, Repetitive Patterns of Behaviour Interests and Activities

At least 2 of

- 1. Stereotyped or repetitive speech, motor movements or use of objects
  - such as simple motor stereotypies, echolalia, repetitive use of objects, or idiosyncratic phrases
- 2. Excessive adherence to routines, rituals and resistance to change
  - such as motoric rituals, insistence on same route or food, repetitive questioning or extreme distress at small changes)
- 3.Highly restricted, fixated interests that are abnormal in intensity or focus.
  - such as strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests
- 4.Hypo- or Hyper-reactivity to sensory aspects of environment
  - such as apparent indifference to pain/heat/cold, adverse response to specific sounds or textures, excessive smelling or touching of objects, fascination with lights or spinning objects

1. Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypies, lining up toys or flipping objects, echolalia, idiosyncratic phrases).

2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns or verbal nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat food every day).

3. Highly restricted, fixated interests that are abnormal in intensity or focus (e.g, strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interest).

4. Hyper- or hyporeactivity to sensory input or unusual interests in sensory aspects of the environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement).

Perceptual Abnormalities

- Eating disorders
  - Hypersensitivity to flavours and textures
- Sound sensitivity
  - Generally for machine noise, human voices
- Visual ‘obsessions’
  - Staring into space or at water
  - Peripheral vision
- Tactile defensiveness
  - Haircuts and clothing textures
- Hyposensitivity to pain

DSM 5 criteria – cont.

- Symptoms must be present in early childhood but may not become fully manifest until social demands exceed capacities
- Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning
- Not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay. ID and ASD frequently co-occur; to make comorbid diagnoses of ASD and ID, social communication should be below that expected for general developmental level.

Early Indicators of ASD

- Lack of social smile and responsive facial expression
- Limited social language/babble
- Preference for solitude: lack of eye contact and social interest- showing
- Lack of pointing to items of interest (not needs)
- Sensory hypersensitivity/hyposensitivity

- Potential screening with M-CHAT

Other Key/Common Features

- Overfocusing / Singlemindedness
- Difficulties retrieving relevant information in spite of good memory for detail
- Poor understanding of underlying concepts
- Motor co-ordination and planning problems
- High anxiety levels – especially in novel situations
- Difficulties with emotional regulation – especially in teens and with change
- Regression at 18months – 2 years:20-25%

Savant skills

- Present in approx 10%
- Hyperlexia
- Calendar calculation
- Perspective drawing
- Numerical calculation

Differential Diagnosis

- Language disorders: social functioning and understanding of others is preserved
- Intellectual disability, look for level of appropriate social communication (verbal and nonverbal)
- Selective mutism and social avoidance disorders: lack repetitive behaviours and rigid thinking
- Reactive attachment disorder: improves with change in environment; abuse must be severe
- Tourette's Syndrome
- Attention Deficit Hyperactivity Disorder may coexist

Associated Conditions

- Intellectual Disability
  - Estimates vary from 70 % to 30%
- ADHD, Anxiety Disorders, Mood Disorders – 70%
- Macrocephaly 20%
- Learning difficulties (independent of ID)- common
- Hearing &/or Visual Impairment
- Epilepsy 17%

3 Proposed mechanisms

- Systematizing end of Systematizing/empathizing spectrum (previously known as ↓ Theory of Mind)
- Central Coherence (ability to extract relevant information) is weak
- Executive functions, including planning and impulse control, are deficient.

NO ONE theory adequately explains all features

Pathology

- Disorder of neuronal connectivity
  - Spread of excitation between cortical minicolumns
- Synaptic Dysfunction likely –
    - MECP2 (Retts Syndrome) and Fragile X have autistic features
    - Alteration of genes for Shank protein and Neurolignin in CNV studies
- Accelerated head growth in under 2s correlates with regression/ symptom development- in 30% children
- FMRI implicates mirror neuron deficit and facial recognition areas.

Causes - Genetics

- Accepted prevalence of about 1:88 (CDC surveillance 2008) in wider community
- Most are genetic:60- 90% identical twin concordance rates
- Known genetic syndromes present in minority of children ~10%
  - Fragile X
  - Tuberose Sclerosis
  - duplications 15q1-q13; 16p11
- Intrauterine causes: esp. Valproate, Rubella,

Genetics- Risks

- Siblings of children with autism have a 22 x risk of autism, 35X risk for all ASD (Lauritsen,2005)
- If family have 2 children with autism, 50% chance of another child with ASD
- Two modes of inheritance: de novo mutations more important in singleton families than multiplex families.

Treatment

- Evidence supports educational interventions
  - Most agencies use an eclectic approach
  - Applied Behaviour Analysis: discrete trial training
  - Treatments centre-based or involve parents e.g. TEEACH
  - Hanan- not specific for ASD, trains parents to communicate with their child
- Uncertainty about intensity needed, age of onset. Probably over 20 hours a week.

Education and Early Intervention

- Focus on developing joint attention, communication and social skill development
- Generalist and Specialist types
- Special education settings
  - autism specific special schools
  - special schools
  - mainstream schools with integration aide

General Support Measures

- Ongoing parent support work, deal with parental depression and anxiety
- Genetic counselling
- Individual cognitive behaviour therapy sometimes effective for children with higher verbal skills
- Respite- Community Support
- Family support groups
- Financial assistance
- Special support at times of transition

Long Term Needs

- Specific training in social skills: supportive therapy in social development
  - Social Stories™ and Comic Strip Conversations™ by Carol Gray
  - Social skills groups – popular but no EBM
- Specific psychological support in sexual development
- Specialized employment /training supports
- Treatment of co-morbid conditions such as anxiety disorders
- Usually need a treatment team – Child Psychiatrist, Psychologist, Speech Pathologist, Occupational Therapist

Long term needs of Families

- Carer support – financial, social, information
- Siblings –precocious responsibility, neglect, embarassment
- Times of transition worse
- ‘Chronic’ grief

Dealing with Challenging Behaviour

- Understand reasons for behaviour – sensory overload, communication overload, longstanding stress due to mismatch with environment
- Avoid trigger factors
- Do not talk to child during tantrum; keep them safe
- Natural consequences sometimes helpful; often need stronger motivators.

Environmental ‘Treatment’

- Reduce language environment to the child’s comfort level
- Add in visual communication
- Reduce stimuli to which the child is hypersensitive
- Change other’s expectations of child and understanding of motives e.g “not naughty”

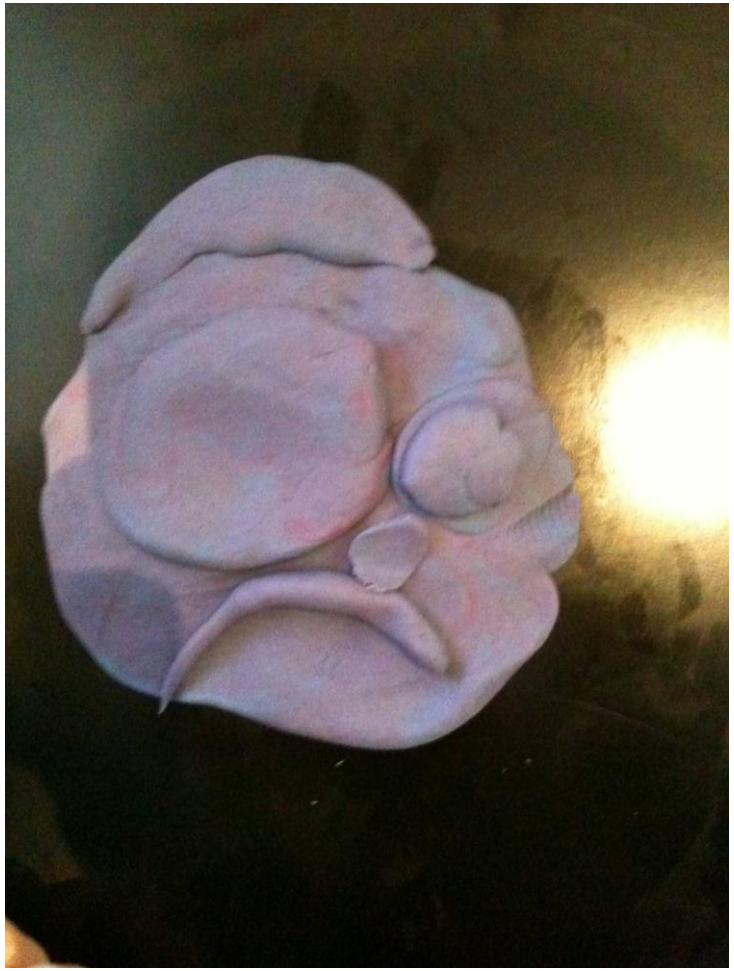
Drug Therapy

- NO TREATMENT FOR CORE SYMPTOMS- use Mx for comorbid symptoms such as aggression, mood swings, self-injury or for comorbid conditions
- 'Treat' environment first
- Consider Cognitive Behaviour Therapy
- Use multidisciplinary approaches
- Use lowest possible doses

Drug Therapy

- **Risperidone** EBM for aggression or mood swings - side effects still important, PBS listed for ASD+challenging behaviour
- **SSRI**s possibly useful for anxiety, depressive and certain rigid thinking patterns
  - Restlessness, agitation and insomnia may limit use
- **Stimulants** useful where hyperactivity and inattention is disabling

Cognitive Behaviour Therapy



- Can be used to educate children on their own feelings & responses
- Develop system of responses that is more adaptive
- Heavily visual and tactile approaches.

Helpful Resources

- AMAZE, formerly Autism Victoria www.**amaze**.org.au/

- Raising children with autism

http://raisingchildren.net.au/children_with_autism/children_with_autism_landing.html

- Carol Gray's website www.thegraycenter.org

- Tony Attwood's website www.tonyattwood.com.auwww.signposts.net.au