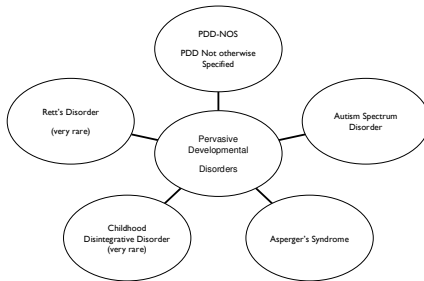


## Assessing Children who have Autism Spectrum Disorder (ASD): Rating Scales and the Bigger Picture

Salomé Geertsema 2010

## AUTISM: WHAT WE KNOW

- We agree on the use of the *diagnostic and statistical manual of mental disorders (DSM-IV, 1994)* of the American Psychiatric Association and the International Statistical Classification of Diseases and Related Health Problems (ICD-10: WHO, 1992) – based on *triad of impairments* as formulated by Lorna Wing (1992). Some authors refer to PDD and ASD as the same terminology, which would then classify the rest (eg PDD-NOS, Retts etc) under ASD.



## Summary of PDD symptoms (Paul, 2007):

- **ASD:**
- **QUALITATIVE IMPAIRMENT IN SOCIAL INTERACTION:** at least two of the following:
  - Markedly impaired nonverbal behaviours such as gaze, postures and gestures to regulate communication
  - Lack of social or emotional reciprocity
  - Failure to engage others in enjoyments and interests
  - Failure to develop appropriate peer relationships
  - Lack of social or emotional reciprocity
- **QUALITATIVE IMPAIRMENT IN COMMUNICATION** (at least one of the following):
  - Delay or absence of spoken Language not accompanied by an attempt to compensate with other forms of communication
  - Marked impairment in the ability to initiate and sustain conversation when speech is present
  - Stereotyped and repetitive use of language or idiosyncratic language.
  - Lack of varied and appropriate imitative or pretend play

## Summary of PDD symptoms (Paul, 2007):CONT:

- **RESTRICTED PATTERNS OF BEHAVIOUR, INTEREST AND ACTIVITIES** (at least one of the following☺)
- Insistence on sameness, inflexible adherence to non-functional routines or rituals.
- Persistent pre-occupations, especially with parts of objects, such as wheels of toy or car.
- Stereotyped or repetitive motor mannerisms, such as rocking or hand-flapping.
- Pre-occupation with stereotyped or ritual patterns of interest.

## PERCEPTUAL DIFFICULTIES IN AUTISM SPECTRUM DISORDERS

### • HYPERSENSITIVITY:

- **Hypervision** means that one's vision is too acute.
- **Hyperhearing:** generally light sleepers, frightened by sudden, unpredicted sounds. Sometimes hyperauditory children make repetitive noises to block out other disturbing sounds.
- **Olfactory hypersensitivity:** smell-sensitivities.
- **Hypertactile:** children over-sensitive eg when somebody touches them. Overreact to heat/cold; avoid wearing shoes; avoid getting messy or dislike certain foods/textures.
- **Vestibular hypersensitivity:** difficulty changing directions, walking/crawling on uneven or unstable surfaces. Feel disorientated after spinning, jumping or running, afraid and anxious about having their feet leaving the ground.
- **Proprioceptive hypersensitivity:** hold their bodies in odd positions, have difficulty manipulating small objects, sometimes don't feel their bodies at all.

- NB: Each individual with autism is unique in his/her sensory profile.

## HYPOSENSITIVITY:

- People with hyposensitivity do not really see, hear or feel anything. To stimulate their senses, they may wave their hands around, rock forth and back or make strange noises.
- **Hypovision:** experience trouble figuring out where objects are (they just see outlines). These children are attracted to lights. They are fascinated with reflections and brightly coloured objects. Often they sit for hours moving fingers or objects in front of their eyes.
- **Hypohearing:** may "seek" out sounds, they like the noisiest places in the house, or create noises themselves.
- **Hypotaste/hyposmell:** chew and smell everything. Sniff, lick objects.
- **Hypotactile:** seem not to feel pain or changes in temperature. Prone to self-injuries. Like pressure, tight clothes.
- **Vestibular hyposensitivity:** enjoys and seeks all sorts of movement.
- **Proprioceptive hyposensitivity:** difficulty knowing where their bodies are in space, often unaware of their own body sensations, eg don't feel hungry. Appears floppy, leans against people and objects.

## SENSORY OVERLOAD:

- Overload happens when individuals with autism takes in more than they can keep up with.
- Causes can be:
  - Inability to filter out irrelevant, excessive information
  - Hypersensitivity
  - Delayed processing
  - A distorted or fragmented perception
- Subsequent routes they can/or are forced to take:
- Systems shut-down: give them a break, let them recover
- Hypersensitivity and/or fragmentation: if they continue to try to process, although they cannot keep up. This brings about anxiety, confusion, frustration and stress **LEADING TO TANTRUMS, DIFFICULT BEHAVIOUR.**
- **Again:** threshold for processing information before overload differs amongst individuals with autism.

## INTELLECT AND THE USE OF IQ TESTS IN PERSONS WITH AUTISM

- *What is intelligence?*
- Def: NO single accepted definition. So many times intelligence is **UNSATISFACTORILY** defined as that quantity that the intelligence tests measure.

## What do we measure with IQ tests?

- About 70-75% of individuals with autism are considered to be intellectually impaired, although there are discrepancies between verbal and non-.
- IF WE ASSUME THAT AUTISTIC PEOPLE LIVE IN A *DIFFERENT PERCEPTUAL WORLD* FROM NON-AUTISTICS, AND DEVELOP DIFFERENT COGNITIVE MECHANISMS AND STYLES, THEN WHAT DO WE REALLY MEASURE WITH THE STANDARD IQ TESTS THAT DO NOT TAKE INTO ACCOUNT ALL THESE DIFFERENCES?

• Children with autism's abilities, while maybe "invisible", may be so unusual that no existing test can measure them.

• What we therefore really measure with IQ tests to of autistic people is: how well this person is functioning/ or even communicate his functioning, in a different perceptual/cognitive/linguistic/social world by using any perceptual/cognitive/language systems to him, but not identified by the test...

• Not leaving out the possibility that people with ASD may also have cognitive impairment, but perhaps arguing the case of overdiagnosis of low IQ.

## WHAT LANGUAGE ARE THEY SPEAKING?

- Autistic children, like non-autistic children, learn through interactions with the world, but the interaction is **qualitatively** different.
- Contrary to a recent stereotype, not all autistic people think pictures (especially those with visual perceptual problems), rather:
- *Non-verbal, sensory-based "languages", perceptually based rather than meaning-based development inevitably leads to lack of understanding of socially accepted categorisations (Powell, 2000).*

- *Tactile language*: recognises things by touching them etc
- *Auditory language*: remember objects and events by “sound pictures”
- *Smell language*: objects and people are identified by smell
- *Taste language*: lick objects and people
- *Kinaesthetic language*: learn through physical movements of their bodies
- *Visual language*: visual images

- Each child may have several “languages”, and given their specific
- perceptual problems, one or several systems may become inconsistent and/or meaningless.

### **COMMUNICATION/LANGUAGE ASSESSMENT STRATEGIES: COMMUNICATION PROFILE**

- “No child is untestable – if you use a variety of clinical tools, it is possible to get at least some useful assessment information about every child, regardless of how hard he or she may be to assess.” (Paul, 2007).

Early identification and intervention very important, thus the use of early screening methods, currently rapidly in development, very useful. Dynamic assessment obviously necessary.

- Like many other developmental disabilities ASD – which involves more than language disorders alone – obviously require a multidisciplinary team for its identification.
- Ultimate goal of the assessment is to determine the needs of the autistic person, and develop communication systems suitable for this particular person.
- Checklists such as the Gilliams Autism Rating Scale (2) (GARS-2) or the Checklist for Autism in Toddlers (CHAT) or the M-CHAT (modified version), Autism Diagnostic Interview Revised (ADI-R) and Autism Diagnostic Observation Schedule- Generic (ADOS- G) can be used and are known to have high reliability and validity as diagnostic tools, and aided by general areas of assessment.

### **AREAS OF ASSESSMENT**

- **SENSORY COMPONENTS:**
  - Sensory perceptual assessment is vital in any communication profile in order to:
    - adjust environment to needs of individual/protect person from painful stimuli and/or reduce confusion caused by possible distortions
    - identify optimum rate of incoming information the person can cope with
    - identify preferred communication channel used by the person
    - identify interaction style to be used with this person

### **AREAS OF ASSESSMENT**

- **ATYPICAL COMMUNICATION BEHAVIOURS**
  - Identify and analyse communicative functions of so-called aberrant, bizarre and socially unacceptable behaviours.
  - Communication attempts are often idiosyncratic
  - Challenging behaviours can be meaningful and often serve as (unconventional) means of communication
  - Let us not forget our ways may equally look idiosyncratic to ASD people

## AREAS OF ASSESSMENT

- **MUTENESS:**
- Some individuals' lack of speech may be related to issues other than social-cognitive abilities (Prizant, 1996).
- Speech motor impairments can be a significant factor inhibiting speech development in some ASD:
  - Some are able to acquire ability to communicate via AAC
  - Some exhibit oral motor problems such as difficulty in coordinating movement of lips, tongue etc. Thus symptoms consistent with apraxia of speech.
- Clinical observation should therefore include the following areas where possible:
  - non-speech motor functions
  - speech motor functions
  - articulation and phonological performance
  - language performance
  - other eg ability to sustain and shift attention, reaction to speech, distractibility (Crary, 1993).
- Where possible audiometric assessment, as well as auditory neuropathy assessment

## AREAS OF ASSESSMENT

- **ABILITY TO USE NON-VERBAL COMMUNICATION STRATEGIES**
- *Necessary to find out whether person can understand and use conventional non-verbal communication (gestures, body language, facial expressions, eye contact) and to identify person's strategies, means and functions of non-verbal "arsenal" at their disposal eg*
- Primitive contact gestures
- Referential gestures (pointing, showing)
- Mime

## Areas of assessment

- **ATYPICAL USE OF VERBAL LANGUAGE**
- **Necessary to analyse the following:**
  - individual vocabulary that the person uses eg "dog"= I want to go for a walk
  - Non-communicative echolalia: used as sensory toy? If so, either give substitution or accept
  - communicative echolalia: used because person does not understand what was asked? If so, decrease confusion, overstimulation, anxiety and stress. Use person's language to translate what has been said.
  - Used to win time? More time for processing.
  - Used as request? Move to mitigated echolalia i.e. teach person to make changes in sentence structure.

## AREAS OF ASSESSMENT

- **FUNCTIONAL USE OF VERBAL LANGUAGE:**
- **Assess ability to use and understand symbols in both verbal and non-verbal communication eg:**
  - Do words have referential meaning? Do they refer only to specific objects, situations or events, and only those objects or events?
  - Does person use words he knows to initiate conversation, or just to respond to it?

## AREAS OF ASSESSMENT

- **COMMUNICATIVE FUNCTIONS EXPRESSED**
- Does person exhibit communicative intent? i.e. does he anticipate an outcome? Eg. Instrumental (request, objection, discomfort, frustration, boredom); social (greeting, calling, joint attention, request information etc); expressive (comment, emotions, mental states)
- *The means of children with ASD to express above-mentioned functions and their sophistication:*
- Behavioural (often idiosyncratic, unconventional eg aggression, self-injury, tantrums, withdrawal)
- Gestural (contact gestures, when child manipulates an adult's hand, pointing, showing, miming etc)
- Vocal (sounds to express pleasure or distress)
- Verbal (echolalia, spontaneous speech)
- Sign language
- Using objects
- Using pictures
- Using written language
- Combinations of above

## AREAS OF ASSESSMENT

- **ABILITY TO UNDERSTAND VERBAL AND NON-VERBAL COMMUNICATION/LANGUAGE:**
- **Necessary to adjust the language you use to level of ASD's understanding**
- **Not uncommon to overestimate person's level of understanding because they often read non-verbal cues eg carer takes a towel and says to child "bath time". Child may read the towel-message without understanding of what has been said.**

## ASSESSMENT STRATEGIES

- Traditional formal language assessment instruments are usually unsatisfactory for assessing autistic children. Assessment strategies that have proven successful are:
- Observation of the child in familiar and unfamiliar settings
- Interviews with significant others
- Checklist of possible communicative behaviours, communicative means used and communicative functions expressed spontaneously in natural environments.
- Assessment findings provide the basis for an intervention programme.
- Currently the outcomes or prognosis for children with ASD are based on performances in IQ tests and language ability- given our previous discussion this obviously poses a problem.

## GOALS AND OBJECTIVES OF RATING SCALES: THE GARS-2 (GILLIAM AUTISM RATING SCALE)

- RATING SCALES, SUCH AS GARS-2, TAKE INTO ACCOUNT DYNAMIC AREAS OF ASSESSMENT AS MENTIONED PREVIOUSLY
- Sub-divisions are designed according to the *triad of impairments*
- Outcomes *directly serve as samples* that may be used for writing *Individualised Education Programs (IEP's)*
- Outcomes also diagnostic in value as the subscale standard scores, yield to a *probability of Autism* which can, as part of a team-assessment, be of great help.

## GARS-2

- Rating scales reveal direct and meaningful relationships between problems identified, such as those in areas of assessment discussed previously, and possible solutions described for each identified problem.
- It is clear from our discussions that a personal communication profile is necessary in order to best address the child with ASD's communication needs.

## PERSONAL COMMUNICATION PROFILE – UTILISING THE GARS-2

- STEP 1: Select from the list of items on the rating scale, the items that most concerns you about the student's behaviour. THESE BECOME YOUR BEHAVIOURAL TARGETS.
- STEP 2: Locate goals and objectives from the list of numbered items which correspond directly with the item numbers from the rating scale.
- STEP 3: Choose your objectives from the list that relate to the target behaviours.

## LIST OF ITEMS FROM THE GARS-2

### 1. STEREOTYPED BEHAVIORS SUBSCALE...

1. avoids establishing eye contact
2. stares at hands, objects or items for at least 5 seconds
3. flicks fingers rapidly in front of eyes for 5+secs
4. eats specific foods and refuses to eat what most people usually do
5. Licks, tastes or attempts to eat inedible objects
6. Smells or sniffs objects
7. whirls, turns in circles
8. spins objects not designed for spinning
9. rocks back and forth while seated or standing
10. makes rapid lunging, darting movements when moving
11. prances
12. flaps hands or fingers in front of face or at sides
13. makes high-pitched sounds or other vocalisations for self-stimulation
14. slaps, hits or bites self or attempts to injure self in other ways

## LIST OF ITEMS FROM THE GARS-2

### ...and examples of their therapeutic value:

- 1. **avoids establishing eye contact:**
- GOAL 1: **Establish eye contact**
- A. Within three seconds of the command "Look at me" student will look at the therapist.
- B. When student's name is called, within 3 seconds student will look at therapist
- C. When a signal is given (eg. Clapping of hands) within 3 seconds student will look at therapist
- 2. GOAL 2: **Maintain eye contact**
- A. When the therapist is talking to student, student will look at the therapist's eyes or face for at least 3 seconds.
- B. When student is talking to the therapist, student will look at the therapist's eyes or face for at least three seconds.

## LIST OF ITEMS FROM THE GARS-

2

### 2. COMMUNICATION SUBSCALE...

- 15. Repeats (echoes) words verbally or with signs.
- 16. Repeats words out of context (i.e. Repeats words heard at an earlier time – immediate echolalia)
- 17. Repeats words or phrases over and over
- 18. Speaks or signs with flat tone, affect or with dysrhythmic patters
- 19. Responds inappropriately to simple commands (e.g sit down)
- 20. Looks away or avoids looking at the speaker when name is called
- 21. Does not ask for things he or she wants
- 22. Does not initiate conversations with peers or adults
- 23. Uses "yes" or "no" inappropriately.
- 24. Uses pronouns inappropriately (e.g refers to self as "he", "you")
- 25. Uses the word "I" inappropriately (e.g does not say "I" to refer to self)
- 26. Repeats unintelligible sounds (babbls) over and over
- 27. Uses gestures instead of speech or signs to obtain objects
- 28. Inappropriately answers questions about a statement or brief story

## LIST OF ITEMS FROM THE GARS-

2

### • ...and examples of their therapeutic value:

- **24. Uses pronouns inappropriately**
- **GOAL 1: Use the pronoun he and she correctly**
- A. When asked: "Where is (Alex)?" client will say, sign or in other ways communicate: "he is there".
- B. When asked if another student is a boy or a girl, client will say, sign or in other ways communicate, "she is a girl"
- C. When asked, "is another student happy or sad?" Client will say, sign or in other ways communicate, "He is happy/sad".

## LIST OF ITEMS FROM THE GARS-

2

### • SOCIAL INTERACTION SUBSCALE

- 29. Avoids eye contact, looks away when someone looks at him or her
- 30. Stares or looks unhappy or unexcited when praised, humored or entertained
- 31. Resists physical contact from others (e.g. hugs, pats, being held affectionately)
- 32. Does not imitate other people when imitation is required or desirable, such as in games or learning activities
- 33. Withdraws, remains aloof or acts standoffish in group situations
- 34. Behaves in an unreasonably fearful, frightened manner
- 35. Unaffectionate, does not give affectionate responses (e.g. hugs, kisses)
- 36. Shows no recognition that a person is present (i.e. Looks through people)
- 37. Laughs, giggles, cries inappropriately
- 38. Uses toys or objects inappropriately (e.g. spins toy cars)
- 39. Does certain things repetitively, ritualistically
- 40. Becomes upset when routines are changed
- 41. Responds negatively or with temper tantrums when given commands, requests or directions
- 42. Lines up objects in precise, orderly fashion and becomes upset when the order is disturbed.

## LIST OF ITEMS FROM THE GARS-

2

### • and examples of their therapeutic value:

- **33. Withdraws, remains aloof or acts standoffish in group situations**
- **GOAL 1: Join group**
- A. When directed by the therapist/teacher "Lea, go this group", the client will go to the group indicated.
- B. When requested by the therapist/ teacher "Lea, come join our group", the client will go the group where the teacher is.
- **GOAL 2: Actively participate in groups**

- May seem very directive, traditional approach **BUT**
- Can be used within naturalistic, play-base approach, with appropriate language elicitation techniques tailor-fit to your client (verbal or non-verbal)
- Gives measurable outcomes
- Just remember to work within his/her specific communication – and sensory profile!

" I have a whole system of relating which I considered "my language". It was other people who did not understand the symbolism I used, and there was no way I could or was going to tell them what I meant...I do believe that recognising different capacities and kinds of thought and expression can lead to greater connectedness and understanding." (Grandin, 1996).

What a person with autism said: