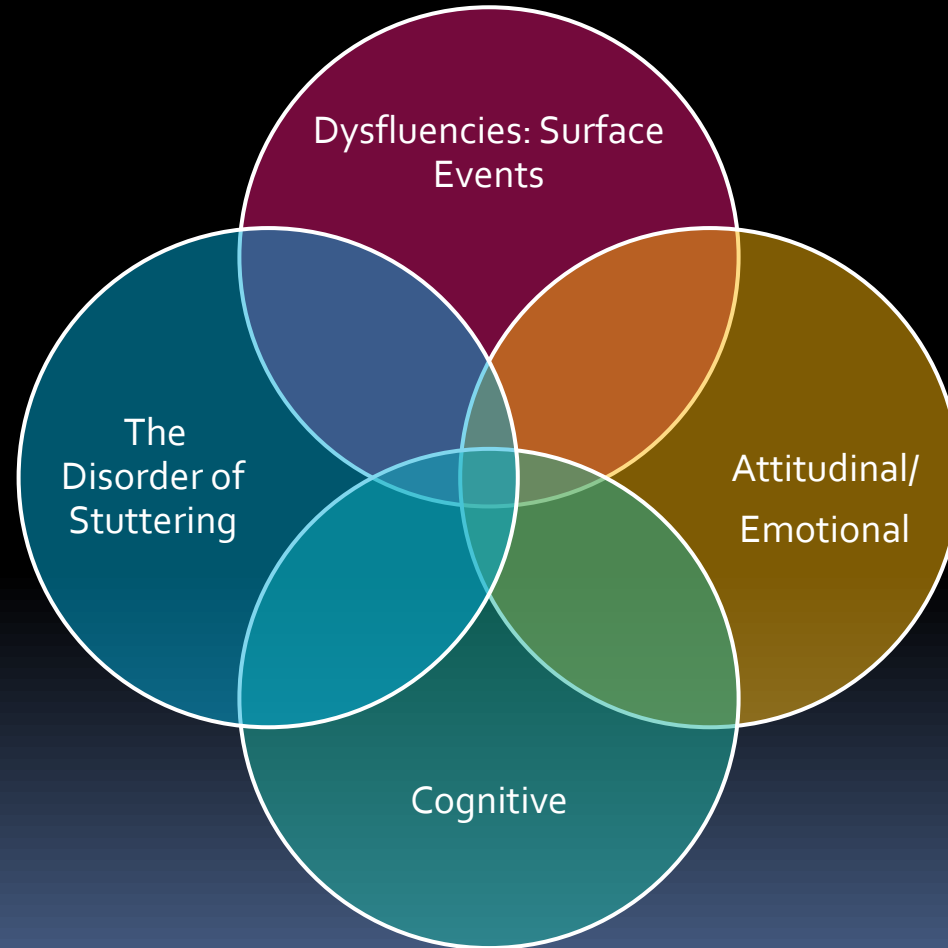


ASSESSMENT OF STUTTERING...BY ROD GABEL & DIANE GAMES






Introduction

When assessing children who stutter, it is important to understand the complexity of stuttering behaviors. Certainly, the amount and type of core behaviors, the speech disfluencies, are particularly important. In addition, Cooper (1993) suggests thinking about the A-B-Cs of stuttering. The A refers to the affective or emotional reaction that the child has to stuttering. The B refers to the secondary behavioral reactions that the child displays. These behavioral reactions include the movements that the child uses to cope with their disfluencies. Finally, the C refers to the cognitive reactions to stuttering. These reactions are the beliefs and attitudes that children develop in relation to being a person who stutters. The A-B-Cs are generally thought of as negative and reactions that need to be addressed as a part of therapy.



Introduction

Yaruss and Quesal (2004) utilized the World Health Organization's International Classification of Functioning, Disability, and Health (ICF) model. This model describes disabilities based on limitation in body function (impairment), activity limitation (disability), and participation restriction (handicap). For children who stutter, the limitation in body function might refer to the loss or abnormality of psychological, physiological, or anatomical structure or function.






Introduction

The activity limitations are any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being. The limitations refer to the things a child who stutters is unable to do within a range of normal, such as interacting with others, participating fully in class, or other types of verbal activities. It is not that children who stutter cannot do these activities. The presence of stuttering will not allow them to communicate efficiently and effectively. Finally, participation restriction refers to a disadvantage for a given individual resulting from an impairment or a disability, that limits or prevents the fulfillment of a role that is normal for that individual. The restriction refers to limitations that come from the expectations and actions from both society and the individual.



Introduction

When assessing adolescents and children who stutter, measuring disfluencies is extremely important, but factors such as the child's reactions (A-B-Cs) and limitation experienced in the child's environment (described in the ICF Model) must also be identified. For each age range of students seen in the schools, there will be differences in the behaviors, reactions, and limitations that might be observed. In addition, children will have individual concerns that will arise because of stuttering. Regardless of these variations by age and individuals, the tools included that follow this section can assist in assessing children who stutter (see Appendix A).





Pre-school Assessment


When assessing children in this range, two questions should be asked. First, what do we know about stuttering during this age range? Second, how do we treat Pre-School Children Who Stutter? These two questions will guide both assessment and treatment.

The affective components of PSCWS (Preschool Children Who Stutter) are important to consider. It is often believed that preschoolers have minimal negative feelings but some have strong emotions (frustration). Some research suggests that children can begin to show awareness of speech differences as early as age 3 (Ambrose & Yairi, 1994; 2005). Awareness of stuttering will develop and continues to develop throughout the ages 3-5.



Preschool Assessment

The behavioral components of stuttering are equally important. When considering disfluency, Yairi (1997) describes two speech classifications that differentiate between nonstuttering and stuttering PS child. Short-Element Repetition (SER) containing syllable and word repetitions. These types of disfluency are also representative of normal nonfluencies of early childhood speech. The other index is the Stuttering Like Disfluencies (SLD) which occur in the speech of most pre-school children who stutter. Appendix A includes a description and listing of disfluency types.




Preschool Assessment

There are quantitative differences occur in the speech of nonstuttering and stuttering children:

- Nonstuttering children produce an average of 6-8 disfluencies/100 words and PSCWS: 15/100 words (17/100 syllables). The speech of PSCWS contains 3-5 times as many SERs and SLDs with twice as many iterations (words, syllables, sounds).
- PSCWS also have multi-component disfluencies (clusters)
- Disfluency PS children peaks near the latter part of year 2 with a quick decline.
- Age 3 is typical of large variations in frequency of disfluency in all children.
- Number of part-word repetitions declines with maturation for children who do not stutter and increase for PSCWS.

SLDs are a minor part of the disfluency pattern for nonstuttering PS children.

- Qualitative Differences...
- Disfluencies of PS Children who have normal developing speech...rarely have secondary behaviors.
- PSCWS: have head and neck movements which often persist and may increase.



Differences Between PSCWS and Children who do not Stutter

Quantitative Variation

- Nonstuttering children produce an average of 6-8 disfluencies/100 words and PSCWS: 15/100 words (17/100 syllables). The speech of PSCWS contains 3-5 times as many SERs and SLDs with twice as many iterations (words, syllables, sounds). PSCWS also have multi-component disfluencies (clusters)
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Qualitative Variation

- Disfluencies of PS Children who have normal developing speech...rarely have secondary behaviors.
- PSCWS: have head and neck movements which often persist and may increase.




Preschool Assessment

The cognitive components of stuttering are difficult to assess due to age. Preschool children rarely express negative thoughts about their speech, but may show awareness (Yairi & Ambrose, 2005). Some children will comment that speech is hard or that they “can’t get the word out.” So, parents will become the vehicle for determining what processes might be interfering with the child’s speech.



Preschool Assessment

Other factors will serve as predictors of chronic or persistent stuttering in young children. Best prediction factors for PS children (Yairi & Ambrose, 2005).

- Predisposing Factors: family history of stuttering or other neurological factors.
 - Precipitating Factors: rapid speech and language development accompanied by demands from the environment.
 - Perpetuating Factors: critical home environment, high expectations from family in terms of language, development of learned behaviors...i.e. stuttering.
- 



Preschool Assessment


Certain facts about stuttering should also direct your assessment:

- Gender (more males)
- Age of Onset (later onset: higher potential persistent stuttering)
- SLD (Stutter Like Disfluency trends)
- Duration of Stuttering History: the longer the history beyond the first year, the higher the risk (girls esp.)
- Disfluency Length- Extent & Duration: continuing presence of SLDs and length of iterations. The continued behaviors will be indicative of chronic stuttering.
- Sound Prolongations and Blocks: high risk beyond the first few months.
- Stuttering Severity (severity initially not a factor, but may be significant for children who have been stuttering for more than a few months)
- Head & Neck Movements: decline as a function of recovery; children with persistent stuttering maintained these.
- Phonological Skills: children who persist tend to show a lower level of phonological skills than CWNS.



Preschool Assessment

Other important factors to consider:

- Expressive Language Skills: Some children who stutter at a young age tend to have advanced language skills. Language disorders and stuttering tend not to co-occur in children who stutter, which was once thought. Currently, language skills are not totally understood in relationship to onset & maintenance of stuttering. Phonological disorders tend to co-occur with stuttering.
 - Concomitant Disorders: complex interaction in the preschool population is not totally understood.
 - Preschool years are a time of intense development
 - Play and fun represent the language of childhood
 - Children vary in their apprehension of the clinical situation.
 - Children are insightful, but tend to do and reflect whatever they are told.
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Preschool Assessment

We must offer important consideration of parents of CWS, especially how they interact with their children. Factors to consider:

- Speech Rate: Parents rate of speech is not a causal factor in the development of stuttering but slower pacing of speech is a factor in decreasing disfluencies...if the rate slows, fluency increases.
- Interruptions: These behaviors increase in mothers as a function of increased stuttering from their child. Decreasing interruptions may be important in developing increased fluency.
- Developing better turn taking behaviors: may be a factor in helping a child to be more fluent. Mothers of CWS demonstrated more Response Time Latency (RTLs are a measure of time between turns), which positively impacted their children who also used longer pauses between turns.
- Question usage: not a factor in stuttering but commenting often reduces the anxiety of responding, and may increase fluency.
- Eye Contact: mothers of PSCWS often provide this more frequently

Preschool Assessment


Tools used in assessment (see appendices):

- Case History Form
- Parent Interview
- Handouts that assess Home Interactions (who, what, when, and level of disfluency)
- Video and/or audiotape of parent-child interactions (from home)
- Child-Clinician Interactions
 - Without Communication Pressure
 - Structured Communication Tasks
 - Structured Child-Clinician Interactions including fluency disruptors & increasing length and complexity.
- Standardized Measures of Phonological and Language Development
- Calculating the amount and types of disfluencies present in each interaction.
- Trial period of treatment which includes parents



Preschool Assessment


Prognostic factors for treatment success:

- How long has the child been stuttering?
 - What is the nature of the reactions from the child's environment?
 - Is the child aware of the disfluencies?
 - What type of disfluency is the child demonstrating?
 - How committed and involved are the parents?
 - What is the cognitive level of the child?
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School Age and Adolescent Assessment


Though adolescents (older than 13) and school age children (6-13) may present very different issues, the types of procedures that are used to assess these children are very similar. The clinician should view all the findings of an assessment in the context of the child's experience. Thus, a clinician should consider the child's level of limitation in body function (impairment), activity limitation (disability), and participation restriction (handicap).





School Age and Adolescent Assessment


Certainly, the materials included in the appendix (materials for assessment) will be useful in conducting assessment. Also, there are commercial tools that should be considered for assessment. The Stuttering Severity Instrument-4 (SSI-4) (Riley, 2008) is an assessment tool that allows for a standard measure of stuttering severity by evaluating the frequency, duration, and physical concomitants (secondary behaviors) of the individual's speech.





School Age and Adolescent Assessment


The Behavior Assessment Battery for School-age Children Who Stutter (Brutten & Vanryckeghem, 2006) is a package of assessment materials that evaluate the affective, cognitive, and behavioral reactions to stuttering. The reader is reminded to view the materials and bibliography included in this webpage to guide the reader in identifying appropriate assessment tools.





School Age and Adolescent Assessment


There are eight assessment goals that we suggest for children in this age range. These goals are taken from the Special Interest Division-4 (Fluency and Fluency Disorders) standards. These goals may also guide the assessment of preschoolers who stutter as well.





School Age and Adolescent Assessment


Assessment Goal 1- Achieving a representative speech sample. If possible, all samples should be audio and video taped, or at the very least, observed. There are assessment worksheets and descriptions included in the appendix to assist in completing a disfluency . Samples should be taken across as many contexts as possible, including during clinical situations and extra-clinical situations, tapes the client or family make in their daily life, and especially in the classroom.






School Age and Adolescent Assessment

Assessment Goal 2- Achieving a speech sample under constant settings. As with assessment goal #1, it is very important to explore the variety of contexts in which the individual might communicate. Some of these samples might include:

- Monologues.
 - Adaptation tasks.
 - Responding to picture stimuli.
 - Reading standard passages.
 - Observations during barrier games.
 - Standard interview.
 - Speaking in a specific task(s).
- 



School Age and Adolescent Assessment




Assessment Goal 3- The clinician must conduct an assessment using quantitative and qualitative analysis. This discussion coincides with a general message of exploring all aspects of the child's speech. In this way, the clinician must describe all behaviors indicative of the person's stuttering. By quantitative measures we mean the numbers and numerical description of the frequency of disfluency, type of disfluent behavior, and duration of time of the three longest disfluent moments (seconds of prolongation or block and number of iterations of repetition). Also, the qualitative or quality of the observations, such as amount of tension, observation of discomfort, and describing secondary behaviors. The appendices, commercial tools and informal observations will guide this assessment.




School Age and Adolescent Assessment

Assessment Goal 3 continued- The quantitative and qualitative analysis should also include the affective and cognitive components of the child's stuttering. Questionnaires, like those in the appendix and elsewhere in this presentation can assist in this evaluation. Also, the clinician should consider interviewing parents, teachers, staff and anyone else who may be close to the child and include information from these interviews in the evaluation.






School Age and Adolescent Assessment

- Assessment Goal 4- Includes assessing variables that affect the child's fluency. For people who stutter, their fluency and stuttering behaviors will vary based on a variety of factors, including speaking situations. For example, the child's fluency and stuttering may be relatively mild at home, but very severe in the classroom. Attempting to observe the client under situations that may improve or decrease fluency is a very important part of the assessment period. Also, asking the child and others to share their experiences with the variability in behaviors is also important, and developing a hierarchy of difficult and easier situations.
- 



School Age and Adolescent Assessment


Assessment Goal 5- includes developing and using a developmental history. So, the clinician should use a questionnaire (see appendix) that is interested in gathering information about the development of stuttering. This may best be completed by interviewing the child and parent. This information should be a major part of your assessment decisions.





School Age and Adolescent Assessment


Assessment Goal 5 continued- Certain questions are very important to consider in a case history questionnaire or interview:

- How has it changed?
 - When did it start?
 - How does it affect you?
 - What choices (educational, social, and economic) have you made based on your stuttering?
 - Do any family members stutter?
 - What do you think caused your stuttering?
 - Past therapies?
 - What are your goals?
- 



School Age and Adolescent Assessment


Assessment Goal 5 continued- The clinician may also choose to use the case history as a means to measure the motor development, language/speech development, cognitive development, and socio-emotional development.





School Age and Adolescent Assessment

Assessment Goal 6- All of the information gathered should be used to develop a prognostic statement that will guide therapy. Formal measures, informal measures, case-history information and ways in which therapy might impact educational goals should all be considered and discussed.



Assessment Goal 7- Includes collecting and using information about coexisting problems. Thus, the clinician must use the findings of others regarding coexisting problems. Certainly, language, phonology, psycho-emotional functioning, learning disabilities, cognitive level, or visual deficits are all important. The strengths child has and how might these strengths facilitate their therapy.



School Age and Adolescent Assessment

Assessment Goal 8- the clinician must communicate the results to all members of the child's IEP team. The child's therapy must be integrated into all aspects of his or her education and life. Open communication between the clinician and others is very important.

Other issues and questions that the clinician should ask:

- What does the child need?
 - Where is this child coming from?
 - What can I offer this child at this time?
 - What are the benefits of treatment for this child?
 - What can I offer?
- 