



EITI Newsletter

Early Intervention Training Institute

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EARLY CHILDHOOD STUTTERING

Stuttering is a speech disorder in which the continuous flow of speech is interrupted. Many of us base our understanding of stuttering on our experiences with adults or adolescents who stutter. We probably think of a friend, a relative, or even a celebrity, but our immediate image might not be of a very young child. Stuttering is in fact a disorder which most frequently starts between the ages of 2 and 5 years. Given the increased enrollment in nursery and preschool programs, the role of the classroom teacher becomes critical in identifying this disorder.

Identifying stuttering in very young children is difficult because all children experience "normal dysfluency." Developing motor, speech, language, and cognitive systems are extremely unstable in the early years. In particular, the year between ages 2 and 3 is a volatile period for dysfluency. What remains a mystery in childhood stuttering is how variable, in fact, it is. A child may stutter only with certain people, during certain tasks, in school but not at home, or only on certain words. A child who stutters might even stop stuttering for several months, only to have it recur seemingly "out of nowhere." Children will not all stutter in the same manner, and the severity can vary widely. They may seem to stutter more when sick, tired, or excited. Their stuttering may seem to "come and go." Many 3-year-old children who stutter will do so without self-consciousness or tension, which makes them less likely to be identified.

There are, nonetheless, some patterns in stuttered speech that may be helpful in identification. Children who stutter may repeat initial sounds or syllables, prolong the duration of a sound (perhaps with unusual pitch changes), or "get stuck" on a word by silently holding a sound without producing it aloud. These stuttering moments may or may not be accompanied by "secondary symptoms" (head, face or body movements).

For children who stutter, the probability of stuttering increases:

- at the beginning of phrases: "I I I I want an apple."
- on the first syllable of a multisyllabic word: "The ku ku ku computer is yours?"
- on linguistic stress: "He's sssseven not six years old!"
- on content words: "I got my Ba Ba Baaarbie at home."

Other qualities of children's speech that may be signs of stuttering include awkward phrasing indicating word avoidance, or consistent use of "starters" or "fillers" such as "um," "like," "you know." Many children have found that their stuttering decreases when they whisper, sing, speak in chorus, or speak in "character voices." Thus they may spontaneously use these strategies to improve their fluency.

Causes

The exact cause of stuttering remains unknown. There are many theories, including the belief that stuttering is the result of too much negative attention drawn to normal childhood dysfluencies, that stuttering is a by-product of speech anxiety, or that stuttering is the result of an inadequate neuromuscular speech production mechanism. Childhood trauma or parenting style are no longer considered likely causes. Onslow (1995) notes that while anxiety has been frequently implicated in research on the cause or nature of stuttering, most studies have shown no relationship between anxiety and stuttering. That is, changes in anxiety levels are unlikely to effect changes in stuttering frequency. The idea that stuttering has a neurological component is gaining wider acceptance.

Many professionals believe that stuttering is actually a language disability or that it is influenced by language-related variables (Hill, 1995, Louko, 1995, Ratner, 1995). However, empirical support for linguistic deficits in children who stutter is inconclusive and has not determined causality. While children who stutter have been found to score slightly less well than typically developing peers on certain standardized measures, as a group they tend to remain in the average range of performance. Further, children whose stuttering persisted did not display poorer language skills than their recovered counterparts (Watkins & Yairi, 1997).

Motor coordination overlaps with development of linguistic skills, such as prosody, stress, and intonation (which are in fact precisely areas that are more likely to induce dysfluency). The fact that stuttering tends to emerge with language, and that children who stutter may have delayed language, complicates the determination of cause. Gow (1998) notes that it is impossible to attribute a certain speech behavior (i.e. word repetition) to a language disorder or to a stuttering disorder, since either or both may be responsible for that behavior in a young child. It is thus difficult to determine the extent to which language deficits are a component of the profile of children who stutter (Watkins & Yairi, 1997).

Genetic studies have found that stuttering tends to run in families (but does not always). Between 1/3 and 2/3 of people who stutter have relatives who stutter. A 10-year investigation of approximately 600 people who stutter (Kidd, 1984) found that of children born to males who stutter, 22% of boys stuttered, and 9% of girls stuttered. Of children born to females who stuttered, 36% of boys stuttered, and 17% of girls stuttered. Thus it is most likely that boys born to women who stutter, will stutter themselves. Further, genetic factors have been found to influence recovery or persistence of the disorder (Ambrose, Cox & Yairi, 1997). Overall, boys are at least four times more likely to stutter than girls. In most western

countries, about 4% of children stutter. and 1% of adults stutter (Onslow, 1995).

It has been estimated that up to 80% of children “recover spontaneously” or “grow out of” early stuttering. However, Ingham (1983) demonstrated that this figure is probably inflated, and that several of those considered “spontaneously recovered” probably received some kind of informal treatment which contributed to remission. He estimated that, at best, one in two children may recover by 6 to 9 years of age without formal treatment.

Identification and Referral

We know that the younger children are, the better they respond to treatment. In fact, stuttering is one of the few childhood disorders that can be resolved with relatively simple (i.e. behavioral) methods. It is possible to eliminate stuttered speech in young children. But the likelihood of success decreases dramatically with age. This makes early identification and treatment critically important. As the child grows older, he may develop fear or embarrassment as a result of his stuttering and others’ reactions to it. Children’s desire to be like their peers may contribute to feelings of frustration or anxiety over stuttering, and may lead to avoidance behaviors. Adolescent children who stutter, for instance, may go to great lengths to prevent their struggle from being known by their peers. Stuttering in the young child, if not addressed, may develop into a lifelong, debilitating condition, affecting personal, social, and professional lives. Some adults are able to achieve control over their speech, but many never achieve total fluency.

If you suspect that a child is stuttering, you should refer him or her to a speech-language pathologist for evaluation. The speech pathologist assesses the child’s speech by looking at developmental history, family history, and frequency, severity and quality of speech. S(he) will obtain samples from a variety of speaking situations, and may use formal rating scales or measures. Treatment probes would also be done to determine the child’s responsiveness to a number of therapeutic interventions. An important issue in diagnosis is to determine the variability in the child’s stuttering, which would allow for more effective treatment. While a speech pathologist cannot prevent stuttering, s(he) may be effective in eliminating and maintaining stutter-free speech.

Much advice has become available to parents and teachers of children who stutter, including therapeutic-like interactions. Parents and teachers should use caution in administering therapy-like strategies, and should consult a speech-language pathologist when in doubt as to whether a child is stuttering. Some general recommendations for adults interacting with children who stutter include:

- Try not to finish sentences or fill in words.
- Keep eye contact, wait patiently and naturally until the child is finished speaking.
- Don’t hesitate to say “Sorry, I didn’t understand you, could you say it again?”
- Use a moderate rate with fluent speech yourself.

Treatment

There are a number of treatment programs available for children who stutter, based on the various theories of cause of the disorder. Treatments may be direct or

indirect. Indirect treatments stem from the notion that the child’s speech will improve by changing environmental factors or behaviors of others in the child’s environment. These treatments make the assumption that certain conditions which make the child feel insecure or anxious, or make demands beyond the child’s capacity, may aggravate or actually cause stuttering. Indirect methods may address parenting skills, or the child’s attitudes, feelings, fear, and language use in social interactions (pragmatics, syntax, listening, teaching to be a good conversationalist). Ingham (1993) noted that while these therapies are often favored for putting less pressure on the child, they are in fact unsupported by evidence regarding their effectiveness. She added that such treatments are generally not well-defined, have too many variables, and are difficult to measure objectively.

Another popular indirect approach involves reducing the child’s speech rate. It should be noted that children who stutter do not necessarily speak too quickly. Reducing speech rate may be effective temporarily, but reduces stuttering moments by 50% at best. Further, this approach has not been effective in maintaining decreased stuttering.

Direct therapy, however, treats the stuttering itself, with the goal of normal-sounding and normal-feeling stutter-free speech. Behavior modification has been found in several studies (Martin, Kuhl, & Haroldson, 1972; Onslow, Andrews, & Lincoln, 1994; Onslow et al, 1997; Reed & Gotten, 1977) to eliminate stuttering and maintain fluency in young children. Behaviorists have demonstrated that immediately responding to a stutter made it disappear. That is, they showed that drawing attention to a stutter was effective because it reduced the stuttering behavior. Thus direct treatment usually includes some form of response-contingent stimulation, in which a combination of praise for stutter-free speech (i.e. “Good! you said it smoothly,” marks on a data sheet, tokens) and neutral correction of stuttered speech (i.e. “Oops there’s a bumpy word,” brief silent pause, removal of a token) is used. The benefits of direct therapy are that it is easy to collect and chart the child’s progress, the child gets consistent, specific feedback, and regular evaluation of progress allows for reliable predictions of outcome. Behavior modification has been used successfully to treat children as young as 2 years of age; however, the success of this approach declines after age 5 years, and more so after age 8 years (Onslow, 1995).

Behavior modification of stuttering has been applied in clinic, school, and home programs. Specific programs incorporating response-contingent stimulation for school-aged children include Onslow’s (1997) Lidcombe program, Costello’s (1983) Extended Length of Utterance (ELU) program, and Ryan’s (1983) Gradual Increase in Length and Complexity of Utterance (GILCU) program. As the child grows older the power of the behavioral approach may weaken. Alternative treatment for school-aged or adolescent children usually involves the child’s learning an unusual speech pattern (i.e. prolonged speech) and would include techniques thought to increase fluency (gentle, easy or slowed speech). This approach is recommended only for those children who do not respond readily to behavioral methods (Onslow, 1995). Drawbacks to altering speech patterns include difficulty establishing fluent speech, and possible unnatural-sounding or effortful speech. Early identification and treatment of stuttering should therefore not be delayed.

One framework for a 40-minute clinic individual treatment session using response-contingent stimulation might proceed as follows:

- medium: elicit spontaneous conversation from the child through low-structured play activities
- phase A: (pre-treatment, duration: 5 minutes) engage naturally in conversation/play with the child, observing the child's speech, assessing nature and frequency of stuttering
- phase B: (treatment, duration: 30 minutes) continue conversation/play while applying consequences immediately following each stuttering moment, as well as praise for fluent speech
- phase A: (treatment withdrawal, duration: 5 minutes) continue conversation/play while eliminating consequences to stuttering and praise for fluent speech
- post-session: determine changes in stuttering throughout course of treatment

The question of how to treat children with multiple impairments (i.e. stuttering, language, phonology) is a difficult one. Little research has been done in this area, and there are currently no research-based criteria regarding treatment strategies. Recent surveys of clinicians reflect that treating children who stutter is a low priority (Cooper & Cooper, 1996). Stuttering is sometimes neglected in treatment, due in part to the belief that severity will determine the course of the disorder (i.e. mild cases will be more likely to spontaneously recover, while severe cases will persist). Watkins and Yairi (1997) have demonstrated that severity is not a reliable indicator of recovery, and thus should not be a factor in prioritizing goals. Many children are best served by intervention which includes emphasis on stuttering as well as other speech or language disorders. When providing intervention, it is important to differentiate the specific speech and language goals of each session.

The message here for clinicians, teachers and parents, is that stuttering in very young children is a relatively malleable behavior. The older the child, however, the more intractable stuttering appears to become. Early identification and treatment can thus be both cost-effective and beneficial to young children who stutter.

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