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Review Article

Stammering

Md. Abdus Sattar¹, Tajmira Sultana², Shihab Uzzaman³

Stuttering (alalia syllabaris)

Another name is stammering (alalia literalis or anarthria literalis) especially in England.¹

By a broader term it is diffluent speech.

Stuttering is different from two separate speech fluency disorders,

Cluttering is characterized by a rapid, irregular speech.

Spasmodic dysphonia is a type of voice disorder.^{1,2}

Definition:

Stammering is a speech disorder that involves difficulties in starting or repeating or prolonging a word, syllable, sentence, phrase or stopping during speech and making no sound for certain syllables.²

Speech disruption may be associated with struggling behaviors, such as rapid eye blinks or tumors of the lip or jaw, accompanied with tension, tightness or movement of the face or upper body.

1. Associate Professor, Department of Otolaryngology-Head & Neck Surgery, Bangabandhu Sheikh Mujib Medical University, Shahbag, Dhaka.
2. Junior Consultant, Bangabandhu Sheikh Mujib Medical University, Dhaka.
3. Intern, Bangladesh dental college and hospital

Address of correspondence: Dr. Md. Abdus Sattar, DLO. FCPS. MS., Associate Professor, Department of Otolaryngology-Head & Neck Surgery, Room no-626, Block-C (5th floor), Bangabandhu Sheikh Mujib Medical University, Shahbag, Dhaka.

Stress, fatigue and excitement can make stuttering worse. It aggravates when person is alert about speaking. It decreases when person is relaxed. Stammering can make it difficult to communicate with other people, which often affect a person's quality of life.³

Who stutters?

Stuttering affects all age groups of people. Most often in children between the age of 2 and 5, when their language & speech is developing. Approximately 5 percent of all children will stutter for some period in their life, lasting from a few weeks to several years. Boys are twice as likely to stutter as girls. Later the number of boys stutters is 3 to 4 times more than the number of girls. About 1% adults are stutter.^{2,3}

How the speeches normally produce?

Speech sound is produced through a series of precisely coordinated muscle movements involving breathing, phonation (voice production) and articulation (movement of the throat, palate, and lips). Muscle movements are controlled by the brain and monitored through our senses of hearing and touch.⁴

Before speaking, an individual takes a breath and the vocal folds (or vocal cords), which are two bands of muscular tissue located in the voice box directly above the trachea or windpipe, must come together. The air that is held in the lungs is gradually released, passing through the gently closed vocal folds thus causing vibration and producing the voice. The sound of the voice is passed through the throat and is directed into the

mouth for most speech sounds, or into the nose for nasal sounds such as “m”, “n” and “ng”. The palate, tongue, jaws and lips move in precise ways to modify the sounds in order to make speech sounds.^{4, 5}

What causes stuttering?

Three types of stuttering are more common.⁵

Developmental stuttering:

Developmental stuttering occurs in young children while they are still learning speech and learning skills. It is the most common form of stuttering. It runs in families. Researchers isolated three genes that cause stuttering.

Neurogenic stuttering:

Neurogenic stuttering may occur after a stroke, head trauma, or other type of brain injury. In neurogenic stuttering, the brain has difficulty coordinating the different components involved in speaking because of signaling problems between the brain and nerves or muscles.

Psychogenic stuttering:

Psychogenic stuttering can be caused by emotional trauma or problems with thought or reasoning. At one time, all stuttering was believed to be psychogenic, but now a day it is rare.

Primary behaviors:

Primary stuttering behaviors are the overt, observable signs of speech fluency breakdown including repeating sounds, syllables, words or phrases, silent blocks and prolongation of sounds. This differ from the normal disfluencies found in all speakers in that stuttering disfluencies may last longer, occur more frequently, and are produced with more effort and strain.

Stuttering disfluencies also vary in quality: normal disfluencies tend to be a repetition of words, phrases or parts of phrases, while

stuttering is characterized by prolongations, blocks and part-word repetitions.⁶

- Repetition: it occurs when units of speech, such as a sound, syllable, word, or phrases is repeated and are typical in children who are beginning to stutter. For example, “to-to-to-tomorrow”.
- Prolongation: Prolongations are the unnatural lengthening of continuant sounds. For example, “milk”. Prolongations are also common in children beginning to stutter.
- Block: Blocks are inappropriate cessation of sound and air, often associated with freezing of the movement of the tongue, lips and/or vocal folds. Blocks often develop later, and can be associated with muscle tension and effort.

How is stuttering diagnosed?

Stuttering is usually diagnosed by speech-language pathologist (SPL), a health professional who is trained to test and treat individuals with voice, speech, and language disorders. The speech-language pathologist will consider a variety of factors, including the child’s case history, an analysis of child’s stuttering behaviors, and evaluation of the child’s speech and language abilities and the impact of stuttering on his or her life.

When evaluating a young child for stuttering, a speech-language pathologist will try to predict if the child is likely to continue his or her stuttering behavior or outgrow it. To determine this difference, speech-language pathologist will consider such factors as the family’s history of stuttering, whether the child’s stuttering has lasted six months or longer, and whether the child exhibits other speech or language problems.^{4, 5, 6}

How is stuttering treated?

Although there is currently no cure for stuttering, there are a variety of treatments

available. This depends on person's age, communication goals and other factors. It is important to work with a speech-language pathologist to determine the best treatment options.

For very young children, early treatment may prevent developmental stuttering from becoming a life long problem. Certain strategies can help children learn to improve their speech fluency while developing positive attitudes toward communication. Health professionals generally recommend that a child be evaluated if he or she has stuttered for three to six months, exhibits struggle behaviors associated with stuttering, or a family history of stuttering or related communication disorders. Some researchers recommend that a child be evaluated every three months to determine if the stuttering is increasing or decreasing. Treatment often involves teaching parents about ways to support their child's production of fluent speech.^{6, 7}

Parent may be encouraged to:

- Provide a relaxed home environment that allows many opportunities for the child to speak. This includes setting aside time to talk to one another, especially when the child is excited and has a lot to say.
- Refrain from reacting negatively when the child stutters. Instead parents should react to the stuttering as they would any other difficulty the child may experience in life. They may involve gentle corrections of the child's stuttering and praise for the child's fluent speech.
- Be less demanding on the child to speak in a certain way or to perform verbally for people, particularly if the child experiences difficulty during period of high pressure.

- Speak in a slightly slowed and relaxed manner. This can help reduce time pressures the child may be experiencing.
- Listen attentively when the child speaks and wait for him or her to say the intended word. Don't try to complete the child's sentences. Also, help the child learn that a person can communicate successfully even when Developmental stuttering occurs.
- Talk openly and honestly to the child about stuttering if he or she brings up the subject. Let the child know that it is okay for some disruptions to occur.
- Strive for calm.

Avoid:

- Asking lot of questions
- Interrupting
- Insisting your child repeat stuttered words or telling him or her to start over when stuttering
- Encouraging your child to speak in front of a group of people
- Correcting your child with instructions, such as "slow down", "take your time" or "take a deep breath"
- Telling your child to think before speaking⁷

Stuttering therapy:

Many of the current therapies for teens and adults who stutter focus on learning ways to minimize stuttering when they speak, such as by speaking more slowly, regulating their breathing, or gradually progressing from single-syllable responses to longer words and more complex sentences. Most of these therapies also help address the anxiety a person who stutters may feel in certain speaking situations.^{7, 8}

Some other therapies are-

- Fluency shaping therapy
- Stuttering modification therapy

- Electronic fluency devices
- Support group and self help movements
- Diaphragmatic breathing

Anti-Stuttering medications:

Many drugs tried. Study shows only 5% stuttering reduced. New drug for stuttering named "pagoclone" is now using.⁸

Prognosis:

Among preschoolers, the prognosis for recovery is good. Based on research, about 65% preschoolers who stutter recover spontaneously in the first two years of stuttering, and about 74% recover by their early teens. In particular, a girl seems to recover well. For others, early intervention is effective in helping the child achieve normal fluency.

Once stuttering has become established, and the child has developed secondary behaviors, the prognosis is more guarded and only 18% of children who sturrer after five years recover spontaneously.⁵⁻⁸

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