

Language Disorders in Stuttering Children

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Abstract:

Stuttering is seen as a highly ambiguous communication issue that can damage stutterers in the long run. The current study looks into the impact of stuttering on Stuttering Children. The purpose of this activity is to assist kids in facing their stuttering. The findings showed that children who stutter along with at least one other problem are more likely to have a treatment recommendation made for them than children whose stuttering is their only disorder. This implies that the rate of additional communication impairments in children who stammer may be overestimated in caseload surveys. The findings call into doubt the general consensus—especially when it comes to caseload surveys—that children who stammer frequently have co-occurring disorders. There are recommendations made regarding how large-scale epidemiological research might be used to more clearly ascertain how frequently stuttering co-occurs with other speech and language impairments in infants.

Key words: Language Disorders, stuttering

1-Introduction :

The reality that co-occurring speech and language disorders frequently affect problem conceptualization, participant selection, methodological issues, and therapy planning is something that clinicians and researchers working with stuttering patients are all too familiar with, The nature of stuttering in children and adults, the kind and frequency, language, and non-speech-language disorders, and the support of reported subgroups in the diverse population of stutterers have all been the subject of studies examining co-occurring stuttering and other speech, language, and non-speech and language disorders.

Treatment hierarchy for stuttering children may also be impacted by the co-occurrence of non-speech problems that impact learning, attention, reading, and auditory processing, a study of the literature on the prevalence of co-occurring reading impairments in stuttering children revealed mixed results. Nevertheless, no countrywide sample has been used to examine the incidence of occurrence, the quantity and kind of disorders, or the available treatment options for kids who have co-occurring non-speech-language disorders. Finding out how frequently problems develop in stuttering youngsters could improve our understanding of the subgroups within the stuttering population.

The recent **Arndt** and **Healey** (2001) study was an important first step in examining in a systematic manner co-occurring disorders of school-age children who stutter. Their data provide meaningful information for clinicians because children with fluency disorders and co-occurring phonology and/or language disorders may require different assessment and/or treatment programs than children with only a fluency disorder. The purpose of this study was to expand on earlier investigations about co-occurring disorders in children who stutter and specifically elaborate on the important contributions of the **Arndt** and **Healey** (2001) study.(1)

2-Definition of stuttering

Most definitions are descriptions of behaviors; presented as a comprehensive list of behaviors which are common to all stutterers and differentiate stuttering from normal speech. Stuttering or stammering is not a Language Disorder according to Weis (2013),

”stuttering reflects an underlying problem with speech production rather than a language problem. Children who stutter, know what they want to say, but they have problem saying it” (2).

Van Ripper defined stuttering as a disruption of the simultaneous and successive programming of muscular movements required to produce a speech sound or its link to the next sound in a word. He also defined it as

“When the forward flow of speech is interrupted by a meteorically disrupted sound, syllable, or word, or by the speaker’s reaction thereto». (3)

Defining stuttering is based upon clearly defined and measurable symptoms as Wingate’s definition:

”stuttering is (a) disruption in the fluency of verbal expression, which is (b) characterized by involuntary, audible or silent, repetitions r prolongations in the utterance of short speech elements, namely; sounds, syllables, and words f one syllable. These disruptions (c) usually occur frequently or are marked in character and (d) are not readily comfortable”.

Guitar (2014) offer additional characteristics are not mentioned in Wingate’s definition: *”stuttering consists of “an abnormally high frequency and/or duration of stoppages in the forward flow of speech. These stoppages usually take the form of(a) repetitions of sounds, syllables or one syllable words, (b) prolongation of sounds, or (c) blockages or blocks of airflow or voicing in speech”(4).*

More precise definition is given by Jones (1976)” stuttering can be defined as the blockages, discordination, or fragmentations of the forward flow of speech (fluency).

These stoppages referred to as disfluencies, are often excessive and characterized by specific types of disfluency. These types of disfluencies include repetitions of sounds particularly vowels and semi-vowels syllables, prolongation of sounds, and blockage of airflow”.

Based on the definitions above, Stuttering is a speech problem, to stutter means having problem in production of sound or difficulty in moving from one sound to another or sometimes the production of the sound after stop. Children who stutter face difficulties in rhythm, sound, syllable, word and phrases repetition, or flow of speech cut in the form of block or extension. Stuttering result when a person exhibits frequent and/or noticeable disruptions in the smooth flow of speech as a result of behaviors such as hesitations, repetitions, prolongations, interjections, revisions, pauses, and incomplete phrases.

Avoidance of words or speaking situations and secondary characteristics suggested of speech related struggle/tension may also be evidence of a fluency disorder.

3- Symptoms of stuttering

A critical fact is that disfluencies occurs not only in the speech of people who stutter but also in the speech of partially all speakers, especially young children (Johnson, 1961; Yairi, 1981), it is important to distinguish between disfluency and stuttering; although related, are not synonymous.

According to the “Diagnostic and Statistical Manual of Mental Disorder, 5th ed. (DSM-V)”, stuttering or stammering classified as communication disorder that is characterized by many criteria, involving three key groups of stuttering behavior:

repetition, prolongation, and blocks. In addition to other criteria such as: pausing within a word, circumlocution, and producing words with excessive physical tension. Stuttering is somewhat paradoxical because it involves both observable overt and covert symptoms.

While the behavior of stuttering is often obvious and observable, symptoms are “surface indications of some condition that cannot be observed directly” (5)

3.1. Overt symptoms of stuttering

Overt symptoms are the surface characteristics of stuttering involve the audible, visible, and observable features. The following sections will define the primary and secondary symptoms of stuttering.

3.1.1. Primary characteristics

The primary symptoms are the audible features, and have three main classifications: repetition, prolongation, and blocks.

Repetition: Is the earliest and most fundamental symptom of stuttering, it can be part or single syllable, or whole-word. According to Onslow (2004), Even in normal speech, repetition of the whole-word tends to occur with most young children; only becoming a problem if they persist beyond the developmental stage. It indicates the inability to continue to the next segment in the speech sequence.

Prolongation: Prolongation of sound can rarely occur in normal speech, in contrast, in stuttering, it forms a characteristic part of the abnormality. Prolongation tends to occur on the vowels and continuance consonants when the stutterer face difficulty and cannot end the extension of the sound. It involves a sound or letter being drawn out until the speaker is either able to complete the word or runs out of breath (6).

Blocks: The most severe difficulty of stuttering is the inability to utter any sound at all. As Van Riper (1989) stated, blocks can be seen as a special type of prolongation where one or more articulators (the velum, lips, or glottis) are “locked” in an obstructive position, virtually prohibiting air flow and preventing speech. It is an abrupt stop in the smooth flow of speech associated with difficulty moving forward. The mouth may be held in one position without sound coming out. Blocks occur when airflow appears to be obstructed and the articulators freeze mid-word, while the speaker attempts to push the word out. (7).

3.1.2. Secondary characteristics

Secondary symptoms include visible physical behavior, body movements that occur in conjunction with a child’s disfluencies. For example, a child may tilt his head back, tap his hand or foot, or blink repeatedly when he becomes “stuck”. According to many definitions, secondary behaviors includes” blinking, closing the eyes, movement of the forehead, grimacing, mouth distortion, jaw tremors, gritting the teeth, forcible inhalation or exhalation, nodding the head, clenching a fist, tapping or stamping hands or feet”. People who stutter use secondary behaviours in order to avoid saying particular sounds or words, certain talking situation, or having to speak at all. Secondary features can also be largely hidden processes such as visualizing the letters of a word and reading it out loud, speaking to a rhythm, variations in breathing, or word avoidance (Panico, Daniel, & Claflin, 2010).

There are also verbal secondary behaviours, including excessive use of the reduced schwa (“uh”)vowel, variable pitch and loudness, extraneous and unusual sounds, the frequent use of fillers, interjected words, hard onsets of phonation, and excessive vocal fry (8). However, the secondary symptoms also reinforce the stutter.

3.2. Covert symptoms

In contrast to the overt symptoms which are generally visible and audible, the covert symptoms are a hidden side and largely invisible features but can have devastating consequences for the person who stutters. These are covert symptoms; including cognitive and psychological processes, and avoidance behaviours. According to Fogle (2012) covert symptoms include thoughts and feelings such as “frustration, anxiety, anger, guilt, hostility, shame, and expectation of difficulty of talking, which leads to inhibitory and avoidance behavior” (8). Covert symptoms seemed as debate, whether it should be referred to as covert symptoms or reactions, because they are the result from the response of the person who stutters or other people who listen to the overt symptoms. To sum up, the symptoms of stuttering fall into two broad categories: overt and covert. There are primary and secondary overt symptoms, which are visible and audible behaviours. A moment of stuttering can also be hidden or covert, such as avoidance behaviours and word substitutions. Covert symptoms of stuttering can have the most significant effect on the person who stutters. People who stutter have a distinctive combination of overt and covert symptoms which, together with the personality traits of the individual who stutters, form a unique set of behaviours.

4-Language and Stuttering

Studies on the connection between stuttering and language have been conducted in abundance. According to early research, linguistic factors play a major role in the occurrence of stuttering events in specific speech stream segments, such as the beginning of sentences, and in words that belong to particular grammatical classes, such as adjectives and verbs (Brown, 1945). Furthermore, a number of studies have shown that a child's stuttering begins at a critical juncture in their language development (Yairi, 1983, Ratner, 1997). A variety of psycholinguistics-based hypotheses have been put out to explain the connection between stuttering and language..

4.1 Concomitant Language Disorders

Children who stutter may exhibit other speech and/or language disorders alongside stuttering; including: articulation, voice, learning, and/or reading disorders (Arndt & Healey, 2001). According to several studies, those who stutter often have articulation abnormalities and a delay in the outset or progression of speech (9).

Blood et al. (2003) investigated 2628 school age children with stuttering, and found that 1650 (62.8%) of them presented another speech, language, or nonspeech disorders; namely, articulation (33.5%) and phonological (12.7%) disorders, while expressive semantic disorder (13.5%) and receptive semantic disorder (12.1%) were the most recorded language disorders. Plus, Learning (11.4%) and literacy (8.2%) represented the most common non-speech-language concomitant disorders. Furthermore, Blood et al. (2003) concluded that speech-language disorders represent the largest percentage (49%) of co-occurring disorders.

Nevertheless, Ntourou et al. (2011) in their meta-analysis pinpointed that some studies found that children who stutter have lower language skills than their classmates who speak fluently (Anderson & Conture, 2000; Bernstein Ratner & Silverman, 2000), others stated that there were not any discernible disparities between them (Bonelli, Dixon, & Bernstein Ratner, 2000; Nippold, Schwarz, & Jescheniak, 1991), while others claimed that a stuttering child had basic language skills (10).

However, Ntourou et al. (2011), in their own study, deduced that children who stutter, compared to their fluent classmates, seem more prone to have concomitant language disorders, and on seven out of ten language skills tests, nonstuttering children perform better than stuttering children.

Furthermore, in a study of 467 children with documented fluency difficulties, Arndt and Healey (2001) reported that 44% also had concomitant phonological and/or language disorders.

According to the same study, more than 33% of children who stutter also have concomitant articulation problems, and about 12% of children who stutter also have phonological problems; both statistics are much higher than would be anticipated in the general population (11).

For a number of reasons, children who stutter are more likely to develop a speech or language disorder. If a child with stuttering has another problem, learning to communicate properly will present extra challenges. As a result, they may begin to feel that communication is challenging. The outcome might be that the child is put under pressure beyond what he or she is capable of managing (Blood et al., 2003). Likewise, according to advocates of motor theories of stuttering, coexisting disorders not only interfere with the development of fluent speech but also promote the development of stuttering (12).

On the one hand, people who stutter may physiologically already have limited speech motor control and language formulation abilities, which would only be made worse by concomitant disorders. On the other hand, those who stutter may have a mechanism that encodes speech and produces language that is more prone to be disturbed.

4.2 Bilingualism and Stuttering

Unless otherwise stated, bilingualism is defined, in its broad sense, as a state that can range from a full, simultaneous, and alternating control of two languages to the degree of certain control of a second language besides the total inherited control of the native language by an individual (13).

It is accepted in regard to bilingualism in young children that the job of a child becoming bilingual is highly challenging (14).

The child must first become conscious that he or she is exposed to two different languages. This involves learning the different sounds associated with each language as well as the fact that the same items and actions have different attributes in each language (15).

The child will eventually need to understand that there are specific rules for how to communicate the same ideas in each language, and the manner of communication in each language is different. Therefore, the child has no option but to distinguish between the two languages and develop a competence in both of them as a result to the pressure made by their linguistic environment (16).

The child may use some techniques to avoid the need to acquire (or maintain) proficiency in both languages in contexts when bilingualism may be circumvented in some way (for example, if the child knows that his or her listeners are also bilingual). For instance, the fact that school-age immigrant children still understand their native language but have mostly lost their capacity to use it productively has frequently been reported (17).

Stuttering frequently seems to be associated with bilingualism when there is no other way to properly function in a bilingual situation other than by being proficient in both languages. Stuttering seems to be more common among bilinguals than in monolinguals, despite the fact that the intriguing relationship between bilingualism and stuttering has not been specifically studied. It has been mentioned in several stuttering discussions that bilinguals tend to stutter rather frequently (18).

Several studies have hypothesized that bilinguals are more likely than monolinguals to suffer from stuttering. Travis, Johnson and Shover (1937) conducted a study on 4827 children (2405 boys and 2422 girls). They concluded that the stuttering prevalence in their population was 2.61%; plus, the prevalence was 1.80% in monolingual English-speaking children which was less significant compared to the prevalence of stuttering in those speaking one (2.80%) or two (2.38%) other

languages. The same conclusion was drawn by Stern (1948) in his study, that was cited in Bloodstein (1995), where he studied 1861 children and found out that those who were bilingual had a stuttering prevalence of 2.16% compared to children who were monolingual (1.66%).(19)

Moreover, Tavis et al. (1937), in their attempt to explain the relationship between stuttering and bilingualism, found out that the age of onset of stuttering overlapped with the introduction of the second language in 26% of the cases, suggesting a direct relationship between stuttering and bilingualism. In the same vein, Karniol (1992) posited that stuttering is the result of a syntactic overload made by the introduction of the second language.(20)

A further element was identified by Lebrun and Paradis (1984) that could play a role in triggering stuttering in bilinguals. They emphasized the value of language stimulation for bilingually raised children. They specifically proposed that bilingual children with a predisposition to stuttering could acquire stuttering as a result of exposure to linguistically mixed utterances. It was suggested that speech production is hindered in stuttering children because they find it difficult to choose just one of two equivalent linguistic words crossing their minds, because it is very often that monolingual stutterers typically mix two synonymous words or sentences.

The challenge would be exacerbated if two languages were spoken in a quasisimultaneous manner.

In a study in the Algerian context, Amrani and Aiouadj (2020) have studied 24 monolingual and bilingual (Chaoui and Arabic) children with stuttering. They concluded, despite the small size of the population, that there is a strong link between stuttering and bilingualism, especially when the two languages are introduced simultaneously.(21)

5-Children who stutter characteristics

Data were reported on 2628 children who stutter and who were currently receiving treatment on the caseloads of the SLPs. According to Table 2, the majority of the children who stuttered were male (78.4%), European-Americans (59.8%), with a mean age of 9.4 years. Children were unevenly distributed among grade levels with the largest number of children in grades 1–3 (36.2%) and the smallest number of children in the 9th through 12th grades (8%). SLPs reported that they used both formal and informal tests for diagnosing stuttering. Nineteen percent of the SLPs used only formal or commercially available tests. Some of these included: Protocol for Differentiating the Incipient Stutterer (22). Scale for Rating the Severity of Stuttering (23), Stuttering Severity Instrument (24), Cooper Personalized Fluency Control Therapy, Revised (25), Systematic Fluency Training for Young Children (26), S-Scale (27), etc. Thirty-three percent reported using only informal measures for assessment. These included measures such as: word and/or syllable counts, speaking rate, amount and types of disfluency, duration of the moments of stuttering, physical concomitants, level of awareness, case history, client motivation, etc. The majority of SLPs (56%) reported using both formal and informal measurements.

6-Conclusion

Overall, there has been a lot of study done on the connection between language and stuttering, with multiple studies looking into how linguistic aspects affect stuttering. Stuttering children frequently have additional speech and language impairments, such as learning, literacy, phonological, receptive and expressive semantic, articulation, and others. Another element that may have an impact on stuttering is bilingualism. It can be difficult for a child to learn two languages, but they must be able to tell them apart and become proficient in both. The strain of this procedure may interfere with the development of speech and language, possibly resulting in stuttering.

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