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REVIEW

Characterization of the tartamudez from the point of view logofoniátrico

Caracterización de la tartamudez desde el punto de vista logofoniátrico

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ABSTRACT

Stuttering is the most common speech disorder in children. Its etiology is multifactorial. The diagnosis is based on a correct anamnesis and clinical examination. Despite the fact that a large number of cases resolve spontaneously, treatment should not be delayed for more than a year, because long-standing forms have a worse prognosis. In cases where stuttering is associated with other neurological symptoms, other pathologies must be ruled out. A literature review was carried out, finding 35 articles in total, of which only 15 fulfilled the validity criterion in order to characterize the most frequent verbal fluency disorders from the logofoniatric point of view. Studies carried out by different authors show that stuttering is considered one of the chronic logofoniatric diseases that occur more frequently in the child population, not only at the national level, but also in our province, which shows that the knowledge of the family about the management and treatment of this condition in their children.

Keywords: Speech; Stammering; Disorder; Verbal Fluency; Forecast; Treatment.

RESUMEN

La tartamudez es el trastorno del habla más frecuente en la edad pediátrica. Su etiología es multifactorial. El diagnóstico se basa en una correcta anamnesis y exploración clínica. A pesar de que un gran número de casos se resuelve espontáneamente, no se debe retrasar más de un año el tratamiento, porque las formas de larga evolución tienen peor pronóstico. En los casos en los que el tartamudeo se asocie a otra sintomatología neurológica, hay que descartar otras patologías. Se realizó una revisión de literatura encontrándose 35 artículos en total de los cuales solo 15 cumplían el criterio de validez con el objetivo de caracterizar los trastornos de la fluidez verbal más frecuentes desde el punto de vista logofoniátrico. Estudios realizados por diferentes autores demuestran que la tartamudez está considerada dentro de las enfermedades Logofoniátrica crónicas que se presentan con mayor frecuencia en la población infantil, no solo a nivel nacional, sino también en nuestra provincia, lo que demuestra que aún es insuficiente el conocimiento de la familia acerca del manejo y tratamiento de esta afección en sus hijos.

Palabras clave: Habla; Tartamudez; Trastorno; Fluidez Verbal; Pronóstico; Tratamiento.

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INTRODUCTION

Stuttering is nothing more than a pathological alteration in the rhythm of speech. It is an involuntary alteration of the fluency of verbal expression characterized by the repetition of sounds, syllables, or words, accompanied by facial gestures or changes in breathing frequency, as well as speech blocks or prolonged pauses between sounds and words.[1] Developmental stuttering is the most common form and accounts for around 80 % of cases. It occurs in children developing language skills, usually between the ages of three and eight. It typically begins in patients with typical language development and often occurs suddenly (in half of cases, between one and three days, and in a third in a single day). This onset is not associated with specific environmental or social factors, and shyness is not a risk factor. The diagnosis is based on clinical findings, and no additional tests are necessary.[1,2]

Stuttering, spasmophemia, or speech disfluency is a communication disorder (not a language disorder) characterized by involuntary interruptions in speech accompanied by muscle tension in the face and neck, fear, and stress. These are the visible expressions of the interaction of certain organic, psychological, and social factors that determine and guide the formation of an individual's being, behavior, and feelings with their characteristics. The psychological effects of stuttering can be severe, continuously affecting the person's mood...in many cases leading to significant social isolation.[1,2] In addition, stuttering is a highly stigmatized disability, where the intelligence and emotional ability of the person who stutters is continually questioned, as it is believed that by "calming down" or "concentrating more on what is being said," they will be able to speak fluently. It typically begins between the second and fourth year of life, although it is often confused with age-related speech difficulties. In the end, only one in 20 children stuttered, and many outgrow the disorder in adolescence—less than 1 % of adults stutter.[1,2]

Stuttering does not distinguish between social class or race. However, it is three to four times more common in men than women. No specific cause for this disorder has yet been found, but in February 2010, scientists announced the discovery of three genes associated with the prevalence of stuttering. This has been studied for several years since it began to be noticed that stuttering is prevalent in families.[3] Despite popular belief, stuttering is not associated with anxiety, nor is it an effect of anxiety on its development; however, stuttering does cause anxiety in individuals who have it, becoming a social phobia, where they fear stuttering in front of people, often leading to social isolation.[1,2]

Studies conducted by different authors show that stuttering is considered one of the most common chronic speech disorders in children, not only nationally but also in our province, according to research conducted at the Paquito González Cueto Pediatric Hospital (Morbidity of Oral Communication Disorders 2011-2013), which shows that families still lack sufficient knowledge about the management and treatment of this condition in their children.[1,2]

Based on the above, the objective is to characterize the most common verbal fluency disorders from a speech therapy perspective.

DEVELOPMENT

Stuttering or functional spasmodic dysphonia is a kind of universal scourge that has affected humanity since it has been known, regardless of geographical, climatic, ethnic, and social differences. It is the most striking oral condition with the most significant and worst psychological repercussions.

Already in the Old Testament, the Bible mentions Moses as a stutterer. In Exodus 4:10, Moses said to the Lord, "Lord, I am not eloquent, neither in the past nor since you have spoken to your servant; I am slow of speech and tongue."

Another famous figure from ancient times who suffered from this condition was Demosthenes, the great Greek orator and tribune. At the beginning of his career, he had severe speech problems and began to train himself verbally and vocally with incredible difficulty. He had small stones placed in his mouth and repeated harangues and speeches. He also ran against the wind, climbed hills to improve his breathing capacity, and spoke loudly on the seashore to try to overcome the noise of the waves.

Other figures from antiquity who suffered from this condition included Virgil, Aesop, and Aristotle.

Many well-known figures in modern times have also suffered from stuttering, including Charles I, George VI, W. Churchill, Charles Lamb, and Charles Darwin (the famous 19th-century English naturalist who founded the theories of natural selection and the origin of life, which brought him international fame).

The famous English writer W. Somerset Maugham, on his deathbed, said of stuttering: "at last cured," demonstrating the degree of suffering that this condition caused him throughout his life.

Monks were the first to treat this condition. Numerous doctors have applied multiple treatments since ancient times, notably Hippocrates, Galen, and Celsus, who tried to cure it with oils and ointments applied to the tongue and breathing exercises, which are still used today by many authors. In the 16th and 17th centuries, stuttering was thought to be caused by moisture in the brain or coldness in the tongue, and it was treated with vapors and wine to warm it up.

There have been various treatments, ranging from black magic, obscurantism, psychoanalysis, surgery with wedge-shaped tongue reception, hypnosis, physiotherapy, etc.

How can this disease be defined?

It is an oral disfluency due to a disruption in the speech integration mechanism in the early years of life.

It is considered a superstructure, a psychofunctional epiphenomenon that builds on a physiological ideo-verbal imbalance known as physiological stuttering. The American Psychiatric Association states that stuttering is "an alteration in the normal fluency and timing of speech, characterized by the presence of disfluencies that interfere with academic performance or occupations and social communication." In one of his articles in 1971, Van Riper stated that the fact that stuttering normally appears in childhood is one of the solid pieces of information we have about stuttering.

Stuttering arises as a phobic complication of physiological stuttering. How can we define physiological stuttering?

Physiological Stuttering

Concept: Physiological oral disfluency occurs between the ages of two and six due to the ideo-verbal imbalance during this period of child language development.

Children at this stage can think practically without limits but are at a disadvantage due to their limited articulatory capacity and vocabulary in these early years of life. They are characterized by hesitations, stuttering, oral imprecision, repetition of sounds, syllables, words, sound elongations, and isolated and few spasmodic muscle contractions (tonus).

Most children evolve to normality through a balance between thought and speech and, therefore, to adequate verbal expression, acquired through child language maturation, which is significantly influenced by the family environment. Parents should adopt an intelligent and understanding attitude, ignoring the usual difficulties of this stage and slowly and gradually facilitating the acquisition of a more extensive vocabulary.

One percent of children develop into definite stuttering, with a lack of coordination between speech mechanics and verbal conception with an organic hereditary-constitutional basis.

In 2 % of cases, children develop an abnormal experience and exaggerated awareness of the oral difficulties inherent in this physiological stage of speech integration. This halts and diverts the formation of oral automatism, causing them to react neurotically and become stutterers. This process occurs in two ways: exogenous and endogenous.

Family pressures cause exogenous stuttering. The environment surrounding the child insists that they speak better, in a completely untimely "oral perfectionist" endeavor, most often in a demanding tone, demanding the suppression of repetitions and hesitations. It is easy to understand the critical situation in which the child is placed, realizing that he does not speak well and wants to suppress his difficulties, for which he finds nothing at his disposal other than his articulatory muscular effort since the thought-speech balance, which is ultimately what will resolve the situation, can only come about through a process of maturation and vocabulary enrichment. These oral demands from family members, even if well-intentioned, place the child in a dead-end situation of spasmodic contractions that can only lead to stuttering.

Another pathway, the endogenous one, is in which some children develop stuttering without external, social, or environmental pressures, but are endowed with such fine sensitivity and intelligence that they are able to perceive their oral difficulties for themselves and thus develop the disorder.

Evolution of Physiological Stuttering

Some authors, starting from physiological stuttering, have proposed the concept of developmental stuttering.

Fröschels is recognized, among other achievements, for structuring the evolution of stuttering.

The evolution of the clinical picture, starting with the repetition of sounds, syllables, and words (clonus) characteristic of the physiological stuttering stage, would be followed by the first muscle contractions, constituting a clonus-tonus stage. As the incidence of muscular effort increases, a tonus-clonus state would predominate, finally reaching a stage characterized mainly by more frequent, intense, and organized, framing the initial stuttering. These difficulties continue to attract the attention of others and of the child himself, who, through self-criticism and increasing insistence on using muscular force, quickly leads to a chain of symptoms that lead to defined stuttering, where awareness of his difficulties predominates. Defined stuttering is characterized by an exacerbation of clonus and tonus and the appearance of a series of symptoms that indicate awareness of oral difficulties. The purpose of these symptoms is to evade or avoid the emergence of tonus. These include synkinesis or concomitant movements (more or less violent closing of the eyelids, various grimaces, facial contortions, fist banging, etc.), embolophrasia (use of support words, sounds, and even words that the stutterer inserts into their speech, often at the beginning of a word or phrase), breathing alterations (false impression of a breathing deficit, attempt to speak while inhaling, rapid and shallow breathing, predominance of abdominal breathing, imbalance between thoracic and abdominal breathing), latencies, concealment phases (use of synonyms to avoid the word that frequently produces the Tonus, grammatical detours, decapitation of sounds, syllables, etc.). All of these symptoms, accompanied by serious psychological repercussions such as negativity when expressing oneself, communicating with others, and interacting with schoolmates, neighbors, etc., lead the individual to neurosis.

In medical practice, there are two forms of clinical manifestation:

Clonic: When repetitions, hesitations, and stuttering predominate.

Tonic: When spasmodic muscular effort predominates in the clinical picture.

There are other ways in which stuttering can develop:

- As a complication of treating dyslalia and hyperrhynolalia, if prophylactic measures are not taken.
- As a complication of permanent stuttering (there are cases of people who stutter and are under pressure from environmental and social factors, developing a particular awareness of their disorder and incorporating spasmodic symptoms).
- Imitative or simulated (late onset, not very common, described by some authors).
- Psychogenic (late onset, transient, and sudden, due to a psychogenic disorder related to some psychological stress, shock, or significant emotional conflict). The speech pattern is characterized by its symptoms not evolving; that is, they appear abruptly. There are repetitions of initial and stressed syllables. There is no masking or concealment phase, no secondary symptoms, no evasive behavior or attempts at inhibition, and no impairment in reading aloud, singing, or different situations of communicative interaction.

The leading causes of its appearance are due to the child's predisposition. To reinforce this, Fleitas quotes Castros, who states that "[...] it is the state of organization of the nervous system that is formed from the interrelation of the individual's congenital conditions with the experience lived in their historical development and unconsciously predetermines their behavior, emotions, etc."[2,3,4,5]

Biological factors (brain infections, traumatic injuries to the central nervous system, postnatal damage, and heredity) and psychosocial factors also play a role, such as:

- Children grow up under the influence of stuttering parents and siblings, which leads them to imitate people who stutter.
- Family and social demands.
- Difficulties in family dynamics: the child does not feel protected, is insecure, or suffers from conflicts between parents.
- Application of inappropriate educational methods by the family, making the child aware of their difficulty in oral communication and trying to correct it by force, mainly during physiological stuttering.
- Low cultural level of parents and family in general.
- Emotional instability.

Teachers and specialists can treat this condition, but if we consider that stuttering generally appears after parents' poor management of physiological stuttering, we agree that alerting families, guiding them, and preparing them early on is urgent in these cases. Prevention begins with early stimulation of language development at home.[6,7,8,9]

Epidemiology

- Two out of every 100 people worldwide stutter.
- It is more common in men than in women.
- It ranks second among speech disorders in frequency, surpassed only by dyslalia.
- Recent studies in our country reveal some statistics related to stuttering. For example, in the municipality of Cerro in Havana, 3/2 children were observed at the entrance to the Children's Circle, of whom 0,69 % had stuttering.[10]

Theories about its causes

Numerous theories have attempted to explain the cause of this condition. We will briefly mention some of them.

Psychoanalytic theory

This theory proposes that stuttering is the result of regressions and/or fixations in the pregenital or anal stage of sexual development. The psychological conflict is expressed somatically in speech.

Neurological theory

This theory states that stuttering is the result of poor muscle innervation by the articulatory apparatus, based on the untimely or inappropriate arrival of nerve impulses from higher centers.

Theory of neurological dysfunction

This theory proposes that stuttering results from poor articulation (theory created by our professor, R. Cabanas Comas).

The theory accepted by the Cuban Society of Speech Therapy and Phoniatrics is the functional theory of the Vienna school. This theory proposes that stuttering develops from a breakdown and deviation in the automatic integration of speech, a process that takes place in early childhood. It is a phobic reaction to physiological stuttering.

Prognosis

The prognosis for this condition is favorable in young children with early diagnosis. It is unfavorable in very chronic cases with psychological complications.

Prophylaxis to prevent verbal fluency disorders

This is based on a series of measures to prevent the onset of the disease or avoid serious complications. To achieve this goal, it is necessary to:

- Stimulate or encourage the development of the child's vocabulary (by reading stories, telling anecdotes, talking to them a lot in a clear and precise manner, and without mispronouncing words).
- Ignore the way they speak. This consists of:
    1. Do not interrupt or rush them when they are speaking.
    2. Do not scold them when they speak incorrectly or correct them when they mispronounce a word. When this happens, say simple sentences or phrases with the word in question several times a day so that the child hears the word pronounced correctly. If there is no improvement, take the child to a speech therapist for treatment or more precise instructions, thus avoiding the establishment of unpleasant habits.
    3. Do not ridicule them, speak for them when difficulties arise, or suggest pseudo-facilitating methods.
    4. Do not demand they speak when emotionally charged, tired, or fatigued.

5. Do not force them into situations where they have to speak in front of others or demand a higher level of cultural speech.
6. Take into account the imitation factor.
7. Dyslalia should not be treated when it occurs alongside this disorder.

Speech therapy or prevention of stuttering:

The golden rule is that the child should not be aware that they are receiving speech treatment, let alone being observed or monitored in each activity.

1. Guide the child:
   - speak slowly.
   - Breathe before speaking or wait for the other person to finish speaking.
   - Think before speaking.

2. Do breathing exercises, such as:
   - Blowing up balloons
   - Blowing out candles (or any other object that interests them), gradually increasing the distance.

3. Read aloud with expression and intonation, respecting punctuation marks.
4. Narrate orally using story pictures that interest them, thus facilitating oral fluency and vocabulary development.
5. Play is a fundamental activity used to carry out corrective work.
6. Eliminate incorrect educational methods:
   - Avoid putting them in situations that cause tension, such as speaking in front of people they don't want to or showing off their knowledge.
   - Don't make the child aware of their difficulty in communicating orally.

7. Ensure a good family dynamic so the child feels accepted, loved, listened to, understood, and surrounded by positive experiences.
8. Stimulate the child's development, always trying to avoid anxiety caused by communication and ensuring a proper daily routine and physical, mental, and environmental hygiene.
9. Count or make sustained sounds for a certain amount of time without interruption, always making it clear that it is a game, considering the child's age. Example: 1, 2, 3, 4... Aaaaaaa...

Carrying out these activities and considering this advice will undoubtedly facilitate communication with children.

CONCLUSIONS

Stuttering is a pervasive disorder whose epidemiological incidence has not yet been fully defined. It can occur due to various neurological disorders and lesions in different locations, and despite recent advances, no pathophysiological mechanism has been discovered that fully explains it. Currently, no drugs have proven efficacy in treating stuttering. Treatment is based on the usual approaches for developmental stuttering, i.e., speech therapy. New studies with patients affected exclusively by stuttering would help clarify the underlying pathophysiological mechanisms of this condition and open the door to new options for individualized and specific treatment.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

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