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THE IMPORTANCE OF IDENTIFYING ENVIRONMENTAL FACTORS FOR STUTTERING TREATMENT IN MONOZYGOTIC TWIN GIRL

ZNAČAJ UTVRĐIVANJA SREDINSKIH FAKTORA MUCANJA ZA KREIRANJE TRETMANA JEDNOJAJČANE BLIZNAKINJE

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Abstract

**Introduction.** Stuttering is a speech disorder and it’s etiology is an interplay of genetic and environmental factors. Despite the absence of definite etiology understanding there are numerous available treatments for stuttering. For some adult patients, contemporary concept includes psychotherapist involvement concomitant with speech therapist.

**Case report.** A twenty-four years old girl is a monozygotic twin who has been stuttering since early childhood, while her twin sister has never exhibited a speech disorder. Since the role of genetic factors was evident (father stuttered too), the focus of this report was on environmental factors of physical and psychological development (slow development), as well as family psychodynamic (divorcing parents in early adolescent period and criticized from her father at stuttering). Patient, as well as her family members, denied the symptoms significance, which could also explain the absence of early treatment.

**Conclusion.** Unfavorable conditions of psychological development, as well as family psychodynamic could explain speech therapy starting at the age of twenty-four and being insufficient for symptom overcoming. Psychotherapy is indicated in the integrative part of treatment in this case of speech disorder.

**Key words:**

psychotherapy; environmental factors; twins; stuttering; speech disorders; speech; genetics; family.

Abstrakt

**Uvod.** Mucnje je govorni poremećaj čija etiologija podrazumeva međudejstvo genetskih i sredinskih faktora. Uprkos odsustvu konačnih odgovora o etiologiji, postoji veliki broj raznovrsnih tretmana. Savremeni model lečenja mucanja pored logopeda uključuje i angažovanje psihoteraputa u nekim slučajevima lečenja odraslih pacijenata.
Prikaz slučaja. Ispitanica je jednojajčana bliznakinja stara 24 godine, koja muca od ranog detinjstva, dok njena sestra bliznakinja nikada nije imala govorni poremećaj. S obzirom na to da je uticaj genetskih faktora očigledan (otac muca), fokus prikaza je na sredinskih faktorima fizičkog i psihičkog razvoja (sporiji razvoj), kao i na porodičnoj psihodinamici (razvod roditelja u ranom adolescentnom periodu i kritikovanje od strane oca zbog mucanja). Članovi porodice, kao i sama ispitanica, negirali su značaj simptoma, čime se može tumačiti i odsustvo ranog tretmana.


Ključne reči: psihoterapija, sredinski faktori, blizanci, mucanje, govorni poremećaji, govor, genetika, porodica.

Introduction

Stuttering is a speech fluency disorder with the etiology that implies the interaction of genetic and environmental factors. Evidence is consistent in reporting higher prevalence rates in families with a history of stuttering. Available literature suggests that 70%-80% of variance can be explained by genetic factors. Studies focusing on the environmental factors of psychological development in the onset and maintenance of stuttering are rare. Since stuttering is a disorder affecting not only speech fluency but mental health, social functioning and quality of life, effective treatment is needed. Some researchers suggest using an individualized approach to every person who stutters in an attempt to understand the specific set of etiological factors, onset conditions and indications for certain modalities of treatment. Other authors suggest “smart tailored” approach to adult stuttering - innovative treatments that are adapted for subtypes in adults who stutter. Holistic therapeutic approach addresses speech as well as the emotions and attitudes of people who stutter in the social context. Therefore integrative programs including speech-language pathologists and psychologists, psychiatrist, psychotherapist may better serve adults who stutter. Some researchers suggest that some people who stutter could benefit...
from psychological counseling/psychotherapy that focuses on mental health issues associated with stuttering\textsuperscript{14,15,16}.

**Case report**

Patient (marked as M) was monozygotic female twin stuttered from early childhood but aged 24 when started speech therapy. Other female twin did not stutter and has never had this speech disorder. Father of twins also had the same speech problem in adulthood. Since the presence of genetic factors was evident, the study focused on environmental factors that might be associated with stuttering persistence and the speech therapy late onset. Structured interview based on the Berger’s list of basic biographic data\textsuperscript{17} was applied. The unstructured interview with M focused on the family’s psychodynamics, her attitudes to the disorder and her family’s attitudes towards stuttering. The interview with her mother consisted of questions covering biographic data, possible illnesses, family psychodynamics and information related to daughter’s stutter and the course of it’s development.

Early psychophysical status showed some physical consequences of childbirth. M was significantly bluish, with slightly sprained shoulder and had weaker status after birth compared with her twin sister. Although M had a normal weight for a twin pregnancy (2,850g) she lost significant weight immediately after delivery (2,200g) and had slower weight gain in the next few months. M began to walk first, while her sister was the first to talk. At age 7, M had a short period of enuresis.

Twins were born in a complete family and grew up in an extended family with parents and grandparents in the father’s family house. In the pre-school period, M was more attached to her grandmother with other family members reinforcing this relationship saying she was her grandmother’s granddaughter. Members of the father’s family also used to emphasize M was “theirs” because of her difficulties with speech being similar to her father’s. When M was 12 years old her parents divorced, and twins continued to live with their mother. The parents’ marriage was characterized by emotional distance and a lack of communication, the atmosphere in the home was quiet and cold.

For the first time M became aware of stuttering when she was about age of 9 and her mother took her to a speech therapist. According to her mother, both psychologist and speech therapist concluded that the cause of stuttering was M’s attempt to imitate her father trying in that way to become closer to him. For M, this was not accepted as a valid cause of
stuttering and M stopped treatment after two or three appointments. After parents `divorced M’s father neglected her in her early teen ages. In this period stuttering intensified in father’s presence, but with specific relation towards M that reflected in teasing and insulting jokes about her stuttering. The mother offered very scanty information about M’s stuttering. Her own attitude towards daughter’s problem was missing as well as the stuttering (either that of M or of her father) was not perceived as a problem or was ignored at all. In M’s opinion, the family was ashamed of her disorder. When M was about 20 years old, problems with speech increased. Stuttering was more frequent and strong jaw spasms developed when she tried to pronounce a word. That was the same period when she had started to be more frequently in contact with her father. M decided to seek professional help, this time, by her own. Realizing that she had a speech disorder that needed a treatment a long time ago and that she would have to be in therapy for a long period of time, was a very distressing for her. Because of that and of speech therapy limited success M decided to see a psychotherapist too.

M was referred to psychiatrist and psychologist. After a clinical interview, and psychological exploration, conclusion was that psychiatric treatment was not indicated. Psychological exploration showed that what stood out about M was above all her relationship with and toward people. M easily established and maintained harmonic relationships being pleasant, warm and well-intentioned. Good self control and a capacity for self-management helped her to achieve her goals and tasks easily. On the other hand M had tendency to worry too much and to perceive problems bigger than they objectively were. She easily became anxious and put up with more than other people would in her circumstances. She rarely got mad which contributed to her harmonious relationships. On the other hand the absence of rage as a result of it’s inhibition potentiated her anxiety. Excessive rage inhibition was likely a possibility because of M cares deeply about good relations and acceptance by the others, frequently at the cost of her own needs. M was at risk from being over-defensive concerning other unpleasant emotions since it was of the utmost importance for her to be happy, satisfied and well accepted.

Discussion

We described a case of a twenty-four years old monozygotic twin girl who has been stuttering since early childhood, while her twin sister has never exhibited a speech disorder.
Given that age is one of the strongest risk factors of stuttering, it is important to emphasize that this study examines a later beginning of stuttering. Although the disorder begins in a wide range of ages, results of research so far show that in about 65% the stuttering appears before the age of 3, and even 85% until age 3½. Children older than 4 are faced with a relatively smaller risk of stuttering. Since the role of genetic factors was evident (father stuttered too), the focus of this report was on environmental factors of psychological development, as well as family psychodynamic.

Our report is in the accordance with research showing that environmental factors could explain 20-30% of the variance in stuttering\(^1\)\(^2\)\(^5\)\(^6\). Apart from the factors concerning birth conditions and early physical development (monozigotic twin with weaker status at birth, weaker physical improvement, enuresis, stuttering) this report enlightened the existence of specific environmental factors of M’s psychological development. Family members stimulated her identification with her father who also has untreated stuttering. Therefore the function of the stutter maintenance could be to bring M closer to her father and father’s family (grandmother). Although more accepted by the father’s family because of her stutter, M was at the same time additionally humiliated by her own father because of it. In her overall development M has shown a strong orientation towards social relations. This is contrary to research\(^1\)\(^8\)\(^19\) which show that people who stutter, especially those whose stutter is a long-standing problem (as it is with our examinee), are socially withdrawn and develop social anxiety. She was very expressive and therefore received so needed encouragement in the interaction with her environment. Like a more vulnerable twin but at the same time strongly oriented to relations with others, M developed social relationships that were compensation for her deficit and protected her from rejection as a weaker twin. More oriented towards others and at the same time attached to her grandmother as the source of emotional security, M was exposed to greater pressure to position herself as the one who belongs to her father’s family comparing with her twin sister too. Therefore, M was under greater risk to adopt her father’s symptom, that was stuttering, than her sister was.

The maintenance of stuttering as well as treatment avoidance has enabled M, as well as her family’s symptom denial. This has notably lowered the possibility of a successful overcoming of stutter. Namely, as research shows\(^2\)\(^0\)\(^2\)\(^1\)\(^2\)\(^2\)\(^3\)\(^2\)\(^4\) children can successfully overcome stuttering in a high degree (70%-87%) while the lack of treatment, carries with age a risk that the stuttering can become a permanent speech disorder. Her family members
favorized and ridiculed her stuttering at the same time. The father’s stuttering was never treated as a disability, so the same attitude was kept toward M’s condition. This attitude was equally shared by M’s mother, which all together resulted in the negligence of the need for professional help. On a personal level, M herself denied her symptom too. In the case of our patient, it is actually lack of treatment of the stuttering in early childhood. It is noticeable that M didn’t start to painfully realize her speech disorder before her early twenties. Her compensatory mechanisms which kept her social relations at the high level, as well as her tendency to suppress unpleasant emotions started to weaken with the intensification of her symptomatology. Our findings on the examinee are in line with research that shows that persons who stutter, compared to the control group, have elevated neuroticism, which is characterized by anxiety, emotional instability, stress vulnerability. The same research shows that these individuals have an elevated level of agreeableness – they are more kind, warm and thoughtful, which are tendencies that characterize our examinee. The existence of these tendencies, particularly expressed in our examinee, can explain the absence of her social anxiety and social isolation. Although her symptoms maintained at the same level for years, they began to worsen in the period in which M started to have more frequent contact with her father. This was at the same time of actualization of M’s early experiences and confrontation with her father’s essential negligence and harassment. This probably resulted with the release of hostile emotions, which could explain her initiative to meet with a psychologist. The fact that the worsening of her speech problem symptoms incited her to seek help implied that she had a good internal motivation. However, the unfavorable conditions of her psychological development, as well as the families psychodynamic concerning her stuttering resulted in speech therapy being not enough for the overcoming of symptoms. An adequate treatment for M’s stuttering must include psychotherapy, as well as speech therapy, since clear indications for psychotherapy have been determined. Recommended focus in psychotherapy would be to gain insight into the meaning of M’s symptom and its denial, which would lead to a clearer self-perception and development of more authentic relationships, above all with her father.

**Conclusion**

Our case report detected, besides evident genetic factors, clear environmental factors concerning psychological development and family psychodynamic which could explain the
onset and maintenance of stuttering. Same factors were responsible for the long-term problem denial and the treatment starting at the age of 24. It is reasonably to suppose that psychotherapy as a part of integrative treatment and focused to gain insight into the meaning of symptom could be beneficial in treatment of speech disorder.

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