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Cluttering Treatment: Theoretical Considerations and Intervention Planning

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Abstract

This article presents a variety of treatment approaches based on an understanding of four components of communication, and describes cluttering intervention focusing on problem identification, speech rate reduction, appropriate pausing, appropriate monitoring, and addressing story narrating skills. Therapeutic considerations, taking into account the specific characteristics of cluttering, will also be presented. Finally, building clients' confidence, emotional skills, and sense of accomplishment will turn the therapeutic process into awareness of realistic expectations and motivation to pursue challenging goals.

Cluttering is a disorder of speech fluency in which people are not capable of adequately adjusting their speech rate to the syntactical or phonological demands of the moment (van Zaaen, 2009). When language production is relatively easy, people with cluttering (PWC) are capable of producing fluent and intelligible speech. When language production demands are more complex, the speech rate should be adjusted to the language complexity. PWC tend to have difficulties doing so. This reduced ability of PWC to control their speech rate results in either a higher than normal frequency of disfluencies or multiple speech errors. This article presents various intervention approaches based on an understanding of four components of communication: cognitive, emotional, verbal-motor, and communicative. The article focuses on problem identification, speech rate reduction, appropriate pausing, and addressing monitoring and story narrating skills. Therapeutic considerations, taking into account the specific characteristics of cluttering, will also be presented.

Speech Rate

The speech rate is influenced by two components: speech execution and pauses. Syllable duration normally is rather consistent, while pause duration varies to a great extent between speakers. Daly (1992) observed significant improvements in clients with cluttering when a synergistic and multi-dimensional perspective in treatment was implemented. Myers and Bradley (1992) introduced a widely followed synergistic perspective in treating clients with cluttering. This perspective integrates different approaches in treating PWC who manifest various symptoms. It may be noted that these symptoms interact, and affect each other in a variety of ways. Addressing multifaceted interactions of these symptoms can be very challenging.

Subtyping of Cluttering

Differences in symptoms of cluttering led researchers to identify various subtypes of cluttering, such as dysarthric, dysrhythmic, dysphasic, motor, and linguistic (Damsté, 1990; Ward, 2006). van Zaaen (2009) described two types of cluttering: syntactic and phonological. Similarly Reichel's Brief Cluttering and Stuttering Questionnaire (BCSQ) sought to identify the

same types of cluttering based on clients' responses to a question: "What interferes more with your communication? Planning and formulating thoughts or fast and unclear speech?" (Exum, Absalon, Smith, & Reichel, 2010). Difficulties in planning and formulating thoughts would indicate phonological cluttering, while fast and unclear speech would indicate syntactic cluttering. We will now describe how these two types of cluttering can be differentiated.

Syntactic Cluttering. Syntactic cluttering refers to problems in grammatical encoding and word retrieval at a fast speech rate. Such symptoms occur more frequently in linguistically complex situations. The problems are manifested by normal disfluencies, such as word and phrase repetitions, interjections, hesitations, and revisions (van Zaalen, 2009).

Phonological Cluttering. Phonological cluttering, according to van Zaalen (2009), refers to problems in phonological encoding and is characterized by word structure errors (e.g., coarticulation, telescoping, or syllable sequencing errors) at a fast speech rate, especially in multisyllabic words. Similarly to syntactic cluttering, symptoms of phonological cluttering occur more frequently in linguistically complex speaking situations. For a discussion as to how such subtyping can assist in the treatment of cluttering, see van Zaalen and Reichel, in press).

Four Components of Communication

The four component model of Stourneras (in Bezemer, Bouwen, & Winkelman, 2006) explores the interaction of different communication components in cluttering: cognitive, emotional, verbal-motor, and communicative. Clinicians who work with PWC may use this model to improve the performance of their clients in all four components of communication (van Zaalen & Winkelman, 2014; van Zaalen & Reichel, in press).

Cognitive Component in Cluttering Therapy

PWC often feel misunderstood and incompetent. Negative thoughts and feelings of PWC are not as deep as such thoughts and feelings in people with stuttering, but they contribute to doubts about the future, uncertainty about treatment, low self-esteem, and motivation (Daly, 1993, 1986; Reichel, 2010). While practicing a different manner of speech, most PWC will not feel comfortable, in the beginning. Their speech does not feel "natural" to them. A clinician should be aware of such clients' cognitions and negative self-appraisal. The clinician should play back segments of the client's speech, using audio and video recordings in order to demonstrate to the client that the new speech pattern is much more intelligible.

Emotional Component in Cluttering Therapy

PWC may respond to their failure to speak clearly and to be understood by experiencing anxiety and frustration (Dalton & Hardcastle, 1993), nervousness, sadness, and low self-esteem (Reichel, 2010). Daly (1993, 1986) proposed a combination of cognitive training, counselling, attitude changes, relaxation, affirmation training, and positive self-talk in working with PWC. Reichel (2010) adapted Bar-On's (2000) emotional intelligence (EI) competencies for the use of clinicians who work with clients with a predominance of cluttering-like symptoms. The five EI competencies are: (1) Emotional self-awareness, (2) Impulse control, (3) Reality testing, (4) Empathy, and (5) Interpersonal relationships. The focus on such emotional competencies can help in improving awareness of emotions and communication behaviors, facilitating the ability to manage emotions for self-control, cognitively processing emotions, assessing events realistically, considering the emotions of listeners, and increasing the ability of PWC to improve responsibility for meeting expectations of others (Reichel & Draguns, 2011).

Verbal-Motor Component in Cluttering Therapy

In most cases, it is possible to address the fast articulatory rate by slowing down the speech rate with syllable tapping. Such work on speech rate reduction needs to be performed in a carefully structured manner, with both auditory and visual feedback. In addition to moderating or tempering the speech rate, the clinician should consider the degree of motoric and linguistic complexity involved in the speaking task, in order to facilitate better cohesiveness or synergy of

speech and language output (Myers, 2011). PWC are able to make all verbal-motor movements adequately, but not when the speech rate is fast. They have a problem in the planning and not just in the execution of oral-motor movements (e.g., jaw movements). It is important to address the verbal-motor skills at the word level. Priority is given to working on correct sequencing of syllables, especially in multisyllabic words at a fast speech rate. The next step is to practice such skills at the sentence level and later in spontaneous speech.

Communicative Component in Cluttering Therapy

The literature on cluttering describes many of the stigmatizing characteristics of PWC, such as not being interested in communication, not being a good listener, and exhibiting behavior that is aggressive, expansive, explosive, extroverted, impulsive, uncontrolled, and/or hasty (Freund, 1966; Weiss, 1964). The abnormal communication skills of PWC such as poor listening, abnormal turn-taking and verbosity and impulsivity, need to be addressed by clinicians who work with PWC. A period of frequent and direct feedback from the environment (e.g., family members, colleagues) can contribute to an increase in speech awareness. Partner-focused communication (adjusting the message to the listener) is a skill which needs to be facilitated in PWC as one of the most important goals of the clinical process (van Zaalen & Reichel, in press).

Treatment Planning

Phase I: Identification

Cluttering therapy always starts with identification, making the PWC aware of symptoms at the time they occur. During the identification phase, social exchanges are encouraged by asking clients to modify their communication patterns during the diagnostic and therapeutic exercises. Listening to clients' own recordings is a very effective home assignment.

Phase II: Speech Rate Reduction: Syllable Tapping and Audio-visual Feedback Training

After clients become aware of their speech symptoms, articulatory rate reduction can be initiated to improve fluency and intelligibility. Two particularly effective ways of slowing down the articulatory rate are syllable tapping and audio-visual feedback training (AVF-training; van Zaalen, 2014, van Zaalen & Reichel, in press). With both approaches, the client's syllable and rate awareness are facilitated. Once syllable awareness is achieved at different levels of linguistic complexity, the clinician may use AVF-training to work on rate, rhythm, pauses, and prosody. PWC are trained to spell out every syllable, and to make adequate pauses or focus on prosody. Reducing the articulatory rate has a positive effect on all communication related parameters.

Speech Rate Reduction: "A Conscious Decision". PWC are not able to adjust their speech rate appropriately in order to accommodate language complexity. Although clients can be taught how to slow down their speech rate, it takes a significant amount of attention capacity to achieve this objective. Therefore, most clients are not able to automatize speech rate reduction. An attempt to do so requires a conscious decision and resolve, almost like deciding to learn a second language. A distraction of any kind can interfere with clients' attempts to use their technique, to the point where another conscious commitment must be made in order to start working on the speech rate again. Clinicians should aim for the highest articulatory rate (+/- 0.5 syllables per second) at which the client is still fluent and intelligible.

Appropriate Pausing. Pauses in speech are of tremendous importance, both in the production and understanding of speech. In order to be capable of monitoring speech at the sentence level, a speaker needs sufficient pause time between sentences. Pauses between sentences allow for normal breathing patterns. Appropriate pausing provides adequate time to plan the structure of a new speech plan. Pauses are also needed for listeners' understanding of speech. If the pause is too long, listeners can get the impression that the speaker stopped talking; when pauses are too short, listeners may not have enough time to process what was just told to them. Pause duration is correlated to speech rate; the faster the speech rate, the shorter the pause duration. Normal pausing between sentences is usually an indication of a normal speech rate. A

normal pause has a duration of 0.5–1.0 second in most languages. Pause duration between sentences is usually equal to pause duration between speakers (turn-taking behavior).

Phase III: Monitoring

Development of an internal feedback loop during conversation is essential for PWC in order to detect moments of fast and/or variable articulatory rate, disfluency, or poor intelligibility. The internal feedback loop consists of the elements of self-observation, self-judgment, and self-correction. Regular recordings of conversations in daily life are made, listened to, and analyzed in order to develop this internal feedback loop.

Phase IV: Narrative Skills

Speech output control in a secure environment is relatively easy. Adequate narrative skills are necessary in order to communicate at different levels of language complexity within the fast rate of human communication. Telling PWC to “take time to formulate your thoughts before you talk” in running speech does not work. Exercises in formulation of thoughts can help to improve the skills so that correct wording is ready in less time. Focusing on speech planning is helpful rather than focusing on language planning alone.

Therapeutic Considerations

The therapeutic considerations for treatment of cluttering include the following:

- It is important for the client to practice daily, beginning on the first day of therapy. It is also crucial that the amount of exercise each day should be tailored to the symptoms, skill level, and needs of each individual client.
- Treatment plans for cluttering should each start with identification exercises. After the identification exercises, the clinician should discuss exercises that improve the client’s speech, memory, and attention skills.
- As soon as the client is aware of the speech difficulties, it is essential to praise and reinforce the client every time a goal is achieved. The sense of success and of mutual journey will bring hope, pride, and courage to attempt to overcome the remaining symptoms of cluttering (Reichel, 2010).
- A Speech Situation Checklist (Brutten & Shoemaker, 1974) adjusted for PWC can be used to plan a hierarchy for practicing in various conversational situations. Exercises will be implemented first in the situations that are known to pose little difficulty (van Zaalen & Reichel, in press).
- In order for cluttering intervention to be successful, planning an intensive program of therapy is recommended. Self-monitoring skills take time to develop and are acquired with intensive practice (Bennett Lanouette, 2011).
- The short-term results of cluttering treatment are influenced by two main components: a positive impact on speech behavior and a positive impact on cognitions and emotions. Speaking clearly is particularly beneficial for PWC, even if it is only in a few conversational settings (Miyamoto, 2011).
- When cluttering is accompanied by stuttering in adults, the specific symptoms of cluttering need to be prioritized unless people have anxiety or fear of speech secondary to stuttering. St. Louis, Raphael, and Myers (2003) and van Zaalen and Winkelman (2009) suggest using fluency enhancing techniques for working with clients who have both cluttering and stuttering.

- In children with a combination of cluttering and stuttering, it is better to start therapy with stuttering modification approach because this is consistent with what children expect to address in therapy and thereby helps to establish the needed client-clinician rapport. After a couple of sessions, the clinician can let the child know that, at this point, cluttering symptoms should be addressed as well.

Conclusion

This article has set forth a program of cluttering therapy, taking into consideration cluttering subtyping and four components of communication. The present treatment planning includes problem identification, speech rate reduction, appropriate pausing, monitoring and focusing on story narrating skills. Therapeutic considerations take into account the specific characteristics of cluttering, and explain the reasons for frequent and short home exercises. Training PWC in self-awareness is of the highest priority. The acquired pattern of speech should become the client's habitual way of talking, which should become automatic and effortless. Finally, building clients' confidence, emotional skills, and sense of accomplishment will turn the therapeutic process into awareness of realistic expectations, motivation to pursue challenging goals and, very importantly for every human being—the joy of successful communication.

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