

Broca's aphasia and treatment options for word finding difficulties



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A common condition that is an acquired language/communication disorder is known to be Aphasia. This disorder is usually caused from head trauma, brain tumors, stroke, or other neurogenic conditions in which it impairs a person's speech and language. More adults than children are affected by this devastating disorder. Stroke is known as the number one leading cause of aphasia. Statistics show that over 1 million Americans struggle with the life-changing condition. An incline is expected as population ages in addition to what is now over 200, 000 new cases each year. Broca's aphasia is the most common type of nonfluent aphasia. An individual with non-fluent aphasia suffers with grasping the meaning of spoken words but without severe impairment of connected speech. The frontal lobe of the brain is the primary affected area which leads to several other symptoms. The affected area of the brain is specifically responsible for motor movements. Therefore, trauma to the frontal lobe leads one to experience right-side paralysis of the limbs. It is important for individuals to keep in mind that aphasia does not impair intelligence in any way. The language disorder specifically presents difficulty to understand, speak, read, or write. The human brain is divided into two equal halves, right hemisphere and the left hemisphere. Depending on where the damage is located on the patient determines the affected area. Impaired speech and language is anatomically different. The utmost impairment results in the language centers located in the left hemisphere. However, " Aphasia can also occur as a result of damaging to the right hemisphere; that is often referred to as crossed aphasia, to denote that the right hemisphere is language dominant in these individuals" (American Speech-Language- Hearing Association, 2018). Due to this trauma it is likely

that patients with Broca's aphasia and frontal lobe lesions struggle more with verb naming.

The two main causes of aphasia are stroke and traumatic brain injury. A stroke can occur either as an ischemic stroke or as a hemorrhagic stroke. Blockage that disrupts blood flow to a region of the brain is an ischemic stroke. A hemorrhagic stroke occurs when a ruptured blood vessel damages surrounding tissue in the brain. " According to the National Aphasia Association (n. d.), about 25%-40% of stroke survivors experience aphasia" (ASHA, 2018). Severity of the trauma to the brain depends on if aphasia could be transient or more permanent due to the traumatic brain injury. Frequently, traumatic brain injuries are accompanied by other cognitive challenges due to the involvement of multiple areas of the brain. Aphasic individuals can acquire this condition as simply from a quick concussion or from a hard fall.

There are four main types of aphasias: expressive aphasia, receptive aphasia, anomic aphasia, and global aphasia. Each specific aphasia contributes to a variety of characteristics in which one type can be identified. An individual with Broca's (expressive) aphasia can comprehend what is being said, but unable to speak fluently due to the function of the brain. They deal with poor or absent grammar, poor syntax, omitting of words, verb or noun usage, word retrieval, phonemic errors called ' phonemic paraphasias', and difficulty articulating sound and words. Broca's aphasia is considered ' nonfluent' because it affects the speech production (Healthline 2017). This type of expressive aphasia is the most important of the less severe forms of aphasias. Important skills that are needed through language <https://assignbuster.com/brocas-aphasia-and-treatment-options-for-word-finding-difficulties/>

that are affected with this disorder are attention and memory. These neurobehavioral characteristics are both poor when having Broca's aphasia. One should note that language skills is caused from damage on the right side of the brain, while lack of memory of attention is caused from damage to the right side. This makes it more challenging for the individuals to develop sentences and process their oral output.

While some people recover from the acquired disorder, others need speech and language treatment. Providing the appropriate treatment to aphasic individuals is crucial after a stroke or other underlying causes of aphasia. While it is critical to provide intensive therapy, it is more imperative to provide a higher number of sessions. The effective amount of therapy significantly improves the individual's production of speech, comprehension, and functional communication. Word retrieving is one of the most prominent symptoms that individuals have difficulty with and seek treatment for. Kang, Kim, Sohn, Cohen, & Paik, (2011) stated, " It has been reported that conventional word-retrieval training effectively induces partial clinical improvements, but that it rarely leads to complete functional recovery." The appropriate strategies must be enforced for adequate effectiveness of word-retrieval protocols. Generally, through literature, therapist focus on single-word noun retrieval and picture naming during treatment. Speech-language pathologist provide the appropriate strategies to provide great progress.

Semantic Feature Analysis (SFA) is a treatment used with individuals with aphasia who struggling with word retrieval problems. This therapeutic technique is used during treatment to work on naming deficits occurring with aphasia. SFA is known to improve naming of targeted items with <https://assignbuster.com/brocas-aphasia-and-treatment-options-for-word-finding-difficulties/>

generalization in order to dictate the stimuli. Another advantage of using this treatment is the educational aspect that individual retrieves from it for accessing semantic networks and self-cueing. The treatment requires the individuals to retrieve features related to trained objects.

An article conducted by Magesh & Patil. (2013) consisted of four participants with aphasia, one female and three males. They were all right-handed, English speaking, and had high school educations. Each participant experienced a single episode of CVA. Treatment was twice per day two to three times per week. With the therapist controlling the session, the subject's goal was to attempt producing words semantically associated with each target word given. The hypothesis of the study was that an efficient amount of practice would lead the subjects to minimize use of compensatory strategies. The subjects greatly benefited from the treatment. The results of C-SFA (Semantic Feature Analysis) included improved production of nouns, generalization to noun from semantic categories both being untreated, four week duration of improvement after treatment ended. The study concluded participants with Broca's aphasia improved in formativeness of discourse (Magesh & Patil, 2013).

Patients with word-retrieval benefit from another known treatment named Cathodal Transcranial DC Stimulation (ctDCS). This treatment is suggested to improve picture naming in aphasic patients. This technique eliminates volatility of cortical sites that are stimulated. The double blind, crossover study included ten right-handed patients with post-stroke aphasia. The applied intervention consisted of a week's long randomized crossover manner allowing no less than one week difference between interventions. <https://assignbuster.com/brocas-aphasia-and-treatment-options-for-word-finding-difficulties/>

The focus of the treatment was to exercise the healthy side of the Broca's homologue area on the right side with a supraorbital anodal location on the left side. Progression of picture naming task was expected from the post-stroke aphasic patients. The study concluded the positive affect of the word-retrieval treatment on the selected subjects. Cathodal transcranial DC stimulation did not propose any adverse effects per the article (Kang, Kim, Sohn, Cohen, & Paik2011).

Verb Network Strengthening Treatment (VNeST) is given to those with moderate- to- severe aphasia. Edmonds, & Babb (2011) conducted a study that include two participants recruited from the University of Florida Speech and Hearing Clinic. The individuals were diagnosed with aphasia, right-handed prior to stroke, and English speaking. They were examined using a multiple-baseline approach which covered four phases: baseline, treatment of trained items with administration of generalization and control probes, posttreatment probes, and maintenance. The designed protocol generated thematic roles related to the very network that represented relevant event schemas, influencing semantic knowledge that would activate world level forms. Sentence production for pictures and untrained semantically related verbs were the required task for the experimental design. Amongst the two participant in the multiple- baseline approach, both showed progress on the functional communication measure. One participant presented improvement on all generalization measures, while the other subject displayed limited generalization. The study concluded the participants rather did not show equal improvement with other observed participants with more moderate aphasia. The study proposed that Verb Network Strengthening Treatment for

Aphasia is more appropriate for those who acquire moderate- to -severe aphasia (Edmonds, & Babb, 2011).

Evidence-based word retrieval treatment is the Cueing Hierarchy Treatment that places cues accordingly from least helpful to the most helpful. It systematically consist of a variety of cues in which aphasic individuals seek their words. Confrontation naming task consist of the therapist presenting the clinician with a picture or an object in representation of the target word. As expected, the client struggles with word retrieval independtly. A study was conducted to determine the effectiveness on syntactic cueing therapy on picture naming and connected speech with aphasic individuals. The study consisted of six individuals with aphasia all who presented with word-finding difficulties. Part of the assessment consisted of using 80 pictures of everyday items that they viewed on a computer screen. Only one word answers were accepted while being recorded. The experiment lasted for six sessions, each involving various components. They concluded that therapy for word-finding impairments needs to facilitate word form with the production of relevant syntactic structures. Through the production of the study researchers established the effectiveness for therapy can enhance word-finding in picture naming and connected speech (Herbert, Webster, & Dyson 2012).

Two treatments were given in the same study to compare the effects for aphasic word retrieval. The purpose of the study was to expect that the use of gestural facilitation of naming (GES) would have an increasing effect of treatment compared to errorless naming treatment (ENT) alone. " Lexical-semantic system impairment will lead to difficulty in both spoken naming and auditory comprehension of words, as well as recognition and production

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of gestures” (Raymer, McHose, Smith, Iman, Ambrose, & Casselton, 2012). Eight subjects with stroke-induced aphasia and problems with word retrieval were used for the single participant crossover treatment design. The method of the study required evaluation of the two treatments for a daily picture naming/ gesture production probe measure. Additionally, Standardized aphasia test and communication rating scales were administered throughout the experiment (Raymer et. al., (2012).

Errorless naming approaches treatment consisted of the individual viewing a target picture along with the name of the picture. The participant was given a variety of opportunities to rehearse the correct name of the picture by oral reading and repetition. Errors were to be avoided during the training.

Therapist considered this semantic-phonological treatment approach given the semantic mechanism and name repetition that builds up to phonological skills. This approach to treatment has been very effective to those who have aphasia. Studies advised that gesture is useful for activation of lexical retrieval between the relation of action and language (Raymer et. al., 2012).

An alternative treatment used in the studied was gestural facilitation of naming. This approached used gesture abilities in order to facilitate the impaired language system. The method consisted of being based off parallel errorless naming treatment but with a gestural component added. Using imitation, manipulation, and modelling, by the clinician the participant acquired word-retrieval skills through the treatment (Raymer et. al., 2012).

Both treatments presented improvements of naming of target words in individuals with semantic and phonological impairments. The treatments did

not indicate a discrepancy between each treatment. Studies show satisfaction amongst both treatments to promote word retrieval and verbal production skills in those with aphasia. The participants showed substantial progress throughout various language measures to support the satisfactory of the treatments. " Placing persons in an enriched communication environment, whether it is through the use of errorless naming gestural facilitation, semantic-phonological activities, or orthographic cues, enhances activation of the lexical system and increases the likelihood of future word retrieval success" (Raymer et. al., 2012).

In conclusion, the devastating acquired disorder that leaves individuals with many questions has various treatments for them to reference to. Although only a few treatments were mentioned, it is safe to say that many studies have been conducted in order to provide aphasic patients with the proper interventions to help them live a better life. The treatments, etiologies, neurobehavioral characteristics for word finding in individuals with Broca's aphasia were discussed. All studies represented the effectiveness of treatment options to generalize the word finding for our Broca's patients. Some treatments will be more beneficial than others depending on the individual.

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