THE EFFICIENCY OF THE COMPUTERIZED ARABIC DYSPHASIA THERAPEUTIC PROGRAMS

Thesis
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Aphasia (uh-fay-zhuh) is a communication disorder that affect a persons ability to use and understand spoken or written words. It results from damage to the Rt. side of the brain . Aphasia usually occurs suddenly and often results from a stroke or head injury, but it can also develop slowly because of a brain tumor, an infection, or dementia (National Institute on Deafness and Other Communication disorders, 2004). This thesis done in order to evaluate the efficiency of the therapy with Arabic dysphasia computer software which conclude, that it is efficient as the old non computerized method , besides it saves the therapist and the patients time& it is more entertaining to the patients.

ومن قول الله تعالى:

بِسْمِ ٱللَّهِ ٱلرَّحْمَٰنِ ٱلرَّحِيمِ

وَمَا أُوتِيتُمْ مِنَ الْعِلْمِ إِلاَّ قَلِيلاً

صدق الله العظيم

سورة الآسراء الاية(85)

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Amal Salah Eldin Amin Darwish

To My Family

My Mother & My Kids

TO MY DEAR FAMILY

WHO SPARED NO EFFORT

TO HELP ME

THANK YOU

WITH ALL THE LOVE AND GRATITUDE

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Introduction

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*Dysphasia is a neurological disorder caused by damage to the portions of the brain that are responsible for language. Primary signs of the disorder include difficulty in expressing oneself when speaking, trouble understanding speech, and difficulty with reading and writing. Dysphasia is not a disease, but a symptom of brain damage. Most commonly seen in adults who have suffered a stroke, dysphasia can also result from a brain tumor, infection, head injury, or dementia that damages the brain. It is estimated that about 1 million people in the United States today suffer from dysphasia. The type and severity of language dysfunction depends on the precise location and extent of the damaged brain tissue. (National Institute of Neurological Disorders and Stroke, 2014).

Also it is an acquired disorder of language due to brain damage after its full development. It does not include developmental disorders of language or speech disorders that are limited to the motor apparatus of speech (dysarthria). The related disorders include dyslexia (disorder of reading), dysgraphia (disorders of writing), and dyspraxia (disorders of the skilled movement). Related Syndrome may coexist or exist independently (Jacob et al; 2003).

Dysphasia is a communication disorder that can affect a person's ability to use and understand spoken or written words. It results from damage to the side of the brain dominant for language. For most people, this is the left side. Dysphasia usually occurs suddenly and often results from a stroke or head injury, but it can also develop slowly because of a brain tumor, an infection, or dementia (National Institute on Deafness and other Communication Disorders, 2004).

Types of Dysphasia

There are many different classification systems for dysphasia and many different types of dysphasia within each system. Some systems are based primarily on the location of the lesion, while others are based solely on the person's behavior. One system adopted by the National Dysphasia Association divides dysphasia into two broad categories: **fluent** and **non-fluent** dysphasia (National Dysphasia Association, 2009).

People with fluent dysphasia have problems understanding spoken and written language. This type is also known as sensory, posterior, or Wernicke's dysphasia.

- People with non-fluent dysphasia have difficulty communicating orally and in writing. This type of dysphasia is also called motor, anterior, or Broca's dysphasia. Within the non-fluent category is the most severe type, called global dysphasia. People with this type have difficulty both expressing and understanding written and oral communication.
- Broca's dysphasia, also known as non-fluent dysphasia or expressive dysphasia, is associated with left-hemisphere in Rt. handed patients strokes and is characterized by effortful, limited verbal output and may be accompanied by right-sided body weakness. Wernicke's dysphasia, also known as fluent dysphasia or receptive dysphasia, is associated with left-hemisphere strokes and is characterized by fluent but meaningless speech and may be accompanied by right-sided body weakness. Global dysphasia affects receptive and expressive language and is typically the most severe type of dysphasia. (Northern Arizona University; 2006).

Dysphasia could be manifested in many forms such as

- Expressive Dysphasia. (Motor dysphasia).
- Receptive Dysphasia. (Sensory dysphasia).
- Amnesic Dysphasia.
- Mixed Dysphasia. (Receptive, expressive).
- Global Dysphasia.

Generally, dysphasia can be divided into four broad categories:

(1) ***Expressive dysphasia*** involves difficulty in conveying thoughts through speech or writing. The patient knows what he wants to say, but cannot find the words he needs.

(2) ***Receptive dysphasia*** involves difficulty understanding spoken or written language. The patient hears the voice or sees the print but cannot make sense of the words.

(3) ***Anomic* or *amnesia dysphasia***, the least severe form of dysphasia, patients have difficulty in using the correct names for particular objects, people, places, or events.

(4) ***Global dysphasia*** results from severe and extensive damage to the language areas of the brain. Patients lose almost all language function, both comprehension and expression. They cannot speak or understand speech, nor can they read or write.

* Dysphasia is a catastrophic event that may occur to a large group in the neurology clinic. Dysphasia services offers different program options designed around the types of therapy to help those patients to overcome the critical circumstances facing them to communicate with the surroundings.

Usage of communicative rehabilitation programs, intensive in nature, is considered as a must to overcome the problem. Programs can be individualized based upon the selection of any of the following options:

***Evaluation** to assess current skills and recommendation of a therapy program.

***Individual therapy** enrollment to improve speech, receptive and expressive language disorders, reading, writing, and memory skills. It will help to empower each patient weakness points.

***Group therapy** enrollment to improve conversational skills with the others whether their own surrounding or the community.

***Computer training program** participation of the computers enriches both types of (individual and group) sessions.

***Home training program** home Training program as a part of the therapeutic program.

- Although there were a lot of therapeutic modalities are in use for dysphasic patients in the world, such as treatment in a communicative context, methods sometimes referred to as a "cognitive-contextual," "functional," "socio-linguistic," "communicative" or "pragmatic" (Kempler; 2005, Chapey; 2008) but there is still a lack of concentration to adjust a suitable computerized Arabic rehabilitation programs for Arab dysphasic patients. So it was important to customize a **suitable computerized Arabic program,** and evaluate its efficiency in dysphasia rehabilitation program, compared to the other previously used modalities.