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Title:

The Psychological and Social Impact on Aphasic Disorder of The Right Hemiplegic Patients

Case Study: Rehabilitation Service of Mostaganem Hospital

Dissertation submitted to the English Department in a Partial Fulfillment for the Requirement of the Master's Degree in psycholinguistics.

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Dedication

*For my beloved mother "**TOUATIA**" whose love always strengthens my will.*

*For the best great grandparents "**SENOUCI** and **DHIBA**" for their confidence in me and for support.*

*For the one who gave me love and support, for my coworkers "**SI AFIF HAMZA**","**AZIL FATIMA ZOHRA**","**BEDDOU HIZLENE**", "**BOUATTOU MOHAMED**","**MACHEHOUD NAZIHA**", "**BEKKADOURI IMANE**","**KETROUCI CHAHINEZ**"*

*For my brothers: "**ABDELBASSET**", "**ABDELHADDI**"*

*For my dad "**MOHAMED**"*

*For my dearest aunts "**NADJIA**";"**SARA**» and their daughters.*

For all the rest of my family without exception.

For all my friends

BENAMARA Khedidja,

Acknowledgments

*I would like first to thank **ALLAH** for giving me strength and capacity to complete this work.*

*I would express my great thanks and gratitude to my supervisor **ELOUCHDI ILHEM** for her guidance, support, help and patience.*

*Finally, I would like to express my profound gratitude to my friend Mr **ZELMATI Othmane** who always encourages and helps me.*

BENAMARA Khedidja,

Abstract

The current investigation represents a phenomenographic study to identify the psychosocial aspect of aphasic patients to reduce and treat their language disability. Aphasia is amalgamation of speech and language disorder mainly produced by damage to the left half of the brain. The disorder may cause difficulties in speaking, listening, reading, and writing, but does not affect intelligence. Along with a scrutiny of research, these observations are generated from a personal experience in the development of treatment and the investigation of background knowledge about aphasia among relatives of patients in the rehabilitation service, at 5 months apart with a focus on ten patients and their caregivers. Upon observations and examination of questionnaires' responses, it becomes clear that the mutual relation between the social awareness of the phenomenon and the aphasic patient is the source of treatment. This allows for more individual consideration of aphasic people and may direct future research to shed light on EFL aphasic students; and could optimize the chance to cover the field of aphasia and multilingualism.

List of Abbreviations

CVA: Cerebral **V**ascular **A**ccident

EEG: Electro**e**ncephalo**g**ram

EMG: Electro**m**yo**g**raphy

SPECT: Single **P**hoton **E**mission **C**omputed **T**omography

PET: Positron **E**mission **T**omography

MRI: Magnetic **R**esonance **I**maging

CT scan: Computer **T**omography **Scan**ner

ELT: English **L**anguage **T**eachers

EL: English **L**anguage

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General introduction

Language is interesting from neurological point of view because of its localization in the brain that has given us the keenest insight into the functional structure of the dominant hemisphere of the brain. The study of language represents the way of how neurobiology, in collaboration with other disciplines such as psychology and linguistics to developmental and clinical neurology, might help us understand even the complex of human behaviour. The link between psycholinguistics and neurolinguistics helps us to be aware of language disabilities in learning/teaching field and in our daily life experiences. Aphasia is one of the major known language disorder which refers to an affecting the production or comprehension of speech and the ability to read and write. Aphasia can be so severe as to make communication with the patient almost impossible, or it can be very mild.

Statement of the problem:

This work attempts to highlight the drawbacks of practical context such as in hospital rather than learning/teaching for of psycholinguistic option contains other domains such as neuro-cognitive science that focuses on human brain in general. I will work far from learning but near language and psychology of the sample

Aims of the study:

The present research aims at investigating the importance of the psychological aspect of aphasic patients due to reduce the language disorder or even treat it.

Research questions:

- To what extent are caregivers aware of aphasia?
- How different levels of awareness optimize the changes to support the patient treatment?
- How could psychosocial impact on the patient help overcome the deficiencies in the treatment (language focus)?

Hypotheses:

- The lack of awareness among caregivers, which causes a deterioration in the treatment of aphasia.

- The psychological support provided by social interaction could be a key element to boost the patient's interactivity.

Methodology:

It is a descriptive research because the researcher wants to see how and what extent the psychosocial environment could help the aphasic patient to produce language.

Tool of research:

- The data will be collected through patient caregiver questionnaires; also, I try to submit some questions to our university teachers.
- My observations as physiotherapist and student at the same time.

Sample of research:

The right hemiplegic patients at Functional rehabilitation service of Mostaganem.

Structure of the study:

The dissertation consists of three basic chapters, chapter one is presentation of literature review of language areas in the human brain and the language disorder it deals with the neurolinguistics as a scope of our research, the description of language areas in the brain and the specific role of each area in term of speech production and language comprehension. Then, it deals with aphasia as a main subject area in term of definition, causes, types, besides the relation between it as a language disorder and hemiplegia as one of its causes. The second chapter is a practical part about the analysis, which concerns two questionnaires: caregiver's questionnaire and the teacher's questionnaire. Finally, the third chapter is representation of my observation as physiotherapist, recommendations and some suggestions.

CHAPTER I

Language Areas in the Human Brain and the Language Disorder

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Introduction

The language is the basic element in communication that facilitates the connection between discussion elements. The impairment of this language may cause various combinations of impairment in the ability to spontaneously produce, understand or repeat speech, in addition to defects in the ability to read and write, so it consists of break down in the two way translation process that establishes a correspondence between thoughts and language**.** Chapter deals with the neurolinguistics as a scope of our research, the description of language areas in the brain and the specific role of each area in term of speech production and language comprehension. Then, we will deal with aphasia as a main subject area in term of definition, causes, types, besides the relation between it as a language disorder and hemiplegia as one of its causes.

I.1. Neurolinguistics:

Neurolinguistics is the discipline that studies the mechanisms of the human brain making it possible to understand, produce and know the language, both spoken and written. Neurolinguistics has an interdisciplinary nature, with contributions from linguistics, neurobiology and computer linguistics.

As Larousse dictionary of linguistics (1972) defines "*neurolinguistics is a branch of neuropsychology that deals with the relationship between language and cerebral structures. It was born with the study of aphasia, matching each type of aphasia with a particular lesion localization and verbal disorganization".*

In (2002) the dictionary of linguistics Larousse defines also, "*Neurolinguistics is the science that studies language disorders. More specifically, it studies the relationship between these disorders and the cerebral structures that are the cause. It is thanks to neurolinguistics that we have been able to determine the function of the different era of the brain".*

The concept of neurolinguistics is generally associated with the study of aphasia, which is the linguistic deficiency caused by specific forms of brain injury. It is for this reason that aphasiology is said to be the historical basis of neurolinguistics. (Jacobson 1982). However, over the years, this discipline has undergone significant development by introducing new technologies, thus extending its field of action. For example, modern cerebral imaging techniques have brought new insights into the anatomical organization of language functions. With these images, it is possible to analyze the use of energy in the brain during performing language processing tasks (Dubois 1967).

The electrophysiological techniques EEG [1] (electroencephalography) and EMG [2] (electromyography), on the other hand, offer resolution at the millisecond level, although the nature of the cerebral mechanism that produces the electrical signals in the scalp (scalp) is not known, which makes its interpretation difficult(Rice et al., 2015). EEG and EMG are used to prove cognitive-computational theories of language architecture, without taking into account the neurobiological implementation. Neurolinguistics also uses the computational model to demonstrate the inconsistency of specific assumptions about the neural organization of language. Finally, neurolinguistics has a strong link with psycholinguistics, which studies the cognitive mechanisms of language through the traditional techniques of experimental psychology.

Language is the result of an order given by the brain to the phonatory organs.

- The order to speak is the result of several decisions made by the brain at several levels.
- Several functions are necessary for the development of the language. This is the reason why there are several types of aphasia

I.2. Description of Language Areas in the Brain:

The general structure of the brain is that of a whole which is divided into vertical halves that seem to be mirror images of one another. It looks much like a walnut with the two parts joined around the middle, except that there is little space between the two halves in the real brain. Each half of the brain is called a hemisphere. There is a *left hemisphere* and *right hemisphere.* The hemispheres come out of the brain stem, which connects to the spinal cord, is referred to as the central nervous system of the human body. There is a covering on each hemisphere, called the *cortex*, which is furrowed outer layer of cell matter. It is the cortex that is concerned with higher brain functions in both humans and animals (Anderson; Rutledge1996). **[*See Figure I.1*].**

[1] An **electroencephalogram (EEG):** is a test used to evaluate the electrical activity in the brain. Brain cells communicate with each other through electrical impulses. An EEG can be used to help detect potential problems associated with this activity.

[2] **Electromyography (EMG):** is a diagnostic procedure to assess the health of muscles and the nerve cells that control them (motor neurons). An EMG uses tiny devices called electrodes to transmit or detect electrical signals.

Each cerebral hemisphere is divided into four parts or lobes: from front to back there are the frontal, temporal, parietal (located above the temporal), and the occipital. This division of the brain into lobes is loosely based on physical features and not on actual separations. General functions such as cognition (to some degree) occur in the frontal lobe, hearing occurs in the temporal lobe, general somaesthetic sensing (feeling in the arms, legs, face, etc.) in the parietal lobe, and vision in the occipital lobe. Each hemisphere has these lobes with these functions.

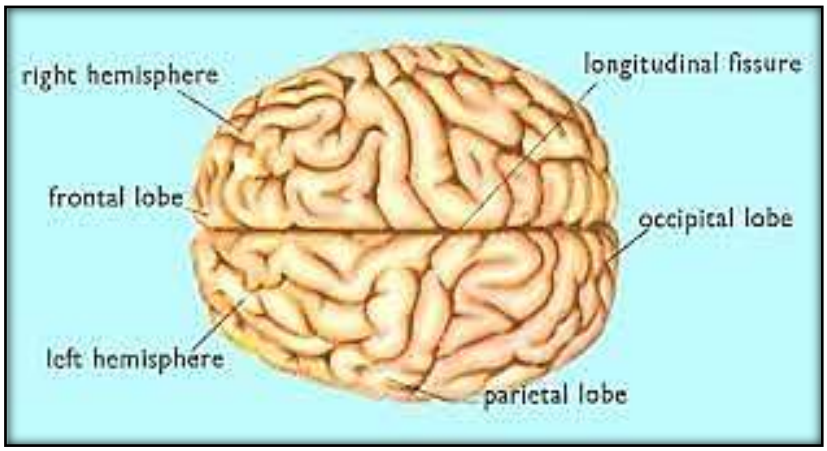


Figure I.1: Superior View of the Brain: The Right and the Left Hemisphere [3]

The cerebral cortex represents the superficial area of the brain; it is divided into functional areas, called areas, each providing a precise cognitive function. It is the studies of Paul Broca in 1861, which for the first time suggested the existence of such an organization of the neocortex. There are two main types of areas: primary sensory areas and primary motor areas, the Primary sensory areas are used to integrate information. Through these areas, the brain can understand the outside information and the Primary motor areas are designed to coordinate gestures. These two areas represent only 10% of the cerebral cortex. **[*See Figure I.2*]**. The 90% of the remaining brain is made up of the associative cortex which makes it possible to combine the sensory areas and the motor areas. The sensory areas and the motor areas make it possible to feel the sensation and to perform movements, whereas, the associative cortex allows the processing of information.

[3] Figure I.1*delivered from: www.pinterest.com

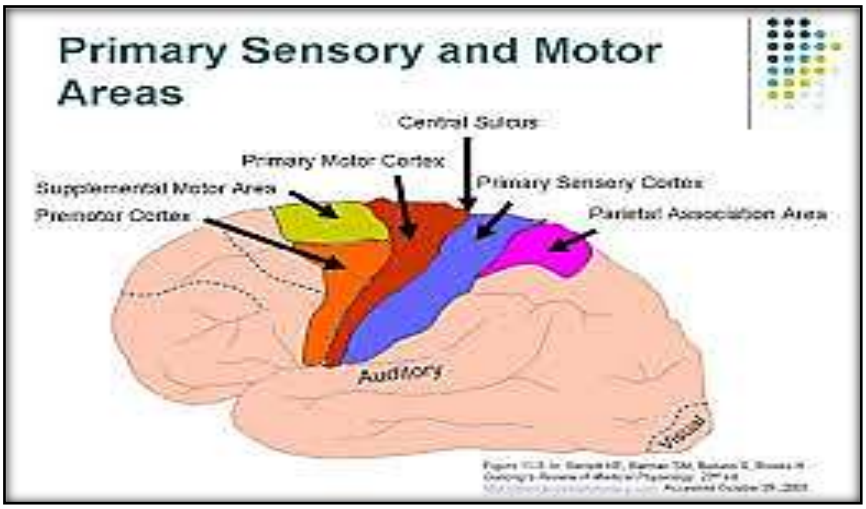


Figure I.2: Primary Sensory and Motor Areas [4]

There is a relationship between the structure of the brain and language; several theories have been issued on this subject:

- In 1861, Paul Broca identified a cerebral area in the left hemisphere of the brain indispensable to spoken language. A lesion in this area called Broca's area would lead to the inability to speak.
- Carl Wernicke (1871) identified in the same hemisphere, a few years after Paul Broca, a fundamental area for the understanding of oral language. A lesion in this area called Wernicke's area would destroy the ability to understand spoken language.
- In 1887, the French neurologist Jules Dejerine always identified in the same hemisphere of the brain an area indispensable to the reading of letters and words. A lesion in this area of the brain would cause inability to read but the person could continue to speak, understand the oral language and write correctly. However, she would no longer be able to read anything written by herself.

[4] Figure I.2 delivered from: http://accessphysiotherapy.mhmedical.com

I.2.1. Source of Speech Production «Broca's Area» :

The lower back part of the frontal lobe is primarily involved in the encoding of the speech this is *Broca's area.*

As it is written by the editors of Encyclopedia Britannica, « *Broca area also called convolution of Broca region of the brain that contains neurons involved in speech function. This area, located in the frontal part of the left hemisphere of the brain, was discovered in 1861 by French surgeon Paul Broca, who found that it serves a vital role in the generation of articulate speech.The Broca area lies specifically in the third frontal convolution, just anterior to the face area of the motor cortex and just above the Sylvain fissure. It is made up of two areas: the pars triangularis (Brodmann area 45) and the pars opercularis(Brodmann area 44).* ***[See Figure (I.3; I.4)]*** *The Broca area is connected to other regions of the brain, including the Wernicke area, by a neuronal tract known as the arcuate fasciculus. In addition to serving a role in speech production, the Broca area also is involved in language comprehension, in motor-related activities associated with hand movements, and in sensorimotor learning and integration* ».

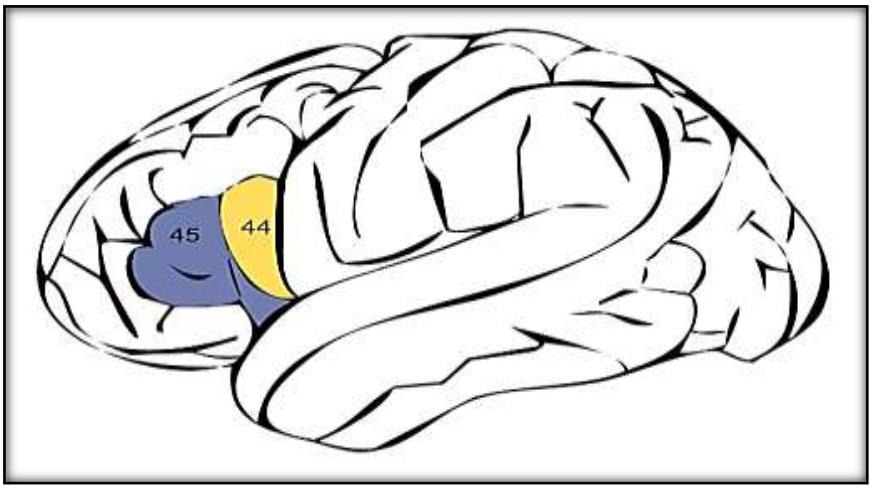


Figure I.3: The Pars Triangularis and the Pars Opercularis [5]

[5] Figure1.3 delivered from: https://en.wikipedia.org

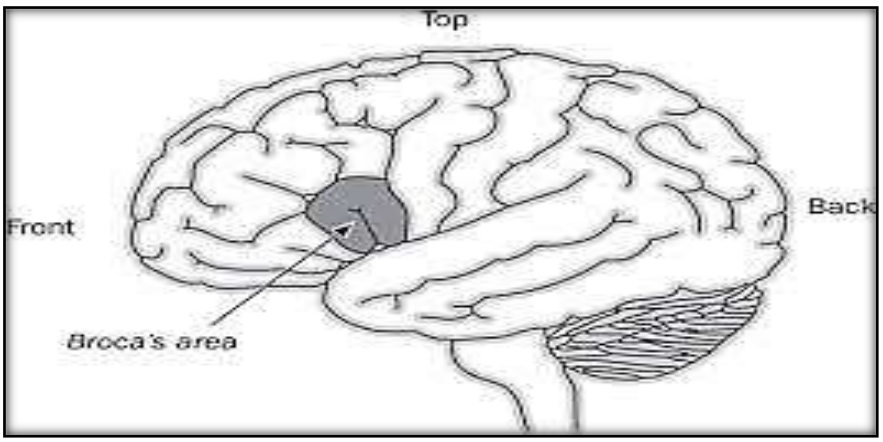


Figure I.4: Broca's Area [6]

I.2.2. Source of Language Comprehension:

An area in upper back part of the temporal lobe, extending upwards into the parietal lobe, plays a major part in the comprehension of speech. This is *We*rnicke*'s area.*

As it is written by the editors of Encyclopedia Britannica « *Wernicke area, region of the brain that contains motor neurons involved in the comprehension of speech. This area was first described in 1874 by German neurologist Carl Wernicke. The Wernicke area is located in the posterior third of the upper temporal convolution of the left hemisphere of the brain. Thus, it lies close to the auditory cortex. This area appears to be uniquely important for the comprehension of speech sounds and is considered to be the receptive language, or language comprehension, centre ».* **[*See Figure I.5*]**

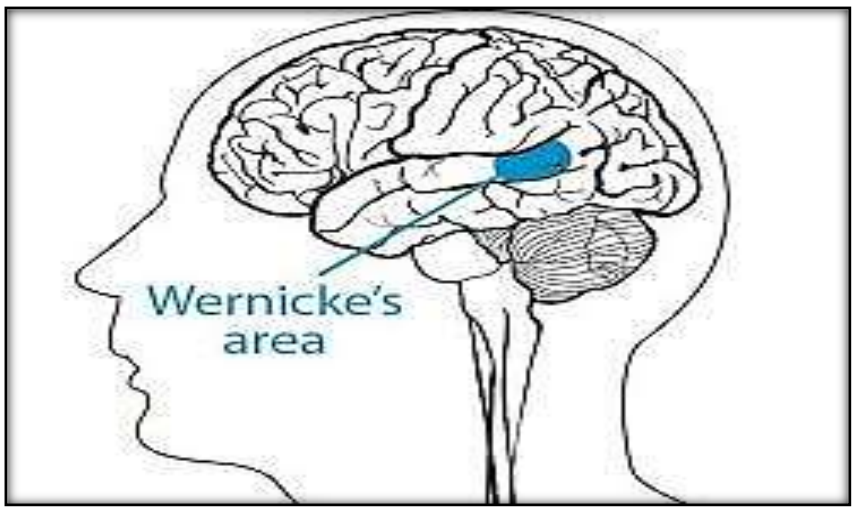


Figure I.5: Wernicke's Area [7]

[6] Figure 1.4 delivered from : /www.emaze.com/

[7] Figure 1.5 delivered from: https://br.pinterest.com

I.2.3. Other's Language Areas:

As Broca's and Wernicke areas of language there are other ones that have been proposed for the processing of speaking, listening, reading, writing, and singing are maingly located at or around the Sylvian(The lateral sulcus**)** and Rolando(The central sulcus**)** fissures. [***See Figure (I.6; I.7)***]**.** Several specific areas have been identified:

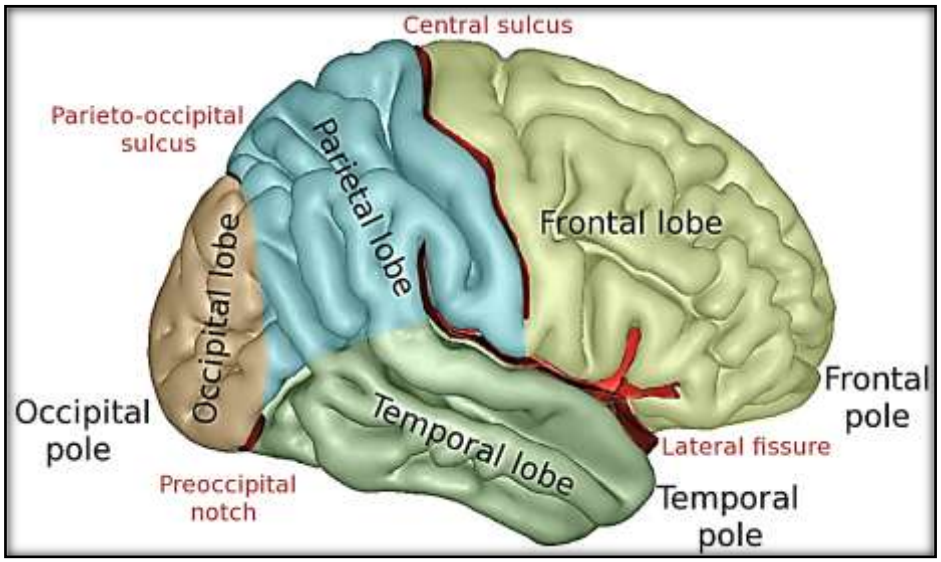


Figure I.6: Language and Speech Areas [8]

The front part of the parietal lobe, along the fissure of Rolando, is primarily involved in the processing of sensation, and may be connected with the speech and auditory areas at a deeper level.

- The area in front of the fissure of Rolando is mainly involved in motor functioning, and is thus relevant to the study of speaking and writing.
- In the upper part of the temporal lobe is the main area involved in auditory reception, known as 'Heschl's gyri', after the Austrian pathologist R. L. Heschl (1824–81).
- Another area towards the back of the frontal lobe, 'Exner's centre', may be involved in the motor control of writing.

[8] Figure 1.6 delivered from : www.slideshare.net

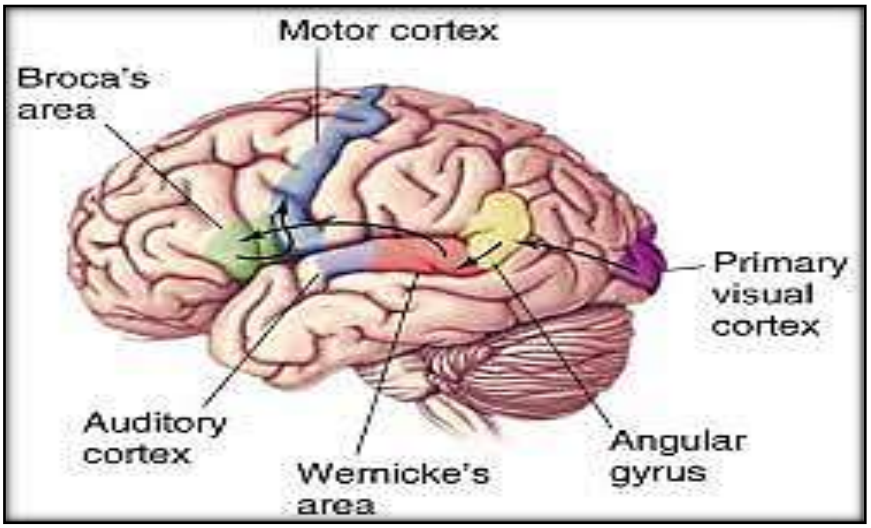


Figure I.7: Functional Language Areas in the Brain [9]

- Part of the left parietal region, close to Wernicke's area, is involved with the control of manual signing.
- The area at the back of the occipital lobe is used mainly for the processing of visual stimulae.

I.3. Hemispheric Function and Structure:

The brain is divided into two halves, called hemispheres. There is evidence that each brain hemisphere has its own distinct functions, a phenomenon referred to as lateralization. The left hemisphere appears to dominate the functions of speech, language processing and comprehension, and logical reasoning, while the right is more dominant in spatial tasks like vision-independent object recognition (such as identifying an object by touch or another nonvisual sense). However, it is easy to exaggerate the differences between the functions of the left and right hemispheres; both hemispheres are involved with most processes. Additionally, neuroplasticity (the ability of a brain to adapt to experience) enables the brain to compensate for damage to one hemisphere by taking on extra functions in the other half, especially in young brains.[10] The two hemispheres communicate with one another through

[9] Figure I.7 delivered from: http://www.yalescientific.org

[10] Source: Boundless. "Cerebral Hemispheres and Lobes of the Brain." *Boundless Psychology* Boundless, 25 Aug. 2016. Retrieved 04 Mar. 2017

the corpus callosum. The corpus callosum is a wide, flat bundle of neural fibers beneath the cortex that connects the left and right cerebral hemispheres and facilitates interhemispheric communication. The corpus callosum is sometimes implicated in the cause of seizures; patients with epilepsy sometimes undergo a corpus callostomy, or the removal of the corpus callosum.[11]

I.4. Hemispheres Control:

The brain is divided into two parts: the left hemisphere and the right hemisphere. These two parts control a different side of the body. The left hemisphere controls the right side of the body while the right hemisphere controls the left side of the body. The two hemispheres exchange information and help each other constantly, but each has its own specialty. **[*See Figure 1.8*]**

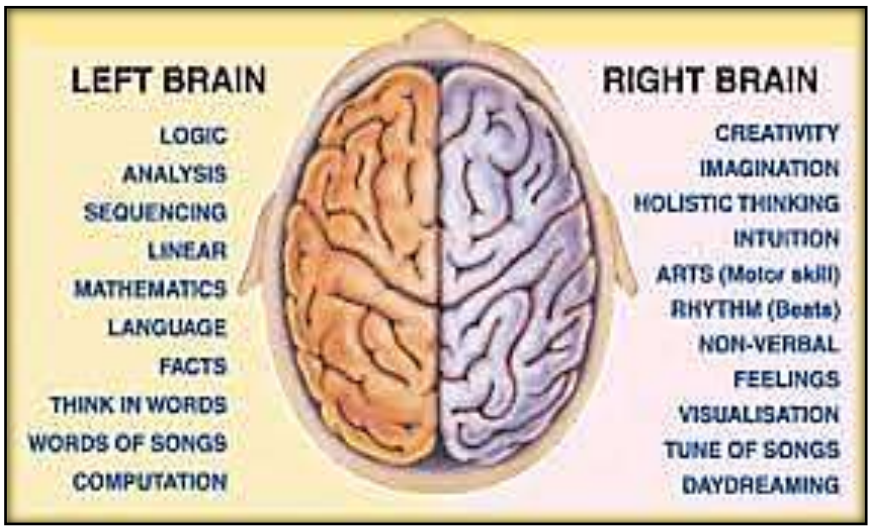


Figure I.8: Left/Right Hemisphere Function [12]

[11] Source: Boundless. "Cerebral Hemispheres and Lobes of the Brain." *Boundless Psychology* Boundless, 25 Aug. 2016. Retrieved 04 Mar. 2017

[12] Figure1.8 delivered from: http://ucmas.ca

I.4.1. Left Hemisphere:

The left hemisphere takes care of everything that is analytical. So the numbers, the calculations and the mathematics are all resolved by the left hemisphere of the brain. This hemisphere also deals with the way we speak and understand another person verbally and in writing. For example, if a person had a lesion in the left hemisphere of the brain, it would have difficulty making logical decisions and communicating.

I.4.2. Right Hemisphere:

The right hemisphere takes care of everything that is synthetic. This hemisphere is primarily recognized for being responsible for artistic creation and spatio-visual aptitudes. This hemisphere also deals with our understanding of common expressions, metaphors, or implications. If a person was suffering from a lesion, this time in the right hemisphere, she would have difficulty organizing her room, writing essays or analyzing abstract poems.

I.4.3. The Corpus Callosum:

The corpus callosum is the part of the brain that connects the two hemispheres and acts as a bridge to facilitate the transfer of information from one hemisphere to another. The corpus callosum is mainly composed of nerve fibers. If a person had a corpus callosum, she would be able to walk, talk, hear and feel, but her memory would be greatly affected since each hemisphere would not have access to information from the other hemisphere to remember a Idea or event. **[*See Figure I.9*]**

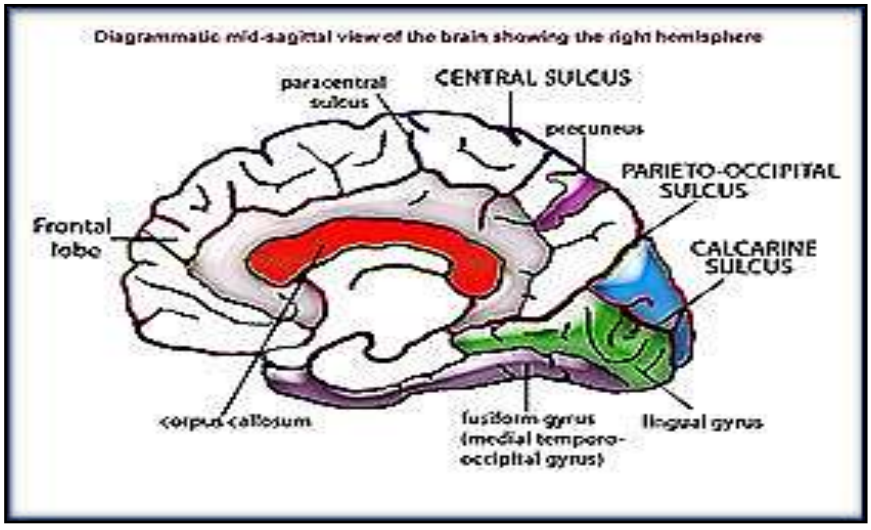


Figure I.9: The Corpus Callosum [13]

[13] Figure I.9 delivered from: https://gl.wikipedia.org

I.4.4. Lobes and Specific Regions:

a. Frontal Lobe:

Located beneath the skull in the part where our forehead is located, the frontal lobe is responsible for our personality and our ability to solve problems and find answers. If a person had a lesion on his frontal lobe, changes in his personality could be perceived. As for example, a sweet and warm woman could become selfish and aggressive. In the frontal lobe the following specific regions can be found:

The motor areas are in charge of transmitting information to different parts of our body on how this part should move. These areas are therefore responsible for our movements.

Broca's area deals with language when we speak. This area is therefore only concerned with producing words and not understanding them.

b. Parietal Lobes:

These lobes also take care of the movements of our bodies. More specifically, it is these lobes that analyze information about pain, temperature and everything that is felt. This is due to the somesthetic areas in the parietal lobes. These areas receive information mainly from the hands and face since these are the most sensitive parts of our body. An injury to a parietal lobe would cause a person not to feel the pain in a certain place and therefore would not feel, for example, the need to remove his hand from the fire before seeing what is happening to him.

c. Temporal Lobes:

Located on the sides of the skull, at the top of the ears, these lobes are responsible for our perception, our language, our hearing and our memory. But they are primarily responsible for our understanding of language through the air of Wernicke. This area allows us to understand the words auditively or in writing. A person who sustains an injury to one of his temporal lobes may have difficulty reading or understanding a friend who is speaking to him.

d. Occipital Lobes:

The occipital lobes are responsible for our vision. The visual areas make it possible to recognize a face without knowing the name of the person and without remembering the link that we have with this person. So they just deal with our visual functions and leave the analytical part to the other parts of the brain. If a person finds himself with an injury to one of his occipital lobes, he may have reduced vision or may become blind.

I.5. Hemiplegia:

Hemiplegia is a paralysis, that is to say, a total diminution or abolition of the motricity of the body, which reaches only one of its sides. It can consistently reach the entire hemibody, face, upper limb and lower limb case in which one will speak of proportional hemiplegia, or one or more of these parts.

Hemiplegia is due to central nervous system involvement, affecting part of the brain or spinal cord. If the cerebral lesion is on the left side of the brain, it is the right hemibody that will exhibit motor symptoms, and vice versa.

I.5.1. Right Hemiplegia:

Right hemiplegia refers to paralysis of the right hemibody and is a symptom of involvement in the left side of the brain. In general, the left hemisphere of the brain is the dominant hemisphere. In case of lesion of this dominant hemisphere, certain other clinical signs may be present, related to the specific functions of this part of the brain. It is aphasia, disorders of speech, and apraxia, disorders of the execution of movements.

I.5.2. Left Hemiplegia:

Left hemiplegia refers to a paralysis of left hemibody, a consequence of an attack on the right part of the brain. In general, the right hemisphere of the brain is the minor hemisphere. In case of lesion of the minor hemisphere, specific symptoms may arise, consequences of the specific functions exerted by this part of the brain. One may thus encounter a negligence or the non-recognition by the person of the part of the affected body, as not belonging to him. Causes the most common cause is stroke, but hemiplegia can also be caused by cerebral hemorrhage, cranial trauma, or even coma, or brain tumor. There are also hemiplegias of congenital origin, that is to say present from birth, or infectious (meningitis, abscess of the brain ...). The cause must be treated to promote healing, but hemiplegia can sometimes be sequelled, especially in cases of stroke that have resulted in irreversible brain damage.

I.5.3. Symptoms:

In all cases, two types of hemiplegia are observable: spasmodic (or spastic) hemiplegia and flaccid hemiplegia. Contrary to the first type, which is characterized by stiff muscles, the flaccid hemiplegia is manifested by the softness and weakness of the affected muscles. The clinical signs of hemiplegia differ according to the impacted brain area and type of hemiplegia. However, motor function is the first to be affected since the leg, arm and face can be impacted at the same time or in isolation. In partial hemiplegia, muscle strength and patient mobility are reduced, unlike total hemiplegia where they are non-existent. If the muscles remain abnormally contracted, it is a spastic hemiplegia. We speak of a flaccid hemiplegia when the muscles are soft. In addition, the eyelid and the smile can be affected as soon as the hemiplegia touches the face. In addition to the more or less important motor symptoms, hemiplegia causes the following symptoms: pain in affected limbs, speech disorders, sphincter disorders, swallowing disorders, sensory disorders and sexual disorders.

I.6. Aphasia:

Aphasia is the acquired inability to communicate using written, spoken or sign language, it is the total or partial loss of the ability to speak or understand a spoken or written message. It is also the impossibility of associating an idea with the right words.

Aphasic does not present any abnormality of the organs of speech (language and larynx), sight and hearing. Aphasia, therefore, is not the consequence of deafness or disorder of the organs of speech.

For language specialists, there is a difference between speech disorder and language disorder. Aphasia combines these two disorders, and thus poses problems both in expression and in the comprehension of language.

I.6.1. History of Aphasia:

Initial reports of oral language disturbances associated with brain damage were presented during the Egyptian Empire. The first report of a disturbance in written language was found during the Roman Empire period. Hippocrates was the first to distinguish that there are two different types of language impairments associated with brain pathology. During the XV- to XIX centuries, diverse observations about language disturbances in cases of brain damage

were observed and presented to the scientific community. However, modern aphasia history (and in general cognitive neurosciences history) typically begins with Broca's case report of a loss of language in 1861. Later, Wernicke proposed a classification and interpretation of aphasia that has become the most influential framework on current thinking. Dejerine identified the so-called "language area" in the brain corresponding to the perisylvian area of the left hemisphere. Controversy ensued relative to a holistic versus localizationist interpretation of language organization during the late XIX century and early XX century. After WWII, various researchers in different countries continued the clinical and theoretical study of aphasia; however, it appears that the two most influential approaches to aphasia have been Luria's interpretation of language as a complex functional system and the Wernicke-Geschwind model of language processing. With the advent of neuroimaging techniques, it has been possible to obtain more accurate clinical/anatomical correlation of diverse language impairments. Furthermore, it has been observed that the critical areas of the brain initially identified relative to their involvement in language processing are more extensive than previously assumed. During recent decades, progressively extended use of standardized procedures for aphasia assessment has been observed, with some test batteries becoming particularly popular in the evaluation of aphasia. Additionally, this has led to development of various rehabilitation techniques as well as extension of new and diverse therapeutic strategies.

I.6.2. Causes of Aphasia:

Four major causes can cause an aphasia:

- Cerebrovascular diseases;
- Brain tumors (benign or malignant);
- Cranial trauma;
- Degenerative diseases.

a. Cerebrovascular Diseases:

Stroke is the most common cause of aphasia, and it has been estimated that about 20-40% of stroke patients develop aphasia. (Wade et al. 1986, Yavuzer et al., 2001). There are two types of cerebrovascular disease:

- Cerebrovascular accidents (strokes), due to poor irrigation of certain areas of the brain. These accidents occur most often as a result of thrombosis or embolism in the left hemisphere, where most of the language is located.
- Intracranial haemorrhagic accidents, due to the rupture of an artery:

Or because of the rupture of a malformation of an artery; Or in the event of a complication of arterial hypertension.

b. Brain Tumors:

Aphasia occurs when tumors, whether benign or malignant, affect the left hemisphere. Symptoms vary depending on the size of the tumor. They therefore become worse when it develops. New symptoms may appear; In the long term, the patient may have intracranial hypertension with a risk of bleeding.

c. Head Trauma:

Disturbances occur as a result of:

- A violent shock;
- A hematoma (bleeding with the risk of causing cerebral edema);
- A coma;
- An aneurysm of a vessel which may then break;
- Cerebral hemorrhage;
- Many of these causes at once.
- It is mainly frontal (frontal) and temporal (lateral) areas that are vulnerable, especially in young adults.

d. Degenerative Diseases:

Alzheimer's dementia and cortical dementia as seen in Parkinson's disease are the most at risk.

Consequences of Aphasia:

As a general rule, people with aphasia are experiencing difficulties or can no longer:

- Understand ;
- Speak ;
- Read;
- To write.

Examples of implications in the private sphere.In the private sphere, the aphasic can no longer:

- Naming persons and objects;
- Respond by Yes or no;
- watch television ;
- listen to the radio ;
- Read the newspaper.

I.7. Diagnosis of Aphasia:

Aphasia is a symptom and not a disease; it can occur in a variety of types of brain injury and pathology. Therefore, the laboratory tests required depend on the underlying pathophysiology. The diagnosis of aphasia is based on physical examination and detailed mental state examination. Neuroimaging is required to localize a lesion in the left hemisphere or thalamus and diagnose the cause of aphasia. CT scanning[14] and MRI[15] are the mainstays of neuroimaging. CT effectively demonstrates acute bleeds and most strokes older than 48 hours; however, it may miss strokes less than 48 hours old. MRI with diffusion-weighted imaging detects strokes as early as an hour after onset. New imaging sequences such as the T2 or gradient echo imaging are sensitive to detection of hemorrhage, an early limitation of MRI technology. Contrast enhancement may be required to demonstrate tumors by both CT scanner and MRI. Thin sections through the temporal lobes can demonstrate hippocampus atrophy or sclerosis, which are common in epilepsy and dementia. Coronal imaging on MRI is especially helpful in the detection of asymmetric hippocampus atrophy. At a time when gross atrophy of the tissue is hard to detect, PET and SPECT (Magnetic

[14] **CT Scan:** makes use of computer-processed combinations of many X-ray images taken from different angles to produce cross-sectional (tomographic) images (virtual "slices") of specific areas of a scanned object, allowing the user to see inside the object without cutting. Other terms include computed axial tomography (CAT scan) and computer aided tomography.

[15] **Magnetic Resonance Imaging** (**MRI**): is a medical imaging technique used in radiology to form pictures of the anatomy and the physiological processes of the body in both health and disease. MRI scanners use strong magnetic fields, radio waves, and field gradients to generate images of the organs in the body.

resonance isotopic brain tomography)[16] may be helpful in detecting hypometabolism or reduced cerebral blood flow, respectively, in dementing illnesses. These techniques are also useful in localization of epileptic foci. Functional MRI is increasingly being used in the study of normal activation of language structures in normal subjects. Early research is also aimed at discovering the patterns of recovery after neurologic injury such as a stroke with aphasia. EEG is important in patients with suspected seizures.

The severity and scope of the problems depend on the extent of damage and the area of the brain affected. Initial stroke severity and lesion volume have been associated with initial severity of aphasia (Pedersen et al., 2004; Laska et al.; 2001, Ferro et al., 1999). Greater initial severity of aphasia is associated with poorer outcome. While some studies report recovery to be significantly better for younger patients (Ferro et al., 1999, Lasko et al., 2001), others report that age does not predict recovery (Pedersen et al., 2004). Similarly, while there are reported gender differences in type and severity of aphasia, sex does not predict recovery (Pedersen et al., 2004; Laska et al., 2001). Studies examining handedness and education also provide conflicting results (Ferro et al., 1999). Ninety-three percent of the population is right-handed, with the left hemisphere being dominant for language in 99% of right-handed individuals . In left-handed individuals, 70% have language control in the left hemisphere, 15% in the right hemisphere, and 15% in both hemispheres . Language function is almost exclusively the domain of the left hemisphere; for 96.9% of the population language control is localized primarily in the left hemisphere.

I.8. Types of Aphasia:

Type of aphasia is determined, primarily, by lesion location. The Boston classification system is used by researchers and clinicians to classify type of aphasias (Godefroy et al. 2002). Classic nosology of the perisylvian aphasias includes Broca, Wernicke, conduction, and global aphasias. The nonperisylvian aphasias include anomic, transcortical motor, transcortical sensory, and mixed transcortical, sometimes called the isolation of the speech area syndrome.

[16] **Single Photon Emission Computed Tomography (SPECT)** and **Positron Emission Tomography (PET) :** are nuclear medicine imaging techniques, which provide metabolic and functional information unlike CT and MRI.

I.8.1. Aphasia of Broca:

Broca's aphasia takes its name from the French surgeon and anthropologist Paul Broca (1824-1880), known for his discovery of the center of language in the human brain. It is characterized by a reduction in expression. The individual speaks little, slowly, seeks his words. He may have similar difficulties when trying to write, since these are not related to having to use his left hand, but being comparable to the difficulties observed in spoken language. Understanding is generally well preserved. It is also called aphasia of expression, anterior aphasia, motor aphasia, expressive aphasia.

I.8.2. Conduction Aphasia:

Aphasia of conduction manifests itself in a language interspersed with hesitations, stops occasioned by a difficulty in finding the words and, above all, by the production of numerous paraphasias. The affected person mixes sounds in words and, as she is usually aware, will try to correct herself. Sometimes paraphasias are so abundant that they can give rise to jargon.

Unlike Wernicke's aphasia, to which it sometimes resembles, aphasia of conduction is not usually accompanied by significant disturbances of understanding. It may be the result of an aphasia of Wernicke having evolved positively.

I.8.3. Aphasia of Wernicke:

Wernicke's aphasia is named after the neurologist Carl Wernicke (1848-1905), who was one of the first to describe aphasia. Aphasia is aphasia of reception, sensory aphasia, receptive aphasia, posterior aphasia. Wernicke's aphasia is characterized by significant difficulties in understanding what is said and what is written. The affected person speaks easily or even abundantly, but sometimes her paraphasises or jargons. In writing, she usually encounters the same difficulties as when she speaks. Some people, at least initially, may not always be aware of their mistakes.

I.8.4. Global Aphasia:

Global aphasia is the most severe form of aphasia. It affects as many as 25%-32% of aphasic patients, while other classic aphasias describes within the Boston system of classification are seen less frequently (Laska et al.,2001;Pedersen et al.,2004).Individuals with global aphasia have severe communication difficulties and may be extremely limited in their ability to speak or comprehend language.

Mixed Aphasia

We speak of mixed aphasia when there is at the same time a reduction of the expression and important difficulties of understanding

I.8.5. Progressive Aphasia:

Progressive aphasia takes place insidiously, the first symptom usually being the lack of the word. People with primary progressive aphasia generally have a very good awareness of their language disorder, which generates a lot of frustration and anxiety about the likelihood of a more global deterioration of their cognitive abilities.

- There are two types of progressive aphasia: aphasia of the non-fluent type, and aphasia of the fluent type.

I.8.6. Non-Fluent Aphasia:

In the person with a non-fluent aphasia, the verbal flow is reduced more and more, going as far as mutism. Elements of dysorthography are noted in written language, which also deteriorates gradually.

I.8.7. Fluent Aphasia:

In people with fluent aphasia, there is logorrhea, jargon, significant impairments in oral and written comprehension, and disturbances in loud reading and repetition.

I.9. Treatment of Aphasia (Remedy):

Since aphasia is the result of a brain injury due to an anomaly in the blood circulation, no medication can prevent it: Even though some drugs regulate circulation, they can not cure an aphasic person. Similarly, no surgical procedure can remedy this. However, it is possible to minimize the risk of stroke by adopting a healthy lifestyle. Only the practice of daily speech exercises allows the partial or total recovery of the language (by the creation of new neural networks). This is why we are not talking about treatment in the aphasic, but about rehabilitation.

Rehabilitation in the Context of Aphasia

Take action as soon as possible: Speech therapy must be undertaken as soon as the symptoms appear, because it is at this point that the brain's response will be optimal. Thus, it often

begins in the hospital, in the days following diagnosis, and intensively (five sessions per week).the duration of variable rehabilitation ranges from six weeks to one year. It lasts on average three months at 45 minutes per session. The rate of improvement varies according to: The importance of lesions; the general state of health of the aphasic patient; Its motivation; Level of education. If the aphasic feels depressed, psychological help is provided. In addition, loved ones will be called upon to support the patient and help him with his speech exercises.

I.10. The Relation of Aphasia and the Hemeplegia:

Paralysis on the Right Side: The most obvious sign of attack is usually the paralysis of one side of the body. If the right side is paralyzed (right hemiplegia), it means that the brain is accessed on the left.

People with right hemiplegia, who are right-handed, often have speech and language problems. This is called aphasia. Sometimes they can understand more than they can express orally or write. However, people with aphasia have difficulty speaking and understanding.

Conclusion

Throughout this chapter I have focused on the language areas in the human brain and their disorder, the neurolinguistics is the scope of the subject area that describe the language areas in the brain as structure and the impairment in one of these areas can provoke the language loss which gives rise disabilities in language skills such as speaking, writing, reading, and listing.

CHAPTER II

Analysis of the Questionnaires

Introduction

II.1. Caregiver's Questionnaire

II.1.1. Description of the Questionnaire

II.1.2. Administration of the Questionnaire

II.1.3. Analysis of the Questionnaire

a. Section 01: Personal Information

b. Section 02: Background Knowledge about Aphasia

c. Section 03: The Communication

II.2. Teacher's Questionnaire

II.2.1. Description of the Questionnaire

II.2.2. Administration of the Questionnaire

II.2.3. Analysis of the Questionnaire

Conclusion

Introduction:

In the first chapter, we have presented a literature review about the description of the language brain areas and the language disorder, which is "aphasia". This chapter will be devoted to the presentation and analysis of data obtained through the implementation of the present research. The analysis concerns two questionnaires: caregiver's questionnaire and the teacher's questionnaire. These analyses will allow us to build our points of view about our hypothesis about whether the relation between the social and the aphasic patient can help to produce language.

The main aim to use the questionnaires of both caregivers and teachers is to provide information about how can the psychosocial environment reduce the language disability and have an idea about teacher background knowledge of aphasia.

II.1. Caregiver's Questionnaire:

II.1.1. Description of the Questionnaire:

The questionnaire consists of twenty questions of multiple choices. They are divides into sections that are:

- **Section01:** *Personal information (Q1-Q5)* is to see how they are in educational level and what their predictions are.
- **Section02:** *Background knowledge about aphasia (Q6-Q9),* these questions are aimed to know at what extent the caregiver can see the degree of this disorder.
- **Section03:** *the communication (Q10-Q20),* the questions of this part are to check if the caregiver has the basic tools to help his/her relative.

II.1.2. Administration of the Questionnaire:

This present questionnaire was given to ten caregivers who are chosen from the rehabilitation service of Mostaganem. The participants answered the questionnaire at the waiting moment of their relative patients in the hospital. One of the participants did not want to answer it means just nine participants answered the questionnaire with my explanation time to time.

II.1.3. Analysis of the Questionnaire:

a. Section 01: Personal Information.

1. Caregiver Identity:

Age:

Table II.01: Age's Sample

53	48	44	37	33	27	26	30	22

All the sample's individuals are adults enough to take care of their relatives (aphasic patient).

Gender:

Table II.02: Gender's Sample.

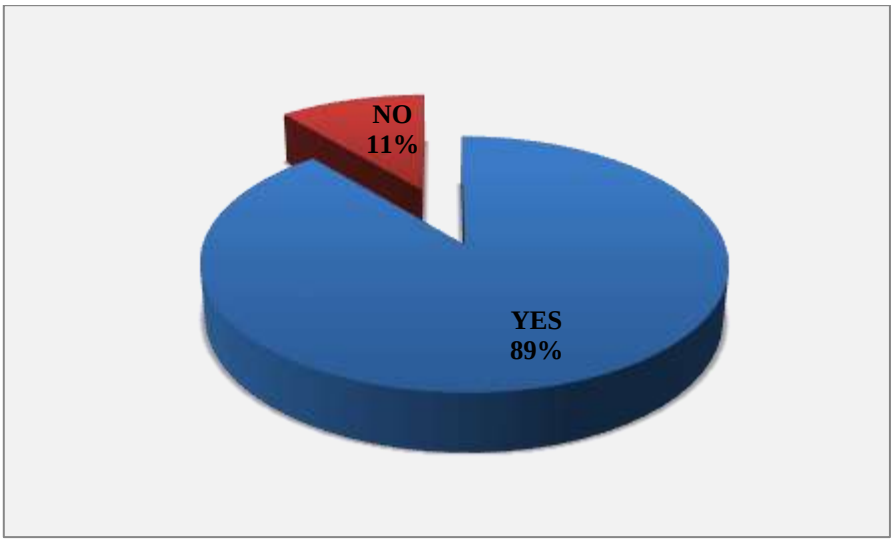
Male	Female	Female	Male	Female	Female	Female	Female	Male

As a gender, the majority of caregivers are women; however, there are three men who participate.

2. Do you live with your aphasic family member?

Table II.03: The Care Level.

Yes	No
08	01



Graph II.1 : The Care Level.

The majority of caregivers live with their aphasic relatives only the one person.

3. If no, how often do you see him?

The person who said "no", means doesn't' live with his/her relative. He sees his relative three times a week.

Profession:

Table II.04: Profession's Sample.

Teacher	Nurse	Engineer	Management	Not work	Not work	Not work	Student

The majority of the sample is workers besides three participants are not.

Level of Study:

Table II.05: Educational Level's Sample.

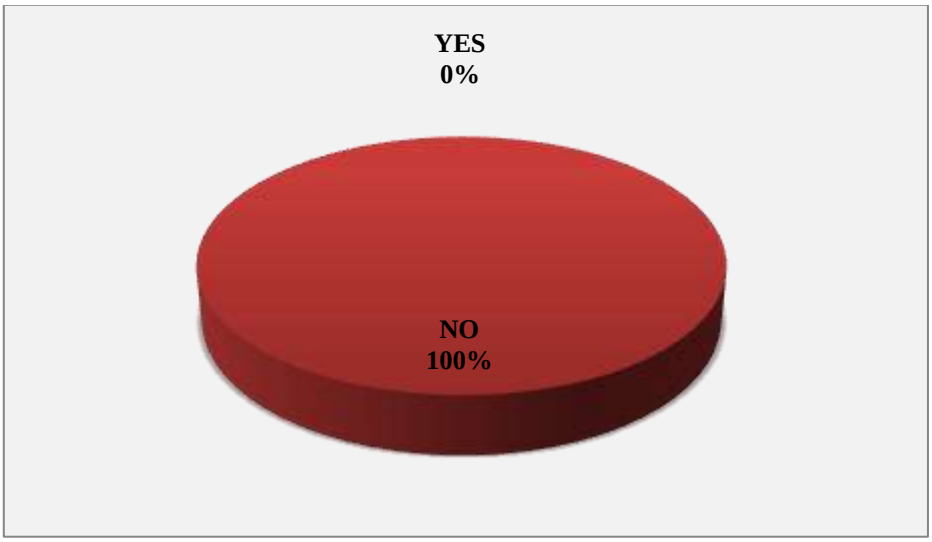
Bac+5	Bac+3	Bac+5	Bac+3	Bac+3	Middle school	High school	Bac+3	Bac+4

The level of participants is higher, most of them have university's degree, however the two reminder participants, one has high school level and the other has middle school level.

4. Do you have difficulties to communicate (healthy problems)?

Table II.06: Health Problems of Communication.

Yes	No
0	09



Graph II.2 : Health Problems of Communication.

All of the caregivers do not have any problem in communication.

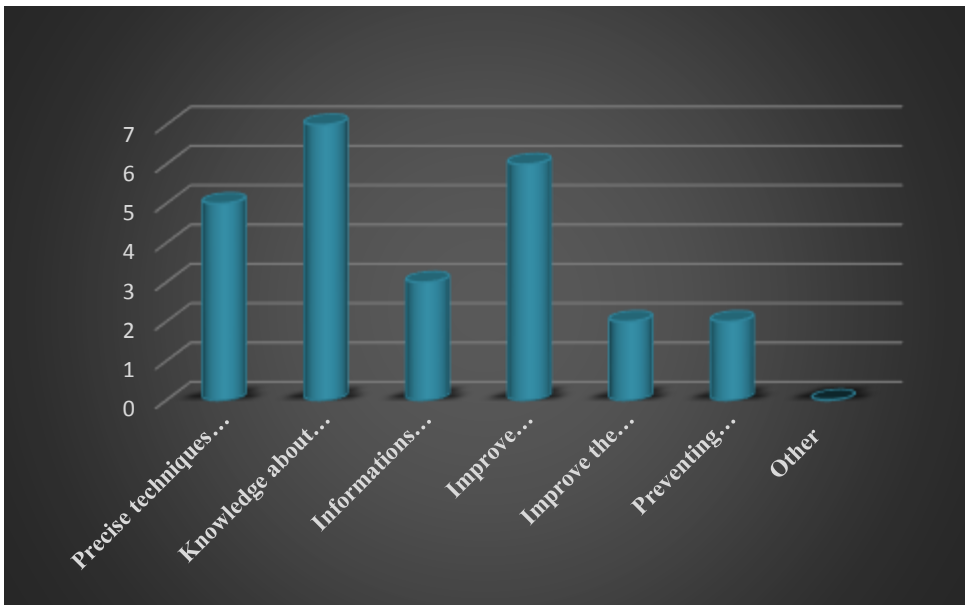
5. If yes, which are?

No one said yes.

6. What do you expect?

Table II.07: Caregiver' Expectations.

Precise techniques and methods to communicate	Knowledge about aphasia	Informations about aphasia and communication	Improve communication with your aphasic relative	Improve the quality of life of the caregiver and your aphasic relative	Preventing caregiver depletion	Other
05	07	03	06	02	02	/



Graph II.3 : Caregiver' Expectations.

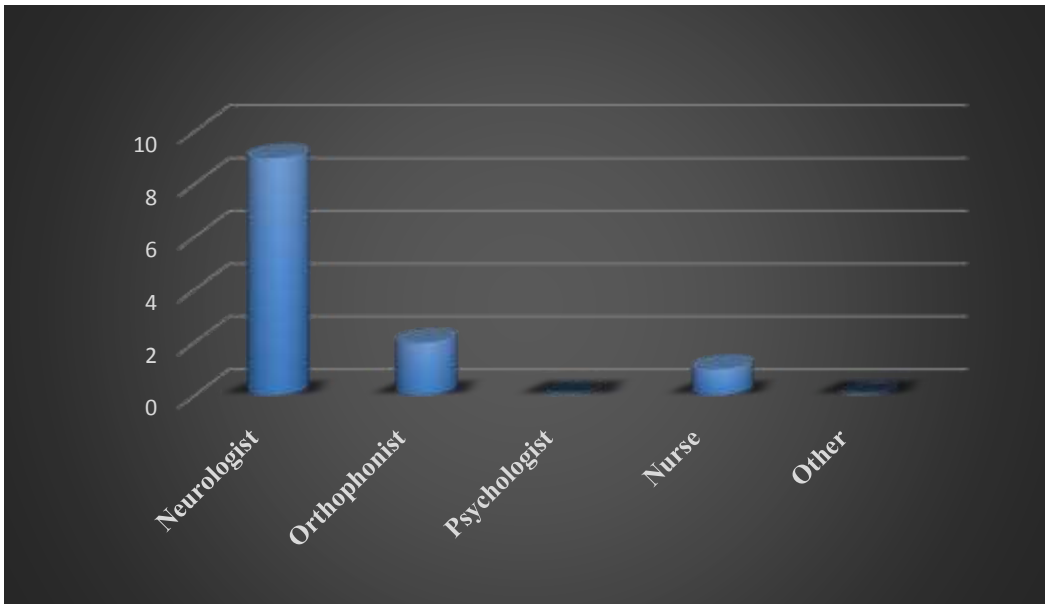
The results show that seven participants expect that in rehabilitation service they can get informations about aphasia, however sex of caregivers expect that how can improve communication with their relatives, then five of them expect the knowledge about aphasia. Three of the individual sample expects to know information about aphasia and

communication. The expectation of Preventing caregiver depletion and improve the quality of life of the caregiver and their aphasic relative are chosen both by two participants.

7. Which professional have you been informed?

Table II.08: The Educational Therapist.

Neurologist	Orthophonist	Psychologist	Nurse	Other
09	02	/	01	/



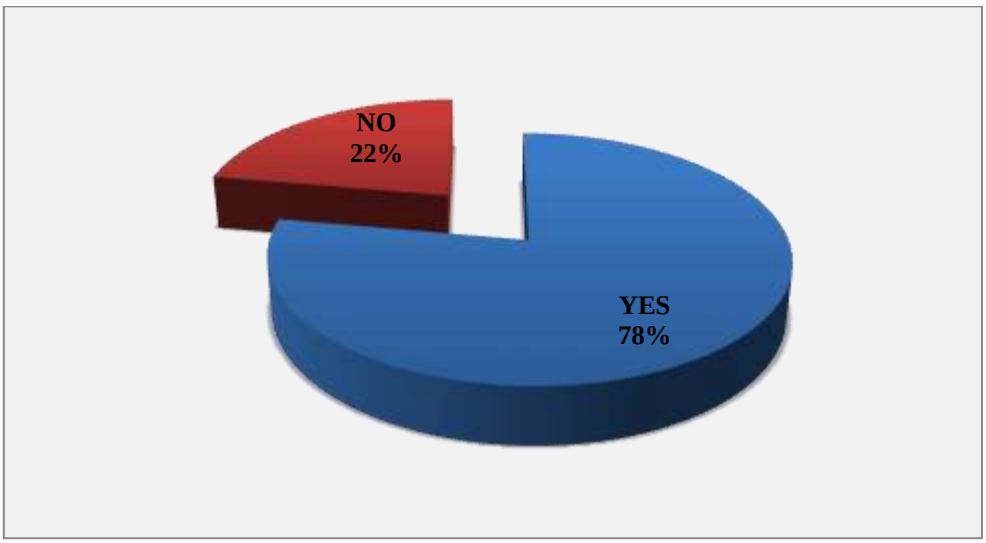
Graph II.4 : The Educational Therapist.

The majority of the participants are familiar with the term aphasia by neurologist; however, two participants added the speech therapist (orthophonist) and one of the caregiver has been informed by nurse too.

8. Do you think you have been sufficiently informed?

Table II.09: Sufficient Information.

Yes	No
07	02



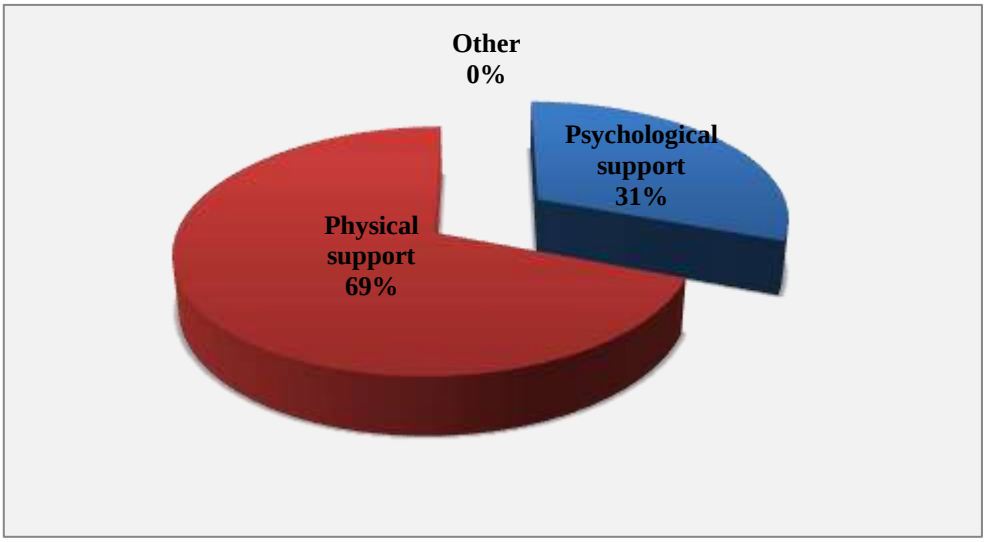
Graph II.5 : Sufficient Information.

The majority of caregiver think that they have a sufficiently information about aphasia rather than two participants don't have enough information about aphasia.

9. Have you been offered support?

Table II.10: Support Provided.

Psychological support	Physical support	Other
04	09	/



Graph II.6 : Support Provided.

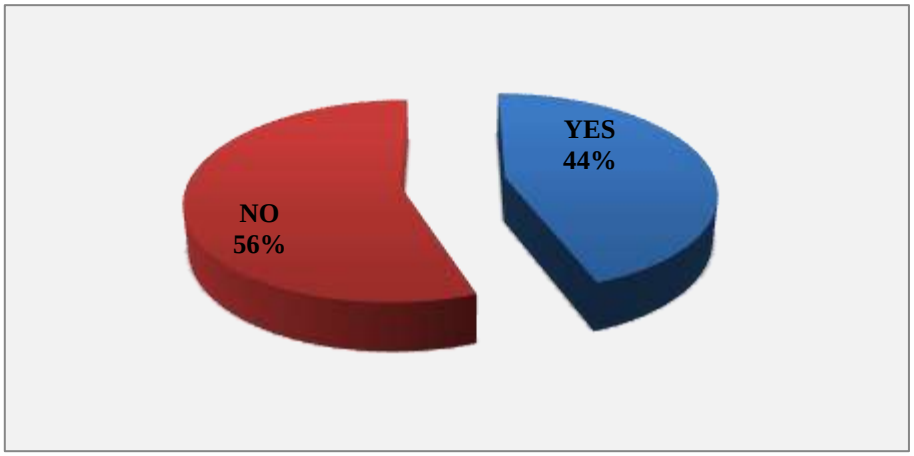
All patients have been offered physical support(fonctional rehabilitation) but only four of them who have been provided psychological support.

b. Section 02: Background Knowledge about Aphasia.

1. Do you know about aphasia (thanks to your readings…)?

Table II.11: Background Knowledge of Aphasia.

Yes	No
04	05



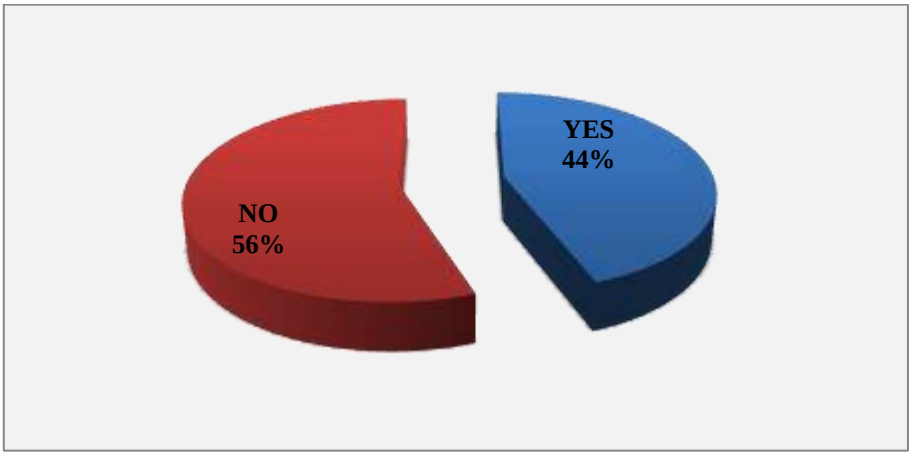
Graph II.7 : Background Knowledge of Aphasia.

Results show that (**56%**) of the participants don't have background knowledge of aphasia however (**44%**) of caregivers know what aphasia is.

2. Do you know the different types of aphasia?

Table II.12: Knowing Aphasia Patterns.

Yes	No
04	05



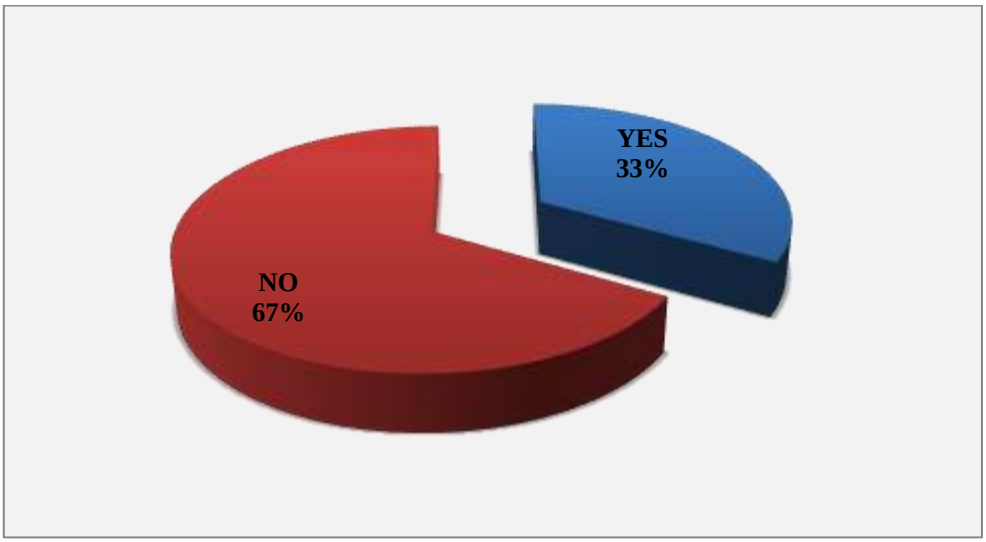
Graph II.8 : Knowing Aphasia Patterns.

(**56%**) of the participants don't know the different types of aphasia besides (**44%**) of them know aphasia patterns.

3. Do you know what the causes of aphasia are?

Table II.13: Caregiver's Opinion in an Etiology of Aphasia.

Yes	No
03	06



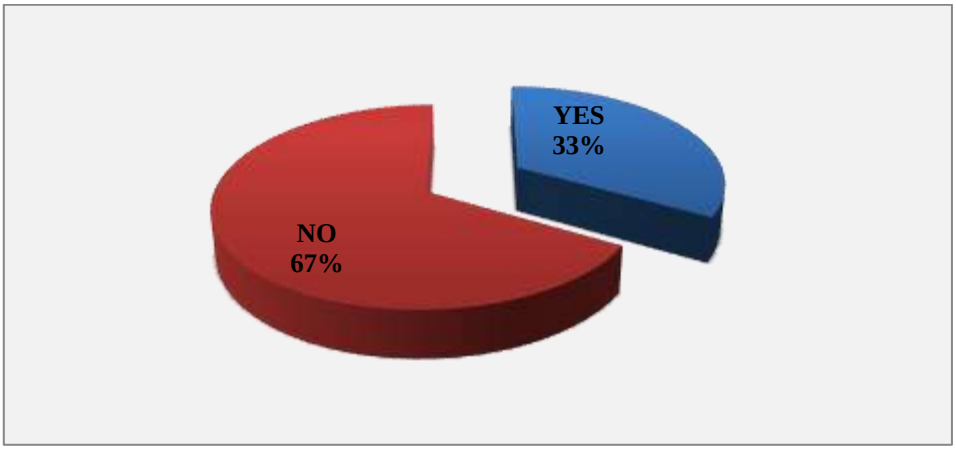
Graph II.9 : Caregiver's Opinion in an Etiology of Aphasia.

The majority of the caregivers (**67%**) point that they do not know the causes of aphasia but (**33%**) of participants are aware of the etiology of aphasia.

4. Do you think that you have sufficient information/training as a caregiver of aphasic relative?

Table II.14: Caregiver's Opinion in their Level of the Formation.

Yes	No
03	06



Graph II.10 : Caregiver's Opinion in their Level of the Formation.

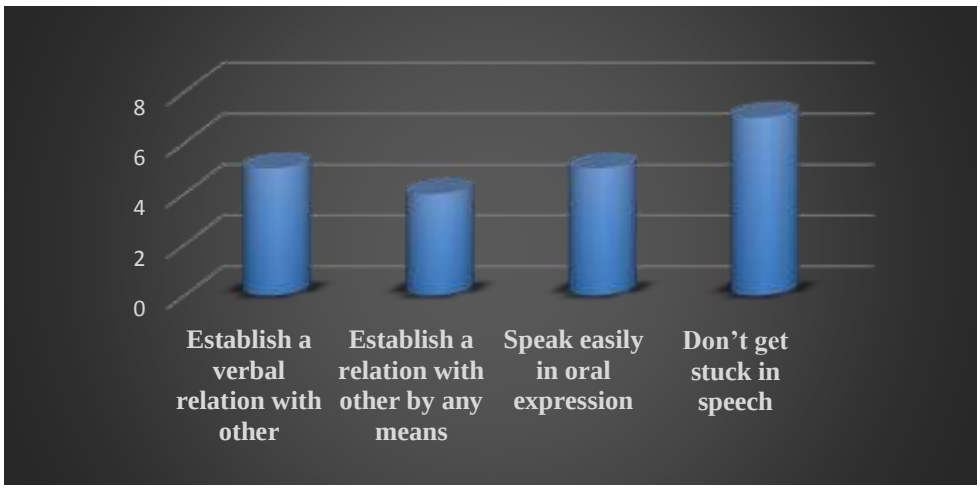
Results show that (**67%**) of caregivers think that they are not at the level of training yet while the (**33%**) of the participants think that they have sufficient information as caregivers of their relatives.

c. Section 03: The Communication.

1. How do you define the communication?

Table II.15: Suggestions of Communication Definition.

Establish a verbal relation with other	Establish a relation with other by any means (gestures, facial expressions, writes ...)	Speak easily in oral expression	Don't get stuck in speech
5	4	5	7



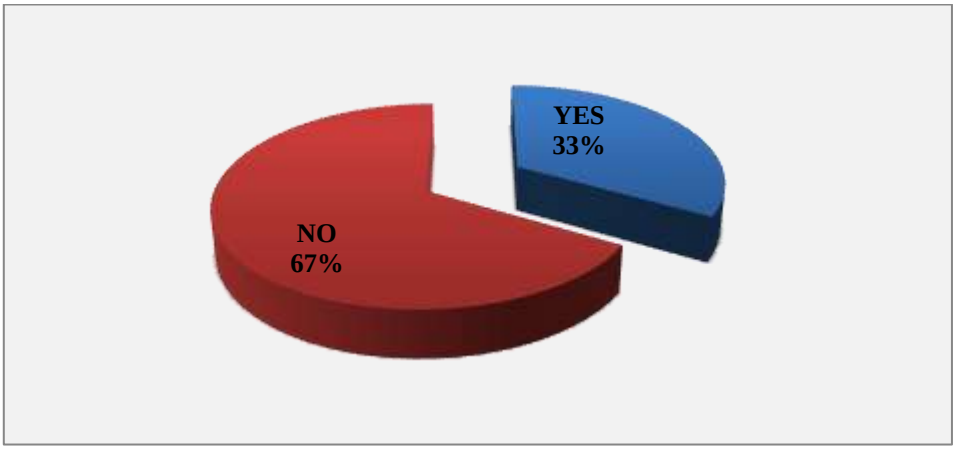
Graph II.11 : Suggestions of Communication Definition.

Results show that all the answers are included as definition of communication. The majority define communication as don't make errors in speech, however five of individuals questioned think that establish a verbal relation with other is a communication, also five of them consider that communication is speak easily in oral expression. Besides fours participants think that communication is establish relation with other by any means (gestures, writes…).

2. Do you see that there is a difference between communication and language?

Table II.16: Difference between Communication and Language.

Yes	No
03	06



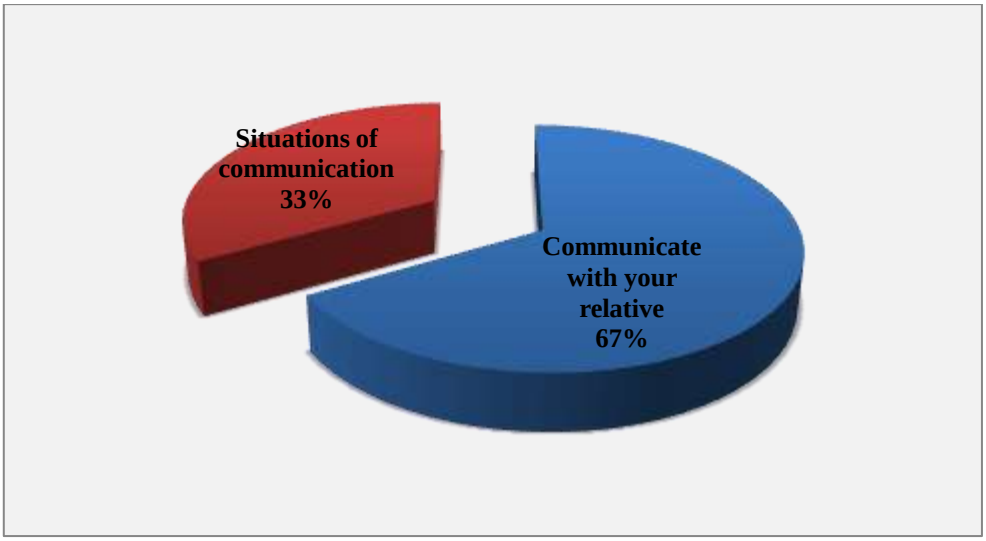
Graph II.12 : Difference between Communication and Language.

The **67%** of the participants think that there is not a difference between communication and language, besides **33%** of the caregivers think the inverse that there is a difference between the two.

3. As a caregiver of your relative, what is the therapeutic role of orthophonist? How can you define it?

Table II.17: Caregiver Definition of Session of Speech Therapy.

Communicate with your relative	Situations of communication
06	03



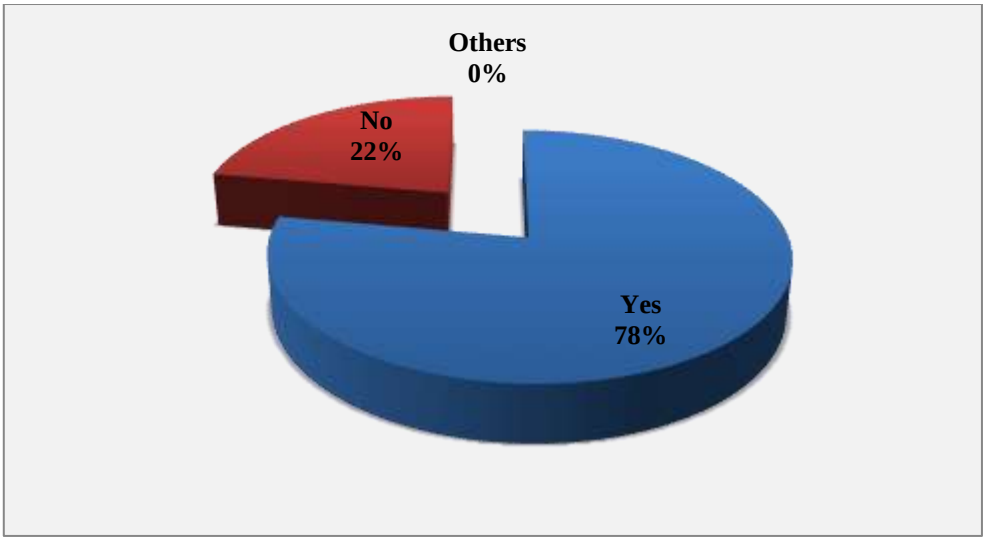
Graph II.13 : Caregiver Definition of Session of Speech Therapy.

The majority of the participants define the therapeutic role of the orthophonist is just communicate with their relatives; however others think that it is situation of communication.

4. In your opinion, environment (noisy/calm, known/unknown…) can influence at the level of communication of your relative?

Table II.18: Caregiver Opinion about the Influence of Social.

Yes	No	Others
07	02	/



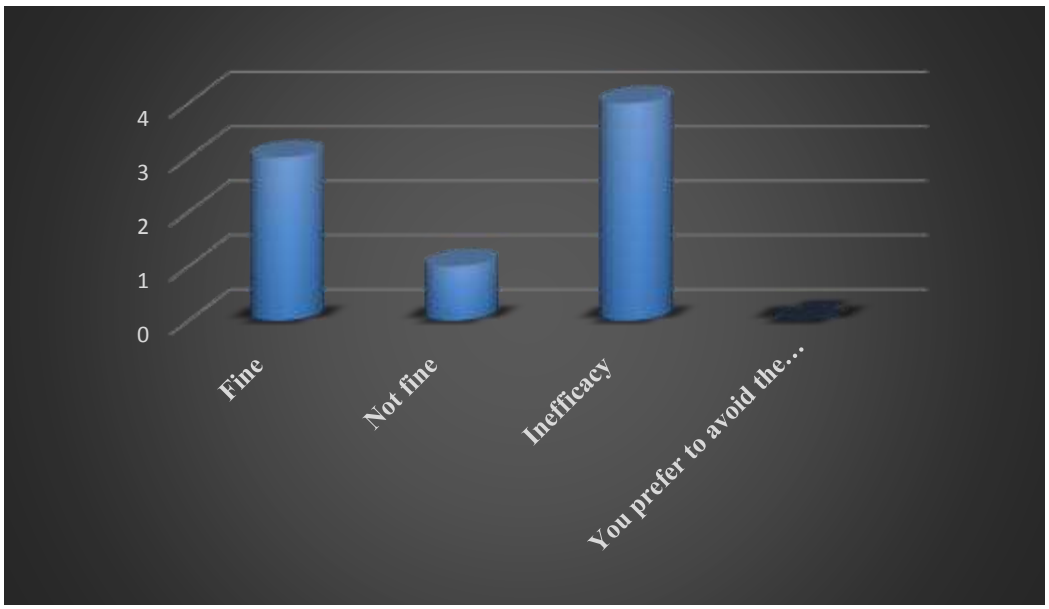
Graph II.14 : Caregiver Opinion about the Influence of Social.

7 caregivers from **9** think that the social environment has the influence (positive/negative) to the level of communication of their aphasic relatives.

5. When you communicate with your relative, how do you feel?

Table II.19: Caregiver Feeling with Relative Discussion.

Fine	Not fine	Inefficacy	You prefer to avoid the situations of communication
03	01	04	/



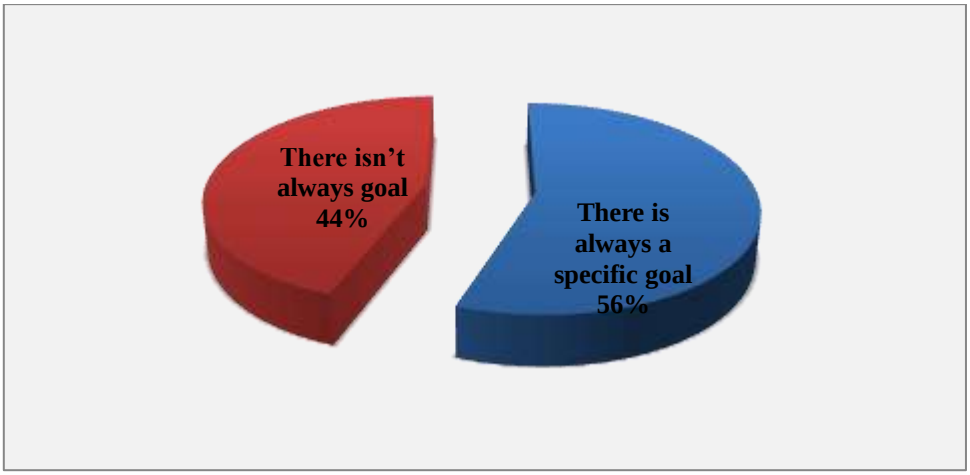
Graph II.15 : Caregiver Feeling with Relative Discussion.

04 caregivers feel inefficacy with their aphasic relatives in speech conversations case, however **03** of the participants feel themselves fine when they communicate with their aphasic relatives, besides one of the caregiver don't feel good at all in his/her aphasic relative discussion.

6. When you communicate with your relative:

Table II.20: Communication Reasonable.

There is always a specific goal	There isn't always goal (sometimes for exchange)
05	04



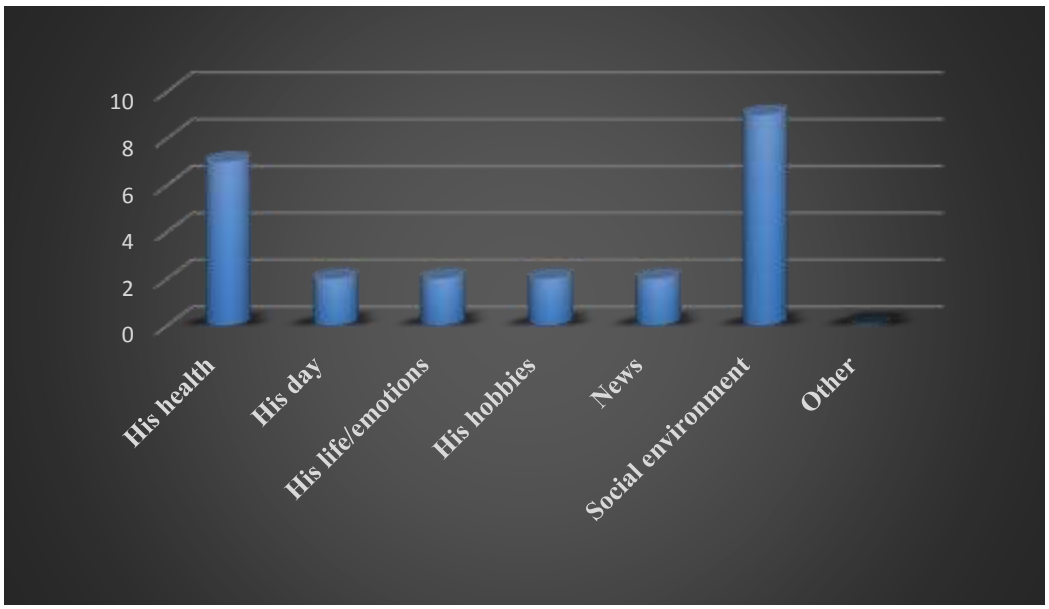
Graph II.16 : Communication Reasonable.

56% of the participants when they communicate with their aphasic relative, there is always a specific goal for their discussion, however **44%** of the caregivers don't need always goal to their conversations.

7. When you speak with your relative, which kind of conversation you prefer?

Table II.21: Preferable Conversation Type.

His health	His day	His life/emotions	His hobbies	News	Social environment	Other
07	02	02	02	02	09	/



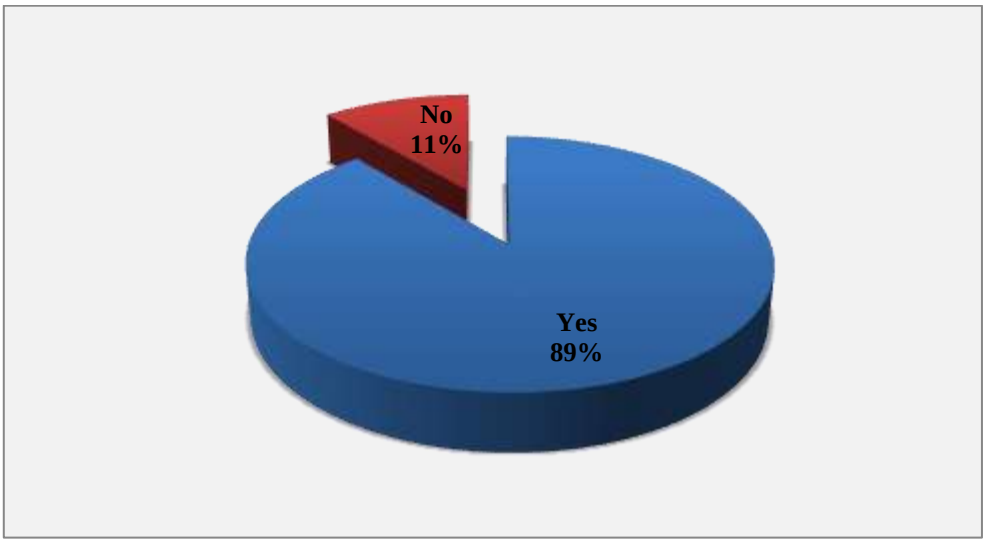
Graph II.17 : Preferable Conversation Type.

The preferable conversation of the caregiver is about their social environment such as family, besides the second preferable subject is about the relative health.

8. In general, can you make your relative understand you?

Table II.22: Understanding the Exchange between the Caregiver and the Patient.

Yes	No
08	01



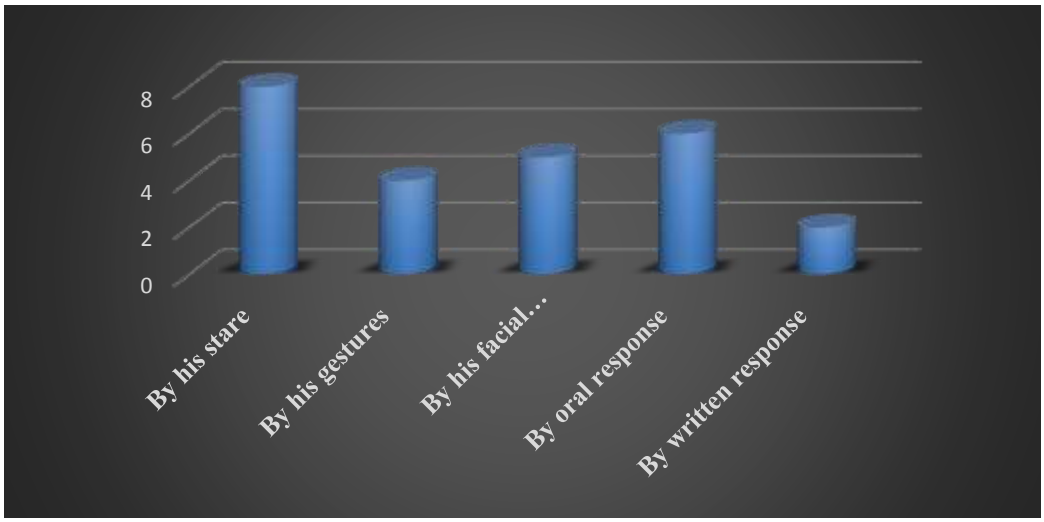
Graph II.18 : Understanding the Exchange between the Caregiver and the Patient.

The majority of the caregivers can make their aphasic relatives understanding the exchange of conversations.

9. How can you know that the aphasic person understand you?

Table II.23: The System Followed to Understanding.

By his stare	By his gestures	By his facial expressions	By oral response	By written response
08	04	05	06	02



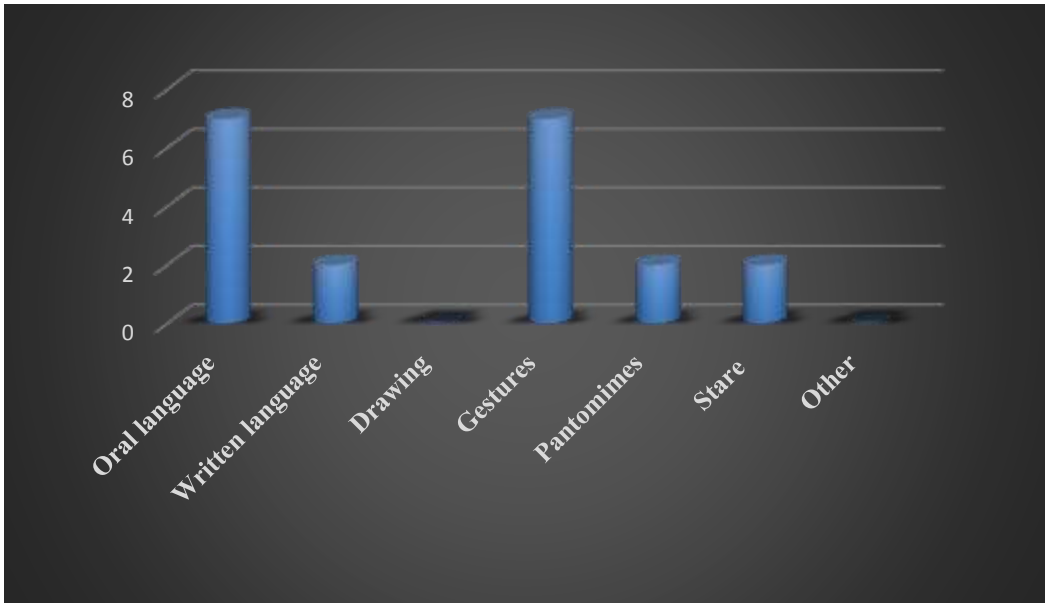
Graph II.19 : The System Followed to Understanding.

The majority of participants show that they can understand their aphasic relatives by his/her stare, however by his/her oral response. Then the other systems followed to understanding are by other means such by facial expressions, gestures, and by written response.

10. By which means you prefer your relative use in conversations?

Table II.24: Conversation Means.

Oral language	Written language	Drawing	Gestures	Pantomimes	Stare	Other
07	02	/	07	02	02	/



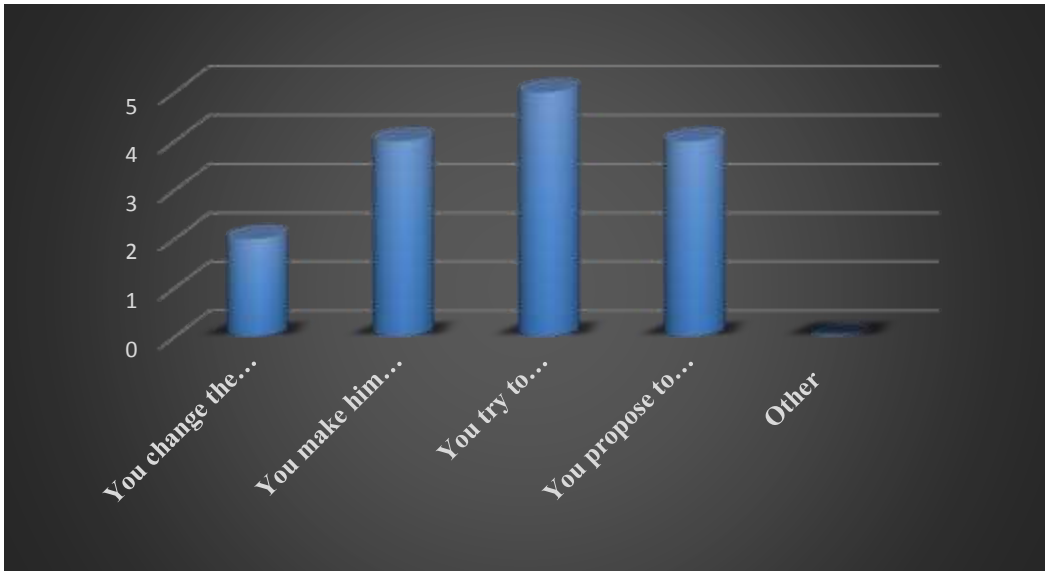
Graph II.20 : Conversation Means.

The preferable means of communication by the majority of caregivers is the oral language then the gestures.

11. When do you not understand your aphasic relative:

Table II.25: Strategies to Avoid Misunderstanding.

You change the subject	You make him think that you understand him well	You try to reformulate	You propose to him to use another means of communication	Other
2	4	5	4	/



Graph II.21: Strategies to Avoid Misunderstanding.

The majority of the caregiver try to reformulate the speech in order to avoid misunderstanding of each other(aphasic with his/her relative), while four participants of nine think to propose to the relative to use another means of communication, even four participants play the role that they understand his/ her aphasic relative well.

II.2. Teacher's Questionnaire :

II.2.1. Description of the Questionnaire:

The present questionnaire consists of three main questions, each question contains sub question.

- The first question is about aphasia definition.
- The second question: the deal with aphasia in language teaching.
- The third question: the importance of background knowledge about aphasia.

II.2.2. Administration of the Questionnaire:

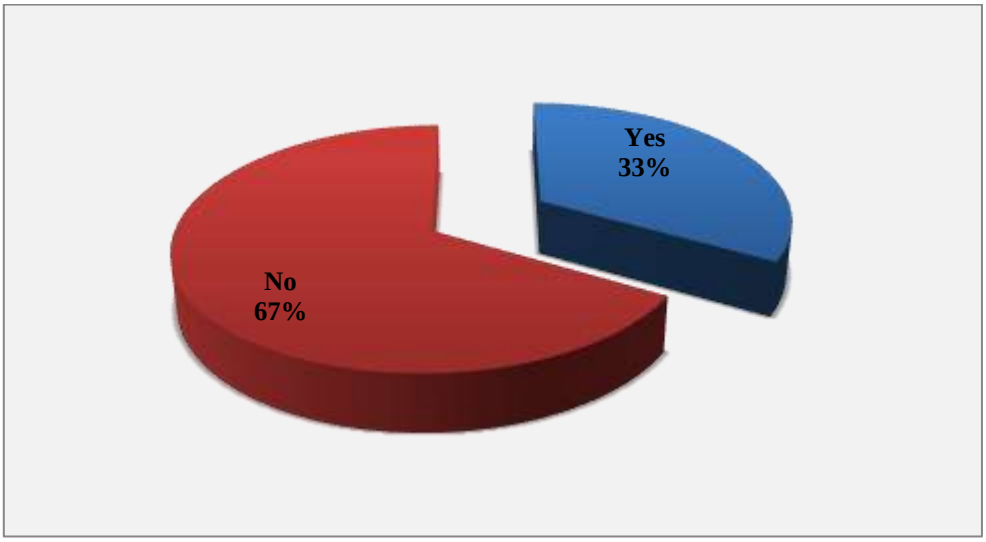
The teacher's questionnaire was given to twelve English teachers in the department of English at Abdelhamid Ibn Badis University of Mostaganem.

II.2.3. Analysis of the Questionnaire:

1. Do you know what is aphasia?

Table II.26: Knowing Aphasia Disorder.

Yes	No
04	08



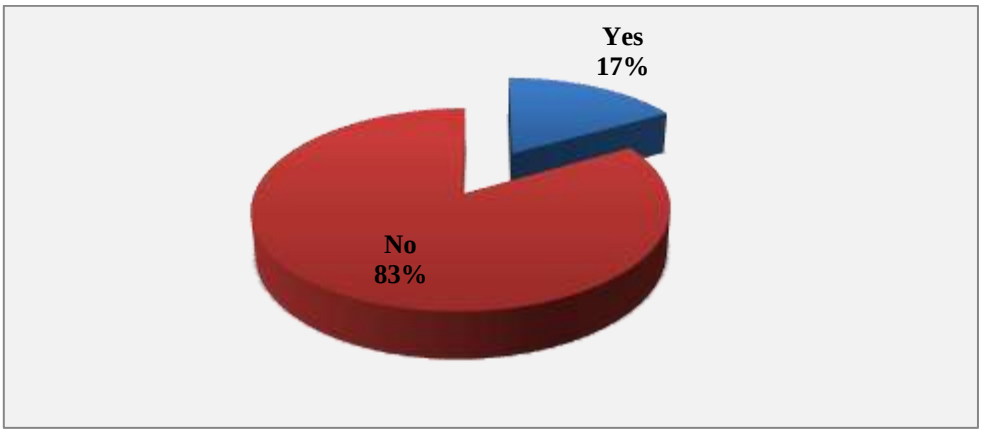
Graph II.22 : Knowing Aphasia Disorder.

The **67%** of teachers don't know what is aphasia even as a definition however some of them **33%** haves a background knowledge about this disorder.

2. As a teacher yourself, do you know how to deal with an aphasic student?

Table II.27: Dealing with Aphasic Student.

Yes	No
02	10



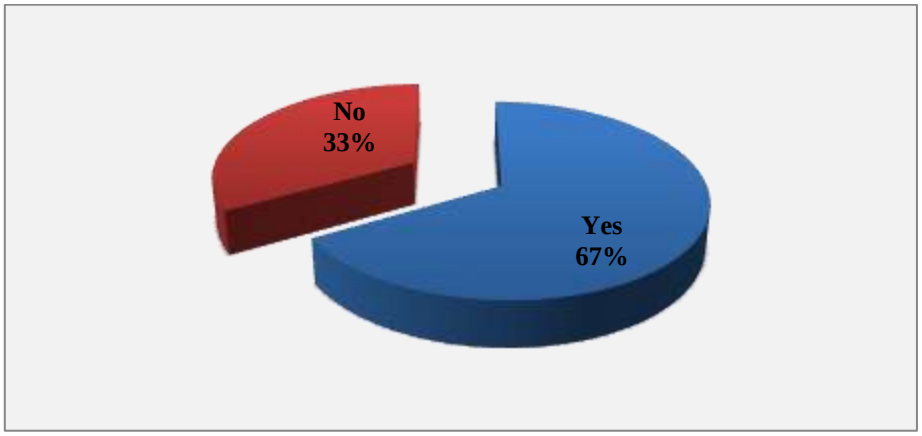
Graph II.23 : Dealing with Aphasic Student.

After the given brief definition about aphasia, the majority of teachers **83%** don't know how to deal with aphasic student case. Besides **17%** of them know how to deal with them.

3. In the terrain of English language teaching, do you see that it is important to have background knowledge about this language disability (aphasia)?

Table II.28: Having a Background Knowledge about the Language Disability in ELT.

Yes	No
08	04



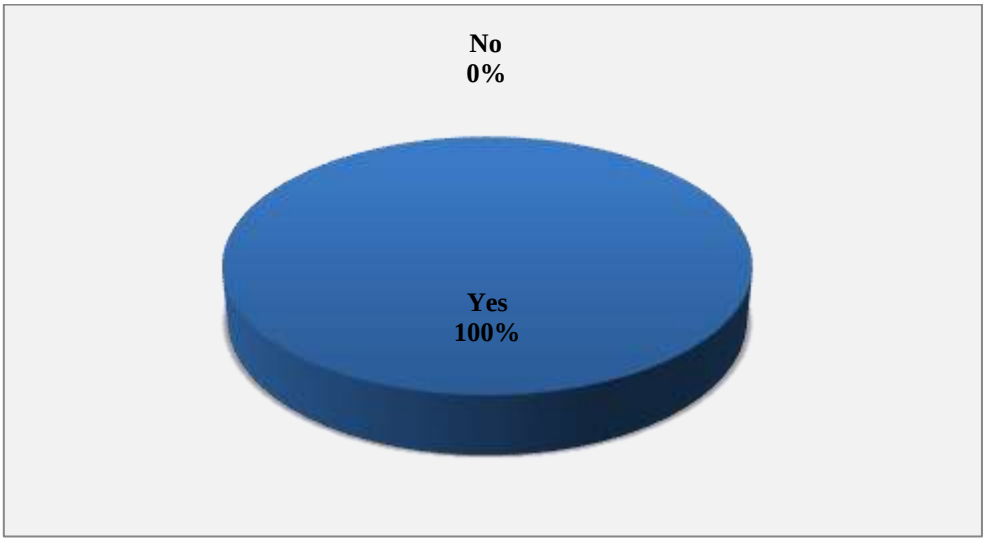
Graph II.24: Having Background Knowledge about the Language Disability in ELT.

As teachers point of view,**67%** of them see that is important to know about this language disability ”aphasia” however **33%** they don’t see that is important as teacher to know about aphasia.

4. If yes, do you see that it is important to transmit this information to your students?

Table II.29: Information Transmission to EL Student.

Yes	No
08	/



Graph II.25: Information Transmission to EL Students.

All teachers who see that it is important to knowing about aphasia as teachers are agree that it is important also to transmit these information(about aphasia) to their students.

Conclusion:

The results of the questionnaire, of both caregivers of aphasic patient at rehabilitation service of Mostaganem Hospital and teachers strongly support the importance of psychosocial side in the term of knowing the disease and dealing with it at every context.

There is clearly enough evidence to say that the communication is one of the psychosocial tools to enhance certain abilities to reach certain needs to use language.

CHAPTER III

Research Findings and Suggestions

Introduction

III.1. Observations

III.2. Limitation of the Study

III.3. Discussion

III.4. Recommendations

III.4.1. Communication Strategies

III.4.2. Reading Strategies for Students with Aphasia

III.4.3. Strategies can Teachers use for Students with Aphasia

III.5. Suggestions

Conclusion

Introduction:

The paper argues the quality of the psycholinguistic topics engagement with language disabilities in learning as limited scope and in general communication as daily life experiences. In previous chapters, we presented as chapter one the overview literature of language areas location in the brain and the general background knowledge about aphasia and right hemiplegia as one of its causes. Then, in second chapter, we deal with analysis of data that we collect from the questionnaire tool of methodology. Finally, this chapter carries out the description of the data obtained from previous chapter in which we will conclude our paper by representation of my observations as physiotherapist, recommendations and some suggestions.

III.1. Observations:

- People with aphasia and their family members are at high risk of experiencing post stroke depression especially at 3 to 6 months after store onset.
- Persons with aphasia are especially prone to psychosocial problem such as anxiety and depression, threatened identity changes in their relationships with their significant others.
- Left hemiplegic patients recover quickly than right hemiplegic patients and the big cause is the psychological and emotional behavior against aphasia disorder.
- The psychosocial adjustment process is complicated and protracted and aphasic people reduce social networks and social isolation, unemployment, and abandonment of leisure activities.
- The emotional and psychosocial factors have a marked impact on recovery, the psychosocial adjustment process, and the response to rehabilitation.
- Both patients and their family members showed positive change of psychological well-being after the tips I have been provided to them.
- The medical model has little time for experience and personnel perspectives which are neither objective nor easy to measure and is not concerned with the social roles and psychosocial perceptions because the emphasis on physical recovery reflects the dominance of the medical model in our health care system.
- The emotional impact of aphasia can have a marked negative impact in recovery response to rehabilitation and psychosocial adjustment.

III.2. Limitation of the Study:

- Would like to work in group with speech therapist and to make the study more valid in term of new techniques in rehabilitation of aphasic people.
- The limitation is also present because of time of the study; it should take more than one year to improve the specific points.
- There are aphasic students who did not want to help us and themselves to be as sample of our research.
- The group of therapist is important to achieve the remedy of aphasia or even to reduce it, the group should contain neurologist, speech therapist, physiotherapist, psychologist, and nurses indeed
- The service of rehabilitation should contain specific environment for right hemiplegic patients because of their aphasic disorder.
- As physiotherapist is hard for me to deal with aphasic people in term of multidisciplinary therapy.
- The level of aphasic patients and their members' family is the problem of the study because of the miss of knowledge about aphasia.

III.3. Discussion:

As a conclusion of findings. We reach outcomes that support to get the informations which we asked for it before and to confirm or infirm the research hypothesis.

The caregiver questionnaire represented many informations which leads to formulate the therapy way as physiotherapist and go over the impact of psychosocial side in communication and language use.

The caregiver questionnaire helps me to know at what extent the relative of aphasic patient can guess the degree of this disorder, however to check if the caregiver has the specific techniques to deal with their relative in terms of communication and language use.

As a physiotherapist of the sample (aphasic patients) and according to questionnaire findings. The research hypothesis is confirmed that is mean the relation between the social and the aphasic patients is the source of treatment of the language disorder. Besides what I

observed that some aphasic cases can speak and communicate frequently in absence of speech therapist in few months after stroke onset because of their family support, and because of knowing of disorder borders.

Otherwise, teacher's questionnaire is optional to the study because the distance of the health field and teaching scope. But for me it is important because as psycholinguist student I should know what are the language abilities and disabilities to reach the academic achievement in learning scope and to solve language problems in different options in daily life experiences, because the main principle in our psycholinguistics field is the language focus.

III.4. Recommendations:

III.4.1. Communication Strategies [1]:

The impact of aphasia on relationships may be profound, or only slight. No two people with aphasia are alike with respect to severity, former speech and language skills, or personality. But in all cases it is essential for the person to communicate as successfully as possible from the very beginning of the recovery process. Here are some suggestions to help communicate with a person with aphasia:

- Make sure you have the person's attention before you start.
- Minimize or eliminate background noise (TV, radio, other people).
- Keep your own voice at a normal level, unless the person has indicated otherwise.
- Keep communication simple, but adult. Simplify your own sentence structure and reduce your rate of speech. Emphasize key words. Don't "talk down" to the person with aphasia.
- Give them time to speak. Resist the urge to finish sentences or offer words.
- Communicate with drawings, gestures, writing and facial expressions in addition to speech.
- Confirm that you are communicating successfully with "yes" and "no" questions.

[1] American Speech-Language-Hearing Association, "Aphasia", http://www.asha.org/public/speech/disorders/aphasia.htm

- Praise all attempts to speak and downplay any errors. Avoid insisting that each word be produced perfectly.
- Engage in normal activities whenever possible. Do not shield people with aphasia from family or ignore them in a group conversation. Rather, try to involve them in family decision-making as much as possible. Keep them informed of events but avoid burdening them with day to day details.
- Encourage independence and avoid being overprotective.

III.4.2. Reading Strategies for Students with Aphasia [2] :

Teaching aphasia reading strategies can help students with aphasia optimize their reading fluency and comprehension. The following reading strategies for students with aphasia will help your students with aphasia make maximum progress:

- Learn everything you can about the student as a learner. Read his IEP (**Individualized Education Program)** [3] and cumulative folder. Examine previous classroom and standardized assessments. Analyze previous writing samples. If possible, speak with teachers and other professionals who have worked with the student in the past. Administer learning inventories and interview the student to develop a profile of the student's strengths, deficits, needs and preferences as a learner.
- Administer a comprehensive battery of assessments to determine the student's current level of functioning.
- Structure the learning environment to minimize distractions for your students with aphasia.
- Use simple language and uncomplicated sentences when communicating with students with aphasia.

[2] National Institute on Deafness and Other Communication Disorders, National Institutes of Health, "Aphasia", http://www.nidcd.nih.gov/health/voice/aphasia.html.

Medline Plus, National Institutes of Health, "Aphasia", http://www.nlm.nih.gov/medlineplus/aphasia.html.

National Institute of Neurological Disorders and Stroke, National Institutes of Health, "Aphasia", http://www.ninds.nih.gov/disorders/aphasia/aphasia.htm.

[3] An IEP is an important legal document. It spells out your child’s learning needs, the services the school will provide and how progress will be measured.

- Presenting formation using multiple modalities.
- Explicitly teach semantics and syntax concepts. Simplify them as much as possible.
- Break concepts down into small steps and repeat them as often as necessary to ensure your student comprehends them.
- Encourage your students with aphasia to use any type of communication they are comfortable with (e.g., writing, drawing, pointing, gesturing, picture systems, sign language, augmentative communication devices).
- Have your student repeat and explain concepts, directions and expectations to you after you've presented them to her.
- Partner with your school's speech therapist and special education case manager to identify possible augmentative communication and assistive technology devices for your students with aphasia.

III.4.3. Strategies can Teachers use for Students with Aphasia [4]:

- Control a comprehensive sequence of valuations to determine the current student's state.
- Organizing the learning environment to minimize the distractions for your students with aphasia.
- Practice simple language and unsophisticated sentences with collaborating with students with aphasia.
- Repeat words as necessary when speaking with students with aphasia
- Present information using multiple modalities (orally, visually and kinesthetically).
- When teaching vocabulary, provide written words, definitions, synonyms and antonyms, examples of usage and pictorial representations.
- Openly teach semantics and syntax concepts. Simplify them as much as possible.
- Break concepts down into small steps and repeat them as often as necessary to ensure your student comprehends them.
- Allow students with aphasia as much time as necessary, without interruption, in order to express themselves verbally.
- Create word choice boards.

[4] American Speech-Language-Hearing Association, "Aphasia", http://www.asha.org/public/speech/disorders/aphasia.htm

- Use flashcards to build vocabulary.
- Because aphasia manifest in so many different way, specific accommodations are determined on case by case basis.
- In working with aphasia student, be flexible, creative, and adaptive with resources.
- Outline class presentations and write new terms and key points on the black board.
- Repeat and summarize segments of each presentation and review its entirety.
- Consider giving assignments in both oral and written form to avoid confusion.
- Consider providing in advance, sample study question foe exams that illustrate the test format, as well as the content of the test. Explain that constitutes a good answer and why.
- Encourage students to use campus support services (e.g., study skills training, academic tutorial assistance, peer support groups, etc.).
- Students with written language difficulties may benefit from use of word processor or typewriter for written assignment, extended time, and note taker or lecture.

III.5. Suggestions:

- An association based program for people with aphasia and their families for offering a long term support and service at any time post stroke or head injury.
- Educational researchers need to continue conducting empirical research about language disabilities specially in learning field and in daily life experiences, because I think that language learner can focus on how can use language(learning ability) otherwise he/she should aware about the opposite of this ability.
- As future teachers, university students should learn psycholinguistics as module in their curriculum to be aware of production and comprehension of language in general to push students to search more for getting valid ideas to know how to deal further with learners who have such language disorders.

Conclusion:

As conclusion of this chapter, the outcomes of the research strongly support the importance of the psychosocial context in rehabilitation of the aphasic people in which it is the source of the remedy if we can say according to their influence at behavior of aphasic patients. So to conclude, the family and social environment can make the distinguish in treatment of aphasia.

General conclusion

The present study tries to investigate the issue of treatment of aphasia from a psychosocial aspect, which has a crucial effect on the aphasic patient on their language and body. Therefore, the core of this research is to unveil the positive impact of psychosocial elements on aphasic people.

According to my observations as physiotherapist, the reduction of aphasic symptoms can be a consequence of their family influence especially at the positive angle when the relatives of aphasic patients know about aphasia and how deal with it at the same level of importance which results the good reaction to minimize the disorder without the role of speech therapist and psychologist. This study shows that knowledge about Aphasia can boost the likelihood of recovery from the disorder. By this, we address caregivers and relatives of aphasic patients. They can enrich their knowledge and even gain expertise in developing the skills of understanding the patient in order help him/her to produce language.

The obtained results gathered from questionnaires and my observations confirmed our hypotheses that the psychosocial support provided by caregivers and the social interaction could be a solution of the aphasic problem to boost the patient to focus on his/her physic (body) that influence positively at the psychological and emotional level of the patient himself/herself. Otherwise, the lack of awareness among caregivers causes deterioration in the treatment of aphasia and a negative motive, which slows the recovery response to rehabilitation and psychosocial adjustment. At the level of medical model, we as physiotherapists have little time for personal perspectives, which are almost sub-objectives because our emphasis is on physical recovery as the dominance of the remedy.

The present study is narrowed to focus on a small angle of one of the important issues in neurolinguistics. The language disorder might seem unusual in many contexts. However, it can be generated in many domains, such as in an EFL classroom. As part of the limitation of our study, denial and rejection to respond to questionnaire come under the umbrella of ignorance about the disorder. Thus, this research could bring about new insight to this serious problem, hoping that actions through psychological interventions in the arena of language teaching and learning will extend the awareness among not only medical services but also educators.

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APPENDICES

Caregiver's Questionnaire (French Version)

Questionnaire de connaissances de l'aidant

1. Fiche d'Identité

Nom : Prénom :

Age : Sexe :

Vivez-vous avec votre proche aphasique ?

Oui □ Non □

Si non, à quelle fréquence le voyez-vous ?.....

Profession : Niveau d'étude :

Avez-vous, vous-même des difficultés de santé qui pourraient vous gêner dans la communication ?

Oui □ Non □

Si oui lesquelles ?.....

NB : Vous avez des questions sur lesquelles vous pouvez choisir plus d'une réponse.

2. Quelles sont vos attentes ?

□ Des techniques et des méthodes précises pour communiquer.

□ Des connaissances sur l'aphasie.

□ Des informations sur la communication et l'aphasie.

□ Améliorer la communication avec votre proche aphasique.

□ Améliorer la qualité de vie de l'aidant et de votre proche aphasique.

□ Prévenir l'épuisement de l'aidant.

□ Autre : .....

3. Par quel professionnel avez-vous été informé ?

□ Neurologue.

□ Orthophoniste.

□ Psychologue.

□ Infirmier.

□ Autre : .....

4. Estimez-vous avoir été assez informé ?

Oui □ Non □

5. **Vous a-t-on proposé un soutien ?**

□ Soutien psychologique.

□ Soutien physique.

□ Autre : .....

Connaissances sur l'aphasie

6. **Vous avez des connaissances sur l'aphasie (grâce à des lectures, associations…)**

Oui □ Non □

7. **Vous connaissez les différents types d'aphasie**

Oui □ Non □

8. **Vous savez à quoi est due l'aphasie**

Oui □ Non □

Expérience et Avis Personnel

9. **Vous estimez-vous suffisamment informé/formé en tant qu'aidant d'un proche aphasique ?**

Oui □ Non □

La communication et l'Orthophonie

10. **Comment définiriez-vous la communication ?**

□ Etablir une relation verbale avec autrui.

□ Etablir une relation avec autrui quel que soit le moyen (gestes, mimique, écriture…).

□ Parvenir à s'exprimer aisément à l'oral.

□ Ne pas buter sur les mots.

11. **Pour vous y-a-t-il une différence entre la communication et le langage ?**

Oui □ Non □

12. **Rôle thérapeutique de l'orthophoniste auprès de vous (en tant qu'aidant de votre proche aphasique) ? Comment pourriez-vous le définir ?**

□ Communiquer avec votre proche.

□ Situations de communication.

13. A votre avis, l'environnement (bruyant/calme, connu/inconnu…) influence-t-il la communication avec votre proche ?

Oui □ Non □

□ Autre : .....

14. Quand vous communiquez avec votre proche, vous vous sentez en général :

□ A l'aise.

□ Mal à l'aise.

□ Inefficace.

□ Vous préférez éviter les situations de communication.

Contenu de la Communication

15. Lorsque vous communiquez avec que votre proche :

□ Il y a toujours un but précis (demander/obtenir quelque chose).

□ Il n'y a pas toujours de but, c'est parfois simplement pour l'échange.

16. **Quand vous échangez avec votre proche, quels sont les sujets de conversation que vous abordez préférentiellement** ?

□ Sa santé.

□ Sa journée.

□ Son vécu, ses émotions.

□ Ses loisirs.

□ L'actualité.

□ Votre entourage (famille, vie sociale).

17. En général, parvenez-vous à vous faire comprendre ?

Oui □ Non □

18. A quoi voyez-vous que la personne aphasique vous a compris ?

□ À son regard.

□ À ses gestes.

□ À ses mimiques.

□ À la réponse orale.

□ À la réponse écrite.

19. Quels moyens sollicitez-vous chez votre proche lors des échanges ?

□ Langage oral.

□ langage écrit.

□ Dessin.

□ Gestes, pantomimes.

□ Pointages.

□ Regard.

20. Lorsque vous ne comprenez pas ce que vous dit votre proche :

□ Vous changez de sujet

□ Vous acquiescez en lui faisant croire que vous avez compris

□ vous essayer de reformuler

□ Vous lui proposez d'utiliser un autre moyen de communication (gestes, mimiques, dessins, …)

Caregiver's Questionnaire (Arabic Version)

استبيان (لقريب) مساعد المريض

1. **بطاقة الهويّة:**

الاسم الأوّل:

العمر: الجنس:

هل تعيش مع قريب(ت)ك التي يـ(ت)عاني من الحبسة؟

نعم □ لا □

إذا لم يكن كذلك، كم من مرة تراه(ا) في أغلب الحالات؟

المهنة: مستوى الدّراسة :

هل تعاني من مشاكل صحيّة و التّي قد تعيق لكم التواصل مع الآخرين؟

نعم □ لا □

إذا كان الأمر كذلك ما هي؟.....

ملاحظة : هناك أسئلة يمكنك اختيار أكثر من إجابة واحدة.

2. **ما هي توقعاتك؟**

□ **الأساليب الفنية ودقيقة للتواصل.**

□ **التّعرف على الحبسة (فقدان القدرة على الكلام).**

□ **معلومات عن الاتصالات وفقدان القدرة على الكلام.**

□ **تحسين التّواصل مع قريبك الذي يعاني من الحبسة.**

□ **تحسين نوعية الحياة من الرّعاية للمساعد والمريض.**

□ **منع استنفاد الرّعاية.**

□ **معلومات أخرى:.....**

3. **من أبلغكم بما أُصيب به قريبك؟**

□ **طبيب الأعصاب.**

□ **معالج الكلام.**

□ **طبيب نفساني.**

□ **ممرض.**

□ **أخرى:.....**

4. هل تم الإبلاغ بما فيه الكفاية؟

نعم □ لا □

5. هل أُقترح عليكم الدّعم أو المساعدة؟

□ الدّعم النّفسي.

□ الدّعم الجهدي (الفيزيائي).

□ أخرى.....

6. لديك المعرفة على الحبسة أو فقدان القدرة على الكلام (من خلال القراءات والجمعيات ...)

نعم □ لا □

7. هل تعرف أنواع الحبسة؟

نعم □ لا □

8. هل تعرف السّبب الرّئيسي للحبسة؟

نعم □ لا □

9. أ تعتقد أنك على علم بما فيه الكفاية / تدريب كمقدّم رعاية أحد أعضاء عائلتك المصاب بالحبسة؟

نعم □ لا □

10. كيف تعرّف التواصل؟

□ إقامة علاقة لفظية مع الاخرين.

□ إقامة علاقة مع الآخرين بأيّ وسيلة متاحة (حركة، إشارة، تعابير الوجه، كتابة...).

□ تحقيق التّعبير عن أنفسنا بسهولة شفهيا.

□ لا تتعثر في الكلام.

11. بالنسبة لك هل هناك علاقة بين التّواصل واللّغة؟

نعم □ لا □

12. دور معالج الكلام بالنسبة لك (كمساعد لقريبك المصاب بالحبسة)، كيف تستطيع تعريفه؟

□ التّواصل مع قريبك.

□ حالة تواصل.

13. في نظرك هل المجتمع (بصوت عال / الهدوء، والمعروف/ غير معروف .....) يؤثّر على المصاب بالحبسة؟

نعم □ لا □

□ أخرى.....

14. حين تتواصل مع قريبك عموما بماذا تشعر؟

□ **مرتاح.**

□ **متضايق.**

□ **غير متفاعل.**

□ **تفضل تجنب مواقف التواصل.**

*مضمون التّواصل

15. عندما تتواصل مع قريبك.

□ **هناك دائما هدف التواصل.**

□ **ليس هناك هدف. فقط من أجل التّبادل في الكلام.**

16. عندما تتبادل الكلام مع قريبك ماهي المواضيع التي تستدرجونها أو تفضّلون التطرق إليها؟

□ **حالته الصحيّة.**

□ **يومه.**

□ **خبرته، عواطفه.**

□ **هواياته.**

□ **الأخبار.**

□ **الأسرة والحياة الاجتماعية.**

□ **أخرى.....**

17. بشكل عام، هل أنت قادر على جعل قريبك (المريض بالحبسة) يفهمك؟

نعم □ لا □

18. من خلال ماذا تستنتج أنه قد تفهّمك؟

□ **في عينيه.**

□ **في لفتات.**

□ **في تعبيرات وجهه.**

□ **في الرد شفهيا.**

□ **في الرد كتابيا.**

19. بأي وسيلة تحثّ قريبك على استعمالها حين التحدّث إليك؟

□ **التعبير الشفهي.**

□ **التعبير الكتابي.**

□ **الرسم.**

□ **حركات، فن التمثيل الإيمائي.**

□ العدّ.

□ نظرة.

□ أخرى: .....

20. عندما لا تفهم ما يقول قريبك؟

□ هل تغير الموضوع.

□ هل تمثل على أنّك فهمت قصده.

□ تحاول إعادة صياغة كلامه.

□ هل تقدّم له وسائل أخرى للتواصل (الإيماءات، فتات والرسومات، ...).

□ أخرى: .....

Teacher's Questionnaire

We would appreciate your answers, informing you that the data are to be anonymous and confidential.

- *Put a Cross next to the statement that you likely agree with.*

1. *Do You know what is aphasia?*

Yes ☐ *no* ☐

**if yes, what is it? (In few words)*……

"Aphasia is a combination of language disorder and speech disorder, it is the total or partial loss of ability to speak or understand a spoken or written message"

2. *As a teacher yourself, do you know how to deal with an aphasic student?*

Yes ☐ *no* ☐

**if yes, how?*.....

3. *In the terrain of English language teaching, do you see that it is important to have a background knowledge about this language disability (aphasia)?*

Yes ☐ *no* ☐

**if yes, do you see that is important to transmit these information to your students?*

Yes ☐ *no* ☐

- *Thank you again for your volunteer.*