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ORIGINAL

PHYSICAL AND LOGOPEDIC REHABILITATION IN THE APHASIC PERIOD

La Rehabilitación física y logopédica en el afásico

M. Sc. Clara María Rodríguez-Vázquez, Profesor Asistente, Universidad de Granma, crodriguezv@udg.cu.co, Cuba

M. Sc. Fidel Antonio Moreno-Labrada, Profesor Auxiliar, Universidad de Granma, fmorenol@udg.cu.co, Cuba.

M. Sc. Antonio Santiago-Cansino, Profesor Asistente, Universidad de Granma, asantiago@udg.cu.co, Cuba

PhD. Giceya de la Caridad Maqueira-Caraballo, Universidad de Guayaquil, giceyamc@gmail.com, Ecuador

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ABSTRACT

The language is man's most complex function by means of which he can draw abstraction and generalization processes about phenomena of reality reflecting them through conventional signs. When a neurological damage occurs in patient neurophysiological mechanisms in charge with the encoding and decoding of oral and written information are disintegrate. If this happens aphasia comes into being, alteration of the language and communication that is used to affect people who have shown an organic alteration of the central nervous system. It basically hampers the communicative function of the language. Aphasia is also a syndrome of basic study for professionals such as neurologist, physiotherapists, and language therapists. If the two latter work together and the physiotherapist is able to apply correctly the orientations explained by the language therapist, the patient will improve his treatment as he will rehearse his language, while he performs his physical therapy. So when the language therapist treats him the patient will be more communicative since physical rehabilitation on patients affected with aphasia is very important for making their progress. Consequently, the objective of this work is the elaboration of some methodological guidelines for physical and logopedic rehabilitation of aphasia in order to favor communication. The population is composed by one aphasic patient. This research is important because it guarantees that the patient gets a better standard of life, being more independent and communicative in his active incorporation to society.

Key words: Language, communication, aphasia, physical rehabilitation, logopedist

RESUMEN

El lenguaje es la función de mayor complejidad del hombre mediante el cual puede realizar los procesos de abstracción y generalización de los fenómenos de la realidad reflejándolo a través de signos convencionales. Cuando en el sujeto ocurre una lesión neurológica se desintegran los mecanismos neurofisiológicos responsabilizados con la codificación y decodificación de la información oral o escrita. Si esto acontece estamos en presencia de la afasia, alteración del lenguaje y la comunicación que suele afectar a personas que han presentado una alteración orgánica del sistema nervioso central, afectándose básicamente la función comunicativa del lenguaje. La afasia es también un síndrome fundamental de estudio para profesionales como: el neurólogo, fisioterapeuta y el terapeuta del lenguaje. Si estos dos últimos trabajan en conjunto y el fisioterapeuta es capaz de aplicar las orientaciones explicadas por el terapeuta del lenguaje, el paciente ganará en tratamiento ya que ejercitará su lenguaje, mientras realiza la terapia física y cuando llegue al tratamiento con el terapeuta del lenguaje estará más comunicativo, ya que la rehabilitación física en pacientes con afasia es muy importante para su progreso. De aquí que se plantee como objetivo: elaboración de orientaciones metodológicas dirigidas la rehabilitación física y logopédica de la afasia para favorecer la comunicación. La población está constituida por un paciente afásico. Dicha investigación tiene gran importancia ya que garantiza que el paciente tenga mejor calidad de vida, haciéndolo más independiente y comunicativo con la finalidad de incorporarlo activamente a la sociedad.

Palabras claves: Lenguaje, comunicación, afasia, rehabilitación física, logopedia

INTRODUCTION

Language permeates the whole life of man. Cultural transmission would not be possible if language did not exist with all its peculiarities. The interpretation and the use of reality are possible thanks to this. Inevitably, all processes of connection with the characteristics of reality require their participation. In this way, it can be said that language is human par excellence, being essentially a psychological fact, but at the same time, a social fact.

In the act of oral or verbal communication, the presence of two agents is necessary; one, the coder, responsible for the verbal emission; and the other decoding agent, which receives and interprets the message. All oral activity requires the participation of these two agents, observing three different levels of oral functional activity. The first level of oral communication is language; the speech and the voice are situated in the second and third oral level, respectively.

When there is an organic lesion that damages the brain affecting some of the structures that make up this system, the functional dynamics is not complete, and then symptoms of functional defects are manifested, identifying this whole process with the name of aphasia. In the aphasic patient, the language already formed is partially or totally destroyed, which significantly represents difficulties in communicating with others.

The aim of the aphasic therapy is to enable in the greatest possible degree its communication, providing a physical and psychological attention favoring its general development and thus achieve an emotional and social balance. These are the reasons why the authors of the research are interested in deepening and penetrating in those theoretical and practical elements to answer the following scientific problem: insufficiencies in the physical rehabilitation of the aphasic patient, being the object of research the rehabilitation process physics in the aphasic patient.

The objective is to design methodological orientations aimed at the physical and speech rehabilitation of the aphasic patient to favor communication, so that the field of action is the development of communication.

The population and the sample are formed by 1 aphasic patient belonging to the municipality of Manzanillo, Granma province, Cuba. The selection was intentional because it was this carrier of a motor aphasia.

The practical contribution consists in the proposal of methodological orientations that contribute to the development of the communication in aphasic patients through the physical rehabilitation and logopédica. The scientific novelty lies in the design of methodological guidelines for the stimulation of communication in the aphasic patient as a valuable work tool that in the hands of the physiotherapist and language therapist allows to develop the process of rehabilitation of the aphasic patient and in this way contribute that the aphasic has a better quality of life, making it more independent and communicative in order to actively incorporate it into society.

DEVELOPMENT

Man is by nature a social being. The interpersonal relationship needs that arise from life in society impel it to communication. These needs are varied and diverse, for example, cognitive (that allow you to transmit and receive knowledge); affective (through which communicates emotions, feelings, values, desires); and biological (to satisfy needs such as hunger, thirst, etc.).

The general and abstract concept when referring to the human being manifests itself in each individual in a particular way, and has to do with his aptitudes and abilities to understand and interpret, as well as to transmit information.

All oral activity requires the participation of two agents, the encoder and the decoder, but if an organic injury occurs that damages the brain affecting some of the structures that integrate this system, the functional dynamics is not complete and then manifest symptoms representative of failures in the function, identifying all this process with the name of aphasia.

Aphasia is considered a disorder of language as a consequence of a brain injury that interferes with the coding functions in the elaboration of the language. It is as if the person had totally or partially forgotten his own language.

Decoder, and a commitment can be observed in the literacy. (Collective of authors, MINSAP, 2008: 89) It is shared by the authors, the position of some specialists to consider that aphasia is not a disease, but a syndrome (set of symptoms), and that there is no hearing loss or paralysis or weakness of organs of language. The disorder is in the understanding of the word.

From the clinical point of view, it is considered a disintegrative syndrome, partial or total collapse of the neurofunctional formations for language; when affecting several links, is considered a polymorphous and systemic disorder X. Rodríguez, (s. f).

"Aphasia is a language impairment due to focal brain injury that may be of interest to both verbal expression and comprehension, as well as graphic representation of language (reading and writing)." (Luria, A., 1977: 32) It is recognized by the authors of the present research, the one raised by Dr. C. Gudelia Fernández Pérez de Alejo in his work Logopedia 2nd part, that in the aphasic subject is totally or partially lost the lack of ability to understand written language or spoken; the proper handling of the linguistic symbols is altered through the voice, the writing or the gesture. These patients can not accurately translate the sequences of the nonverbal mental representations that constitute thought into the symbols and grammatical organization that constitutes language. (Fernández Pérez de Alejo, G., 2012: 130)

It is important to emphasize that a person is a carrier of aphasia when in the presence of a sufficient development of language and as a consequence of an organic alteration of the central nervous system, located in the areas related to the functional language system (levels of the

parietal, temporal and occipital regions of the left hemisphere), it totally or partially blocks its ability to decode and

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This disorder of language and communication should not be limited to the individual effects of perception, memory, language, writing, etc., which constitute a particular syndrome. It should take into account the way in which each function is affected, the pattern of the disorders and what is the common factor that unites the different systems, since everything is functionally integrated.

The main symptoms and their meaning are described below:

• Agnosia: Inability to recognize the different sensory information of the medium, being: visual, auditory, kinesthetic, etc.

• Apraxia: Inability to perform movements aimed at a specific purpose due to lack of afferential information.

• Parafasias: Modifications in the structure of words characterized by the replacement of phonemes, syllables or words. They are classified in: literals (one phenomenon is changed by another), syllabic (one syllable is replaced by another), verbal (complete change of the word occurs, preserving the same sense), morphological (the word is replaced with a change in the sense).

• Perseverations: uncontrollable repetitions of a syllable or word that interrupt the elocution of the oral act.

• Stereotype: A form of perseveration consisting of the repetitive and constant use of a word or phrase as the only form of oral expression.

• Anomia: Inability to name objects.

• Logorrea: Profuse verbal, uncontrolled, fluid, with or without articulatory disorders often without communicative content.
• Parognosia: Incorrect understanding of the meaning of words.
• Neologisms: Verbal expressions without any conventional meaning.
• Jengafasias: Mode of unintelligible expression devoid of significant value, loaded with neologisms, paraphasias and logorrhea, preserving the intonational melody of the language and with anosognosic elements.
• Anosognosia: Condition of non-awareness by the patient of their oral difficulties.
• Ecolalia: Repetition of words, phrases and even prayers immediately heard or allowed to spend some time.

At present, a high number of patients with this disorder is reported, especially as a sequel to cerebrovascular (thrombotic, embolic or hemorrhagic), despite all the preventive and health education work developed by the National Health System in Cuba to promote healthier lifestyles in man, through the dissemination in the mass media of campaigns against alcoholism and smoking, as important antecedents of these accidents, and improve the health status of the population.

Aphasia is classified, according to a first criterion, which is more general and has been considered traditional or classic, which raises three fundamental forms of aphasia:
1. Motor or Broca Aphasia: This is caused by an injury in the area of the third left frontal gyrus. It is manifested clinically by the inability to articulate words and the intentional use of language; with relative conservation of the elemental oral movements of the individual.
2. Sensory or Wernicke's aphasia: The lesion occurs in the posterior third of the first left temporal gyrus, manifested by a difficulty or incapacity for language due to the alteration that occurs in the understanding of it.
3. Mixed Aphasia: There is a combination of motor and sensory symptoms due to the interrelation between the two analyzers, which determine the mixed nature of the disorder. The deep studies developed by Luria since 1948 have allowed the presentation of a much broader classification, taking as its starting point the traditional classification, but

deepens the topographical study of brain damage and allows a significant differentiation in the sensorial symptoms driving. From this position, the author distinguishes several forms within each of them. (Luria, A., 1977: 37)

Sensory Aphasias:

- Sensory aphasia proper or acoustic gnostic
- Amnestic acoustic aphasia
- Semantics

Motor aphasia:

- Afferent motive
- Efferent motive
- Dynamics

For the development of communication in the aphasic, physical rehabilitation is of great importance; because it points to the corporal functionality. Rehabilitation tasks are intended to enhance the individual's mobility and physical abilities through exercises, massages, and other techniques. Physical rehabilitation in the aphasic patient is linked to the treatment that is developed to recover the condition or the state that lost because of the brain injury. This incidence must occur in very early stages, since it should be directed to organize the consciousness of the aphasic, to be focused in an integral way, taking part the physical rehabilitator and the speech therapist, who must work together in order to obtain satisfactory results, these starting from the importance of proper conduction of the aphasic where there is in many cases an unorganized consciousness with marked disturbances in its communication.

The first thing to do is a physical, psychological and logopedic care, helping them in their general development, establishing an emotional and social balance.
Also, empowering the family, as this has a very important role as a primary and fundamental cell of society. Due to their importance, the authors of the present research will present some of the orientations that are directed especially to the family:
-Always show relaxation and calm before the patient, do not address questions that require complex answers or pressure them to utter words or complete sentences.

- It will only be stimulated by speaking slowly and correctly each word, if possible to relate them to the object shown and limit themselves to these sensorial stimulation, until it receives more specific technical indications.
- Never pressure him or make fun of the emission of bad words or stereotyped forms of communication.
- Faced with the fatigability, of which they are very susceptible, to change the task or to recess it.
- Avoid references to times before or after your illness.
- Never ask him to speak, this will come from the patient as his physical and psychological state improves and begins to develop a more personal and specific rehabilitation program for his illness.

At present, Logopedia has demonstrated that the procedures proper to physical, psychological, and pedagogical rehabilitation, among others, are valid to stimulate, develop, educate, correct and compensate or prevent alterations of language.

In the case of disorders of oral communication, it is necessary to correct them in the most normalizing and facilitating environment possible for the establishment of interpersonal relations and linguistic interaction: the family and the community, as the environments that enable man to express needs , affections and favor the process of socialization.

The historical-cultural conception of language formation constitutes an essential basis for understanding the change of perspective that is required in the work of the physical rehabilitator, in the different contexts: family, educational institutions and the community. The postulates of this school clarify that development, do not depend exclusively on the biological particularities of the aphasic, but on the whole system of social influences of its surroundings. This conception offers a more positive perspective of the process of stimulation and speech-language attention to language and communication disorders.

The approaches of the current Logopedia in our institutions are: ontogenetic, preventive, corrective-compensatory, communicative, activity and integration and social inclusion.

In this research we will refer to the communicative approach, which involves the integration within the linguistic production of verbal and non-verbal communication factors, as well as cognitive, situational and sociocultural factors, where the participants put into operation multiple competences that cover all the factors.

It is important to stimulate language as an integrated functional system and interrelated with the development of psychic processes in various communicative situations and contexts.

The techniques and procedures that are selected for the rehabilitation work must be mobilizing, which in the aphasic cause the need to speak and participate actively. It is argued that the most convenient form of organization of care should be group or collective; this does not exclude the need for the individual variant in certain individuals. Artistic therapies: body expression, rhythmic speech therapy, oral
narration, psychotherapy, among others, are highly motivating because they promote communication and an excellent emotional state.

The speech therapist as a mediator of development based on a personological, individualized and less autocratic approach, taking into account the unity between the cognitive and the affective in the process of personality education, selects procedures and activities that motivate patients, produce pleasure to execute them, facilitate the interaction between them and in turn reduce the levels of anxiety before the communication, in addition to propitiate this.

Based on the theoretical references assumed in this research and the problem situation in aphasic patients, it is clear the need to find solutions to this social problem. Hence, it is imperative to perform an initial diagnosis of the aphasic patient selected as a sample in order to determine the main regularities that are manifested in their communication.

The sample consists of 1 aphasic patient belonging to the municipality Manzanillo, Granma, Cuba. To perform the initial diagnosis, the logoped characterization of the aphasic patient was performed through the examination, obtaining the following result:

CLINICAL HISTORY

Man of 66 years with university level of education. For three years he has retired and lives with his wife and daughter. Positive history of hypertension. Do not smoke or consume alcohol. Prior to the current hospitalization, he normally performed activities of daily living.

Suddenly he had weakness of the right hemibody and difficulty speaking. In this situation he was taken to the hospital. In his entrance exam it is pointed out that the patient was confused. An MRI of the brain reported an acute infarction in the territory of the left anterior cerebral artery

including the parasagital cortex of the frontal and parietal lobes. No bleeding was found. He was later transferred to the Rehabilitation Room.

EVALUATION OF LANGUAGE

Language assessment was performed seven days after his vascular accident. A patient with a good level of care was found. No obvious visual or hearing defects were found. No spatial negligence was found in the different tests used. There were no defects in the gross or fine motor of the upper limbs. The patient, however, had an obvious paresis of his right leg. The tongue protruded in a middle position. No facial asymmetry was found. The movements with the tongue and face were within normal limits. The patient spontaneously pointed out that "I can not say long phrases" and during the examination several times pointed out that he had difficulty putting his thoughts into words and creating phrases.

RESULTS OF THE LOGOPÉDICA EXPLORATION

The spontaneous language was diminished. Volume, speed, and prosody were normal for her age. No articular defects were noted. The movements with the tongue were normal. No phonetic deviations were found. No verbal or phonological paraphasias were found during spontaneous speech. Oral and verbal agility was normal. The patient was able to quickly produce verbal sequences (mom-mom). Automatic language (for example, counting, mentioning days of the week, months) was within normal limits. He used 12 words to describe a picture, and explored the figure in sequence from left to right. No spatial negligence was evidenced and the patient could properly integrate the figure. The patient was able to follow simple and complex verbal commands, and correctly recognized right-left in his body and in the examiner's body. The repetition of words and phrases was normal.

The amount of spontaneous language was found to be diminished. In the verbal fluency test the patient was able to find 10 animal names in one minute. In the phonological condition, using the letters A and F could find a total of 5 words. The ability to find names was found within normal limits for their age and professional level. Could correctly name 60

A semantic paraphasy was recorded. No errors were found in the denomination of parts of the body, including the fingers.

The reading of words aloud was relatively normal. In reading long phrases, however, literal paralexes were found. The literal reading - read the letters that form a word, was correct. He used his right hand in writing. When writing the words and phrases dictated, slow and certain micrography was observed. The traits were imprecise in some letters and in general the calligraphy was poor. The spatial distribution of words and phrases, however, was adequate. Proposal of methodological orientations directed to the physical and logopedic rehabilitation in aphasia to favor communication.

The physical and logopedic rehabilitation offer extensive possibilities for the development of communication in the aphasic patient, since its intervention has to be performed in a spontaneous and natural environment, facilitating the achievement and cooperation between the participants. The joint implementation of the methodological orientations by the physical rehabilitator and the speech therapist in the treatments appropriately applied in this pathology, guarantees that the patient has a speedy recovery of his functions and the reduction of his physical and mental incapacities. Starting from the establishment of common goals and objectives with individual and group participation, as well as the evaluation and self-evaluation of results from the reflection mediated by different communicative elements in a socializing environment, propitiates the necessary and varied situations for the aphasic patient to begin the path independence, the development of their communication and healthy lifestyles.

In aphasics, naming objects when they are observing them and actions when they are running, exercises and favors the understanding and emission of verbal material. Taking into account the principles of the neurological rehabilitation process, and specifically the one that refers to repetition with and without variations, is that the authors consider that for the therapeutic aspirations that are addressed in the physical rehabilitation and the time that the aphasic patient remains with the rehabilitator can be enriched the therapeutic action in the aphasic directed to favor the therapeutic model communication with activities aimed at favoring the communication of the same without deviating from its fundamental objective.

Methodological orientations directed to the physical rehabilitator:

• Ask the patient to look at our mouth at all times of physical rehabilitation.
• Give precise orders about the actions to be performed, eg sit down, raise your right arm, stand up, lift your left arm, move your left foot and step forward with your right foot.
• Repeat orders several times, and never tire of doing so.

• Speak clearly, simply and exaggeratedly mark the articulation of sounds when given orders. In this way the patient emphasizes the articulation and pronunciation of the sounds.
• When the patient can not remember the sound or the first syllable of the word, offer levels of help, pronouncing the sounds or syllables emphasizing the articulation.

• When performing the facial massage, emphasize putting your lips in a kissing position, kissing, counting numbers and repeating them, frowning.

• Put the patient in communicative situations.

Methodological orientations directed to speech therapist:

• Have a good relationship with physiotherapists, since this way teamwork is achieved.
• Explain to the patient's family what is owed, and should not be done
• Encourage the patient to initiate speech therapy and do what is possible for the patient to talk.

• Use and exploit the potential of music, allows the reorganization of the function through various sensory associations such as auditory, visual and cenesthetic.

• Always perform the diagnosis logopédico correctly, otherwise it does not aid in the rehabilitation of the patient.

• Establish targeted therapy for damage inherent to each aphasic patient.
• Perform the initial aphasic technique with motivating activities that allow the patient greater safety, concentration and motivation.

• Recommend to the aphasic patient, mention the names of all the objects that are around him / her in front of the mirror, with clearly articulated words. If possible repeat them several times so that in this way you are able to associate and capture the message.
• Contribute to the improvement of this disorder of communication and language, in a shorter period and with more quality.

The main regularities are:

• The physical and logopedic rehabilitation allows the patient to make a communicative exchange through the orders that are made to him and valuations on the physical exercises performed.

• Prevail moods of optimism, good humor and with great enthusiasm in physical and speech rehabilitation.

• It was possible for the aphasic to execute the automatic language in the consecutive numerical count and the automation of the emission of simple expressions as a consequence of putting the patient in communicative situations
• The aphasic patient achieved the nomination related to the parts of the body, as well as different actions that are frequently performed in physical therapy and in daily life.

• Was able to express confidence and tranquility in all sessions of physical rehabilitation and speech therapy, without restrictions and in a climate of security.

• Presence of rehabilitation elements in the treatment of physical and speech rehabilitation.
• In carrying out the mobilizations with the voice of command, the professional value in assisting the aphasic patient stands out.

• The aphasic was able to evaluate and evaluate his own qualities and performances during physical therapy.

• It maintains stable, harmonious and mature relationships with the collective, manifesting in its behavior an adequate communication development.

• Insufficiencies in the knowledge about how to achieve the articulation of some sounds in the activities carried out by the physical rehabilitator.

The regularities to which reference is made show the value of the practical application of the proposed guidelines. Once analyzed the referents and the results obtained come to the following conclusions.

CONCLUSIONS

The study of the theoretical referents related to the attention to the aphasic patient of the sample, allowed to determine that the joint work between the physical rehabilitator and the speech therapist contributes to the early recovery and rehabilitation for the development of the communication, as well as its active incorporation into the society.
The accomplishment of the tasks proposed for the development of the research allowed the improvement of the communication in the aphasic, from the design and application of orientations elaborated for the development of the communication.
The proposed activities aimed at physical and speech rehabilitation in the aphasic patient to promote communication are based on the historical-cultural conception of LS Vygotsky and his followers and is characterized by considering that development does not depend exclusively on biological particularities of the aphasic, but of the whole system of social influences of its surroundings.

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