INTERVENTION IN APHASIA USING THE AUGMENTATIVE AND ALTERNATIVE COMMUNICATION

Intervenção nas afasias com o uso da comunicação suplementar e/ou alternativa

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ABSTRACT

This study aimed to describe the use of the Augmentative and Alternative Communication in two cases of aphasia after stroke. The speech therapy was divided in four stages that approached since the display of forms of communication for the album until the effective use this resource. In all stages, was used the pictographic system Picture Communication Symbols, because it is a system that has greater translucent iconicity. By reapplication of tests, was possible to show improvement in oral ability, writing, reading and denomination the two participants. To this end, the speech therapy was performed with two aphasic participants, using the Augmentative and Alternative Communication. This study allows conclude that the speech therapy using the Augmentative and Alternative Communication in two case of aphasia after stroke, brought benefits to functional communication the participants, and these resources had a augmentative role making communication more efficient and brought benefits in the rehabilitation process, promoting development of skills in reading e naming.

KEYWORDS: Nonverbal Communication; Aphasia; Rehabilitation of Speech and Language Disorders

INTRODUCTION

Considering technological advances in healthcare, the possibility of survival of patients with neurological disorders and alterations have been increasing the demand for treatment of this group. Among the consequences that these patients may present, are aphasias, which among other things, patients may require resources that facilitate or replace the communication[1]. Augmentative and Alternative Communication resources (AAC) involves the use of non-verbal modes of communication to supplement or replace the spoken language[2].

There are several types of materials that can be used for the AAC occurs. A lot of material resources used are communication boards[3], in which there may be graphic symbols, photographs and letters of the alphabet, selected and arranged according to the interests and needs of each user, taking into account aspects such as the level of cognition, attention and visual acuity, communicative intent, manual dexterity, in addition to frequent speakers that are related to the individual[4], since the use of resources will only become really effective, from the moment that the user can use them in their environment, and facilitating expanding the possibilities for interaction and communication.

The use of AAC in aphasic patients, occurs in most cases as supplemental [5], both for effective communication of the user, and for the rehabilitation of the individual, and even in cases of severe aphasia, positive results can be found. All aphasic individual may be benefited in some way with the use of AAC, regardless of the degree of their commitment[6].

Studies with aphasic subjects demonstrate that, in addition to providing greater autonomy, quality and effectiveness during communication, the use

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of AAC brings many benefits in the rehabilitation process[7-9].

Although the studies reported I this article, there has been a predominance of research involving children, mainly aged 3-10 years[10], thus resulting interest in this study that aims to describe the use of AAC in two aphasic patients after Stroke.

CASE REPORT

This work was approved by the Research Ethics Committee in Human Beings, of the School of Dentistry of Bauru - University of São Paulo, under the following number 052/2011.

Before this study, the two individuals were already in speech therapy twice a week with trainees who were attending the last year of graduation in Speech Pathology, and during this research, two sessions were added per week lasting 30-45 minutes with the researcher.

Identification of the individual 1

Subject 1 was male, 53 years old and right handed. He had completed high school and before the occurrence, he had worked as a freelance salesman, however, due to the communicative and motor changes, this profession does not exist anymore. He was divorced and has two daughters who do not reside in the same city as him.

In early 2010 he suffered an ischemic stroke and remained hospitalized for seven days. After discharge, he was referred to a nursing home because there was no other place that could reside once lived alone before neurological involvement and did not have a good family relationship, except with a younger cousin, who accompanied in all appointments.

According to his cousin, the participant always had a close relationship with his friends, and loved to go to bars and barbecues, showing to be always very cheerful and uninhibited. After the impairment, the patient kept the habit of going to bars and barbecues, in the company of a friend or even by himself. At the time of the research, he was almost all the time showing to have a cheerful humor, but with many episodes of anxiety and impatience, due to the difficulty in expressing themselves verbally.

Identification of the individual 2

The second individual is a male, 77 years old and right handed. Studied up to the eighth grade and now is retired. In early 2009 he had suffered an ischemic stroke, and therefore had to stay in hospital for eight days.

He lives with his wife and has eight children. Before the neurological involvement had the habit of going to the site of the family to take care of animals, cultivate the garden and gather the family. After impairment, he rarely went out, but their children often gather on weekends at his residence.

According to his wife, the participant always had a very good relationship with their children and neighbors. However, after stroke he had distanced himself somewhat from their family and friends due to the fact of not being understood. It is very emotional and cries easily.

Evaluation of the individuals

To assess comprehension of the subject it was used the Token Test Short Form[11] test. Both individuals had scores that rated their understanding with some difficulty, individual 1 showed slight difficulty and individual 2 moderate difficulty.

Aiming to investigate the linguistic behaviors, the M1 alpha test was applied. In the listening test, subjects showed better performance in activities involving simple words and phrases. The task with complex sentences, the three stimuli, the subjects agreed two one respectively. As for listening, the same pattern was observed, except individual 2 understand no complex sentence. In evidence of copying and dictation, similar performance was observed, making a copy of the sentence, but failing to transcribe the dictated words and phrases.

In the last stage of the test M1 alpha, which involves reading tests aloud, repetition and naming, individual 2 showed better performance than the first one, hitting five stimuli in reading aloud, repetition and nine in 10 in the denomination, while the individual 1 hit five seven two respectively.

In relation to individual 2, it can be observed that it has been preserved the reading and likes to be flipping through newspapers and magazines, but according to his wife, unable to perform the reading of the news. During the application of the tests and spontaneous conversation, it was observed in speech language features classified as anomie, jargon, agrammatism, and bradylalia neologism.

Speech Language Pathology Intervention

First, it was made a visit to the place where the individuals live, and the family / caregiver respond to an interview to obtain information about the routine of the participant.

An intervention plan divided into four stages, shown in Table 1 was developed.

Table 1 – Intervention steps using the augmentative and alternative communication

Step 1	The work was perfomed with the use of chips of different semantic class (eg.: routine actions, food, clothing, transportation).
Step 2	The work involved the syntactic development during assembly of lyrics.
Step 3	This step was reserved for the making of the album, in work between researcher and participant
Step 4	Reserved for use of the communication album in outside therapeutic environment during conversational situations.

For this research we used the Picture Communication Symbols (PCS), because this is a system that has greater iconicity[12] and has been one of the most commonly used one for aphasic patients[5,13]. The figures used throughout the study were made using the software version 6 Boardmaker® produced and marketed by Mayer-Johnson®.

Seeking greater iconicity, it was first presented to the participants the figure proposed by the software, and if he did not recognize, it was searched on a site outside the program, a figure that would represent the meaning.

In steps 1 and 2, the chips were fabricated in size 6,5 cm X 6,5 cm, colorfully printed on bond paper, laminated and used individually. Chips size 3 cm X 3 cm colorfully printed on plain, laminated and then bound paper were used for the making of the album (step 3). Considering the driving condition of the two participants, the form of the chosen statement was made in a direct way with the index finger.

RESULTS

Stage 1

Individual 1 showed great interest in the proposed activities, demonstrated by a very active attitude towards the choices of chips, always saying when he missed some content or requesting the exchange of tokens when he thought it did not represent what he wanted to communicate. During the activities, he always sought to name the figures, but most of the attempts not performed successfully, and then asked the researcher through gestures to speak the beginning of the word. In some situations, only the articulation of the first phoneme helped though in others the issue of the first full syllable was required.

In the intervention sessions, the individual 1 also use of writing to communicate something that he could not speak verbally, or that there were figures that represent, however this writing was always performed laborious way, since they had to carry by hand left hemiplegia due to the right.

To illustrate the concomitant use the individual performed writing while using the chips, it is worth reporting the session in which it was crafted pieces of clothing, and the researcher had proposed assembly activity of a suitcase, simulating situations for travel locations with extreme temperatures. After selecting the records with the appropriate clothing for each environment, the subject first started attempt to inform something to the researcher, through gestures and issuance of sounds, after a few unsuccessful attempts, he asked pencil and paper and drew a picture that is shown in Figure 1.

Each design made the individual first looked at the researcher as if asking her to interpret what he was doing and spoke what was represented. With the joint design and construction of meaning, the researcher realized that *"the design symbolizes Brazil, where there is very different temperatures, such as the Northeast and South regions, and that in the state of Pará, it rains every day, between 3pm and 5pm".*

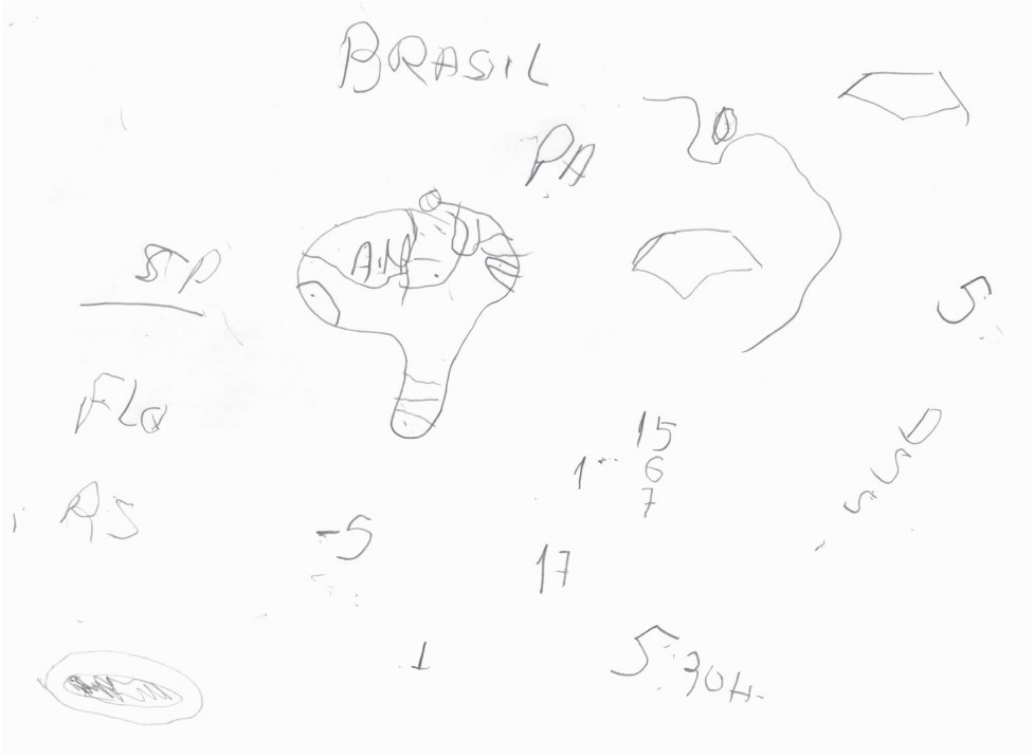

Figure 1 – Drawing performed by the individual 1

Individual 2, during the entire period of this research, presented more passive behavior when compared to individual. For installation routine and weekly schedule, it can be observed that individual 2 had no other activity outside his residence unless coming to the therapy session, his daily routine was limited to perform actions such as watching television and listening to music.

During the sessions though he was always reading the letters, especially when he did not recognize. However, the reading occurred in very laborious manner, but effectively, since the recognition of the significance assisted. It was observed that with the advancement of therapeutic sessions, the patient showed an increase in reading, which he became faster in doing it.

Step 2

This step was first to put together the pieces of lyric "Song of America" by singer Milton Nascimento with the use of tokens. The song was chosen by the researcher because according to individual's caregivers both liked this kind song. The song was reproduced on 42 tokens (Figure 2) and delivered to the participants so that after listening to passages of music, organize the tokens according to the letter.

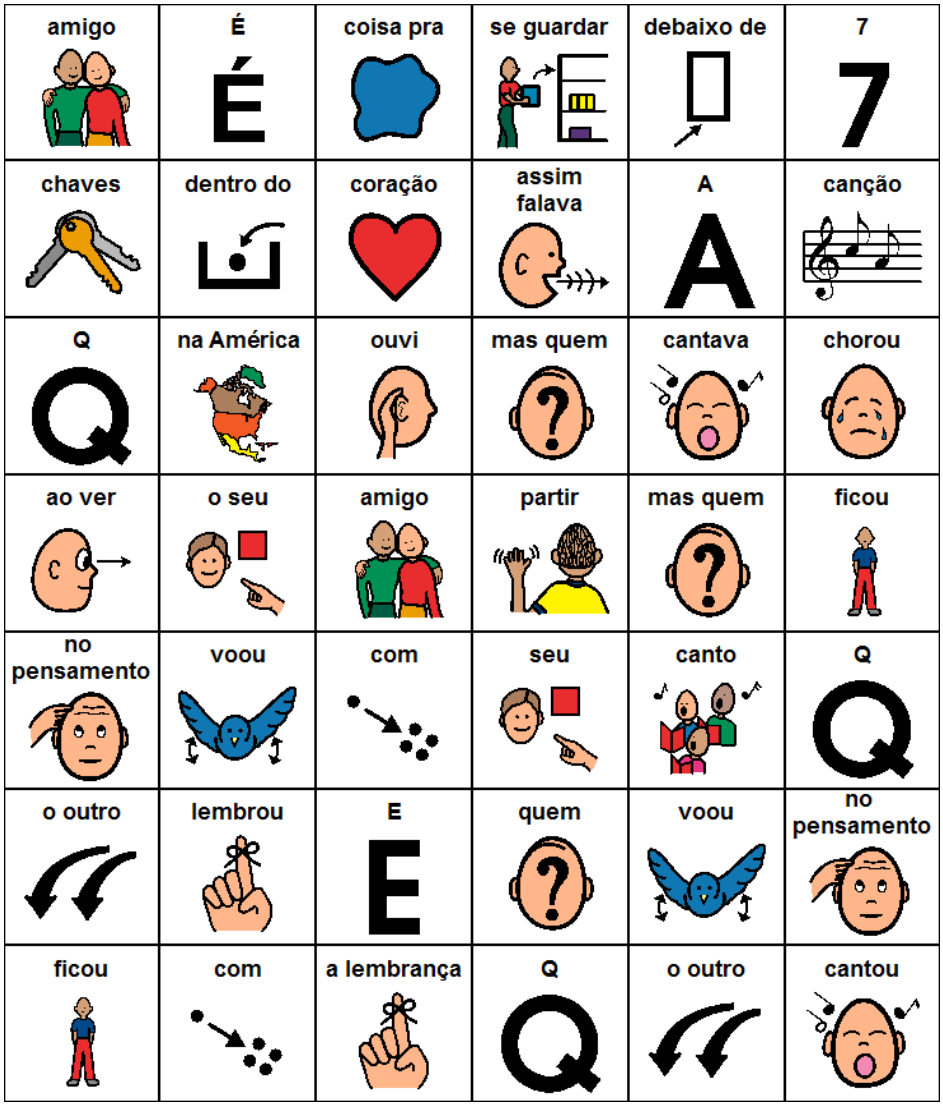

Figure 2 - Music "Song of América"

Individual 1 quite enjoyed the activity and could play the song with the use of tokens. As he already knew the words, while assembling the participant was singing the song and the end of the session could sing it more easily by using the tokens. It is noteworthy that this participant was singing sometimes with of jargon, neologisms, phonological and phonetic paraphasias, but more intelligibly than during spontaneous speech.

Earlier this activity, individual 2 reported he already knew the song. During the organization of tokens he knew the letter but had difficulty locating the records, therefore the researcher separated the tokens into smaller groups to facilitate the location, but even with the decreased amount of tokens, the participant needed broad aid from the researcher.

Step 3

Step 3 was reserved for the making of the album communication work between the researcher and participants. From the tokens worked in step 1, participants selected which pictures should contain on the album but also checked whether there was a need to add new records.

After completion, the album communication was printed with colorful, glossy, bound and delivered to the participants and individual paint tokens that had been delivered earlier. The individual 1 resides in an institution, the researcher guided beyond the cousin who is the nearest relative, the coordinator and the caregivers at the nursing home on the use of communication of the album. During the orientation a few points already discussed at the beginning of the research were reinforced.

Step 4

Two activities were developed by subject. On the first visit to a cafeteria it was performed and the participant had to ask for a drink and food making use of AAC previously structured for this purpose in previous steps. In the second situation, he should go to the reception of the Speech Language Pathology Clinic where this research was developed, and inform the front desk the day and time of his next service.

The development of the first proposed activity, the individual 1 completed successfully in order to be able to buy the food and the drink, requiring only album of communication for the choice of drink. For the purchase of food, the participant was able to pronounce the word “come”, and when the clerk asked what food he wanted, he pointed to the your preference, once the showcase with exposed food found himself on the counter. When it was the drink request time, the clerk did not understand his request, this time using the album communication, which provided the choice of soda his second choice. In the proposed activity, the subject was required first album made use of communication throughout hisdevelopment, since it can only pronounce the weekdays during automatic speech. Again using the album communication was efficient and provided better understanding by the secretary as to day and time in which the participant would return to the clinic.

The first activity that the individual 2 performed, the lack of a record that represented a coolant light was observed, since the participant managed to order food and drink, but the clerk did not understand what he would drink, and when the participant was not looking had this form of communication on the album. After this activity it was added a token that represents this item.

During Activity 2, individual 2, and individual 1, the album needed help to communicate with the secretary. First the subject sought to convey the information through oral communication, though the clerk did not understand what he had said, since this issue came out with the presence of neologisms. Thus the participant indicated on the record of the communication schedule that day and had arranged with the researcher to the next service.

A questionnaire developed by the outside researchers to verify the patient’s communicative interaction with their family / caregiver also responsible- was applied. For individual 1, the questionnaire was applied to the coordinator of the nursing home where he lives, for individual 2 it was applied with his wife. The responses of guardians demonstrated that individuals communicate with people who are around you, and certain everyday their situations such as going to the bathroom or drink something, do not need to be requested because the conduct is independently.

Individual 1 also used the gestures and writing to communicate. However we cannot always verify if patients understood themselves and their messages can convey, in their situations causing some failures in communication and interaction with the environment.

After the intervention, the questionnaire was reapplied and it can be seen that individuals used the album communication when verbal communication was not efficient. The wife of the second individual reported that a marked change of the participant was the absence of crying in the situation of not understanding the message of the speaker that this behavior used to happen frequently before the intervention.

DISCUSSION

The PCS was selected as the tool for this study because it is a material that has high iconicity[12]. Since a system with this feature can improve fluency in dialogue, since the symbols are familiar, easily recognizable by the patient and they are part of their rotine[14].

The choice for the organization of symbols in an album communication came from meeting the need of the two individuals of this study. Since a material of low cost, lightweight and low to make it possible to transport the participants to attend local size needed. In particular, for individual 1, the material should also be able to be stored in a pants pocket, since this patient has hemiplegia in the right side, but has autonomy in using public transportation alone, thus necessitating the left hand always free at these times. The highlighted features for selecting this type of material, are also reported by other pesquisadores[4,8,15-17].

The communicative behavior manifested by the individual 1, characterized by the combined use of several symbols (graphical or pictorial), was effective during their communication. Similar results were reported in other studies[14,17,18], and the different set of symbols used is referred to as an active behavior in communication, not an inability to use the AAC[17]. When working with the AAC, we should not insist on developing a system of certain signals, but in order to develop a global communication to be effective[12].

The construction of the album communication should be a joint effort between the therapist, the patient and the family[8,19]. In this study, the family had no active role during speech therapy, however, it was from an initial interview with the family / caregivers that the researcher selected the initial vocabulary of

the subject. Later in this study, the family had a more active role, even during the making of the album communication in the therapeutic session, once believed that the greater family involvement during this step will facilitate the time to use the resource in the home environment.

However, the work to obtain information about the routine in which the participant is entered is fundamental and is in accordance with the guidelines of literature[6] that stresses the importance of knowing the various aspects of the daily routine, the physical and social environment of the participant since power up his mobility needs.

As it could be observed in other studies[14,20], symbols extend the possibilities of communication and the board serves as support to speak, increasing and making themes for dialogue emerge. Behavior was observed mainly in one subject, which has more active daily activities, presents greater use during situations of dialogue.

For the two participants in this study, the AAC had more additional function that alternative. The two subjects could verbally communicate, but this was not totally effective, causing miscommunication between the subjects and the interlocutors. The use of AAC in aphasic patients is observed in other studies as a tool facilitating communication, and assist in the rehabilitation of these individuals and provide support to the Speaking and Writing skills[5,14].

By using the descriptive questionnaire of communication it was sought to know how was the communicative behavior of the individuals outside the therapeutic environment. Observed change in behavior of the two subjects after the start of the intervention, both of which started taking album of communication, when they were not understood by the interlocutor.

According to the report of the coordinating institution of the subject 1, using the album not inhibited from trying to communicate verbally, behavior that breaks the myth that using the album communication inhibit the use of oral communication, and will meet with research show that the use of AAC does not inhibit the development of such comunicação[1,14].

In the case of individual 2, his wife responded to the descriptive questionnaire of communication, that he did not cry more when he was not understood, which may be associated with the fact that the decrease in anxiety and greater efficiency in conveying his message. The use of AAC for aphasia, especially in the first months after the onset, can collaborate with decreasing family anxiety and patient when trying to communicate[12].

In a study[9] conducted with three individuals with aphasia due to not fluent stroke, it was concluded that intervention using AAC brought improvements in the quality and effectiveness of communication of all participants, especially in the visual, auditory and symbolic understanding. It was also reported improvement in communicative independence of subjects, which made the authors classify the AAC as a valuable approach to obtain functional improvement in communication of this group of patients.

CONCLUSION

The speech therapy with the use of AAC in the two cases of aphasia post stroke, brought benefits to the functional communication of participants. For both individuals, the approach of AAC had a facilitator role, making communication more efficient, bringing benefits in the rehabilitation process and promoting development of reading skills. About the functional aspects of communication, it was reported by family members / caregivers that after the intervention participants, were already using the resources in their family environment, along with other forms of communication. The two participants remain in the rehabilitation process, using and improving the use of AAC. It is suggested to continue their studies in the area and the replicability of this methodology in studies that propose to cover a greater sample number and variety of etiologic factor of aphasia, in order to enable confirmation of the data found in this study.

RESUMO

O presente estudo teve o objetivo de descrever o uso da Comunicação Suplementar e/ou Alternativa em dois casos de afasia pós Acidente Vascular Encefálico. Foi realizada intervenção fonoaudiológica com dois participantes afásicos, utilizando os recursos da Comunicação Suplementar e/ou Alternativa. A intervenção fonoaudiológica foi dividida em quatro etapas, que abrangeu desde a visualização e confecção das fichas para o álbum de comunicação até a utilização efetiva desta abordagem. Em todas as etapas, foi utilizado o Picture Communication Symbols, por se tratar de um sistema que possui maior iconicidade translúcida. Por meio da reaplicação de testes, foi possível constatar melhora nas capacidades de compreensão oral, escrita, leitura e denominação dos dois participantes. Com este estudo pôde-se concluir que a intervenção fonoaudiológica com o uso da Comunicação Suplementar e/ou Alternativa nos dois casos de afasia pós Acidente Vascular Encefálico, trouxe benefícios para a comunicação funcional dos participantes, sendo que estes recursos tiveram função facilitadora, tornando a comunicação mais eficiente e trazendo benefícios no processo de reabilitação, promovendo evolução das habilidades de leitura e nomeação.

DESCRITORES: Comunicação não Verbal; Afasia; Reabilitação dos Transtornos da Fala e da Linguagem

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