

# AUGMENTATIVE AND ALTERNATIVE COMMUNICATION: SCENE OF BRAZILIAN JOURNAL

## *Comunicação aumentativa e alternativa: panorama dos periódicos brasileiros*

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### ABSTRACT

Clinical practices and education in Augmentative and Alternative Communication have expanded in Brazil. The purpose of this study is to identify the areas of Brazilian knowledge that search the Augmentative and Alternative Communication and their contributions. Among Speech, Language and Hearing Sciences, Physical Therapy Specialty, Occupational Therapy, Psychology and Education areas that investigate the Augmentative and Alternative Communication, Speech, Language and Hearing Sciences is the most expressive in publishing. Despite being an area under consolidation in Brazil, there is an increase in the inclusion of studies focusing on adults and elderly, as well as the family as an object of analysis. The early implementation in different contexts contributes to the maintenance of the use of Augmentative and Alternative Communication. This is a support for speaking, understanding, assisted assessment, reading and writing. Investigative practices that address the effects produced by the intervention on quality of life of people with disabilities are suggested as well as larger samples of that.

**KEYWORDS:** Speech, Language and Hearing Sciences; Physical Therapy Specialty; Occupational Therapy; Psychology; Education; Self-Help Devices

### ■ INTRODUCTION

Augmentative and Alternative Communication (AAC), according to the American Speech-Language-Hearing Association (ASHA), intends to compensate for losses and facilitate, permanently or not, damages or disabilities of individuals with severe disturbances of comprehension and expressive communication (gestural, spoken and/or written). It is an area of clinical, educational and research practice<sup>1</sup> and, above all, a set of procedures and processes that aim at maximizing communication, complementing or replacing speech and/or writing<sup>2</sup>.

It is envisioned that the speech therapist<sup>2</sup> must be aware of the AAC of the American

Speech-Language-Hearing Association (ASHA) guidelines which emphasize the responsibilities, knowledge and skills of speech therapists<sup>2</sup> regarding this area of knowledge .

In relation to AAC indications, permanent or not, usually observed both in literature and in the clinic, hospital and domiciliary practice, they are: children with non-progressive chronic encephalopathy (NPCE), intellectual impairment, oral dyspraxia and apraxia, dysarthria, language disorders, syndromes, autism spectrum disorder (DSM-5)<sup>3</sup> , cranioencephalic trauma, degenerative motor neuron disease, tracheostomy, intubation, head and neck cancer during hospitalization, among others.

There are several studies<sup>4-6</sup> that discuss the benefits of using AAC, including investigative practices of the impact of resource use on the quality of familiar life<sup>7</sup>.

It is noteworthy that AAC is a system of communication and not a method. It is necessary to understand the diversity of AAC systems, the context of those who use it and their conversational partners

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besides considering different skills, such as psychiatric, cognitive, neuromotor, sensory and linguistic ones. The socioeconomic and cultural aspects should likewise be considered.

It is understood and it is argued that the speech therapy in the multidisciplinary team in AAC has the peculiarity of encouraging language in operation, and not only to name and/or recognize the figures. Studies<sup>8,9</sup> also recommend speech therapy to beyond pointing/training figures and triggering keys.

Children and adults are benefited by its use, either via high and/or low-technology communication board in the family, school and social environment. It is noteworthy its early introduction in child development in addition to not limiting the production of speech acquisition, leading to its organization, being the active family participation fundamental for therapeutic success.

In Brazil, the Supplemental and Alternative Communication Committee of the Language Department of the Speech, Language and Hearing Sciences Brazilian Society<sup>10</sup> aims to organize actions that improve the integration of the performance of the speech therapist in the area, with scientific discussions about the theoretical and practical frameworks. In September 2013, it was recorded that the city of Gramado had the 5th Brazilian Congress of Alternative Communication, whose prerogative was the theme "Communicate to Include"<sup>11</sup>.

In Brazilian publications there is still no official and/or accepted terminology version. A study<sup>8</sup> reports that in international literature, the Supplementary and/or Alternative Communication stands as Augmentative and Alternative Communication (AAC), having as subsidies the policies regarding terminology of the International Society for Augmentative and Alternative Communication (ISAAC).

Aiming at expanding knowledge of research practices in AAC in Brazil, this article proposes to

investigate the multidisciplinary areas that have been devoted to studies and themes in the last five years.

## ■ METHODS

In order to conduct a literature review it was performed a search in the BIREME portal (Virtual Health Library) on LILACS baselines (Latin American and Caribbean Literature on Health Sciences), MEDLINE (Medical Literature Analysis and Retrieval System Online), CENTRAL Cochrane library (register of controlled clinic trials), CMR (record of Cochrane methodology), CDSR (Cochrane systematic reviews), SciELO, BDNF (Database of Nursing) and IBECS (Spanish Bibliographic Index of Health Sciences).

The descriptors used in the search were "alternative augmentative communication", "alternative communication", "alternative supplementary communication", "Extended communication" and its combinations, in the period from 2nd September, 2013 to 2nd October, 2013.

The stipulated inclusion criteria covered AAC published research in Brazilian journals in the last five years, including literature reviews, reports of individual and/or group care that included subjects regardless of chronological age, with restricted and/or absent oral speech, regardless of medical diagnosis base.

Seventeen publications were found, which 5 were literature reviews, 6 case and/or group studies. As for the multidisciplinary areas, eleven studies in Speech, Language and Hearing Sciences, two in Physical Therapy Specialty, one in Occupational Therapy, one in Psychology and two in the area of Education were observed. The table below shows the themes subdivided by subject area:

**Table 1 – Issue of articles by the multidisciplinary knowledge area**

AREA	QUANTITY	THEME
Speech, Language and Hearing Sciences	11	Analysis of publications in the area of AAC (3)
		Autism Spectrum Disorder (1)
		Children with Non-Progressive Chronic Encephalopathy (1)
		Children with Non-Progressive Chronic Encephalopathy and Family (2)
		Multiple disabilities and family (1)
Physical Therapy Specialty	2	Unclear Syndrome and Family (1)
		Aphasia (2)
Occupational Therapy	1	Children with Non-Progressive Chronic Encephalopathy and Family (1) Life quality of in-hospital adults unable to communicate by speech (1)
Psychology	1	Analysis of publications in the AAC area in specialized journals in the Occupational Therapy field
Education	2	Assisted assessment in the area of educational psychology in inclusive context
		Analysis of publications in the AAC area and Autism Spectrum Disorder (1) Autism Spectrum Disorder and Family (1)

AAC: Augmentative and Alternative Communication

## ■ LITERATURE REVIEW

A study<sup>8</sup> in national journals in the Lilacs and SciELO database has dealt with terms used in AAC and the following ones being checked: Augmentative and Alternative Communication, Alternative Communication, Supplementary and/or Alternative Communication, Alternative Systems and Communication Facilitators, Supplementary Communication, Alternative and Extended Communication. The study concludes that it is important that a version, besides being adopted for its own use, carries the original meanings that are proposed and is in line with recommendations/policies of the area, as proposed by the International Society for Augmentative and Alternative Communication (ISAAC).

For methodological reasons, the present study adopted a Nomination Augmentative and Alternative Communication, advocated by ISAAC as well as the term Autism Spectrum Disorder (ASD)<sup>3</sup>.

In Speech, Language and Hearing Sciences and in Education it is perceived an increase in searches that include families in their object of study.

An example is the study “The perception of ten mothers on the introduction and use of alternative communication board in the language clinic in I NPCE”<sup>12</sup>. Results indicate different types of use of the mother-child dyad resource, having a relation to the quality of the exercise of the maternal function and the form of presentation of the resource to the

user and their family. In cases where there was the debate on the familiar use of the board, the process of inter-subjectivity of the nonspeaking individual was favored with the use and the board has been expanded.

Another study<sup>13</sup> investigated 20 parents of children placed in a special school due to motor impairments and multiple factors that contribute to the use and non-use of AAC in the family context. Favorable conditions for the use of AAC within the family include the level of education and economic status of parents, their preparation frequency on the use of AAC, AAC recognition as a linguistic resource, the understanding that this feature helps in the development of orality and the satisfaction of basic needs, besides increasing social interaction. About unfavorable conditions, the following was observed: parents who think they know the needs of their children; parents who consider that the AAC does not meet their expectations; lack of guidance and support for use of AAC; the fact that motor difficulties impair the use of AAC and lack of time. The results provide information that can guide speech therapy interventions with families.

In the area of Physical Therapy Specialty, two authors investigated the use of AAC alongside experienced physiotherapists in the care of individuals with children with non-progressive chronic encephalopathy<sup>14</sup>. It was found that the form of nonverbal communication more frequently reported by physiotherapists was kinesics (facial and body expression). Moreover, difficulties were

also found in the interpretation of body reading of these individuals. The results indicate the need to expand the training of physiotherapists regarding communication within a perspective of greater humanization.

The importance of face and body reading signaled in the study with physiotherapists<sup>14</sup> in 2009 was also identified by two researchers in the area of Speech, Language and Hearing Sciences<sup>15</sup>. Representative gestures and body and facial expressions were the skills most commonly used by the group of students with ECNPI. That is why professionals should be alert to these expressive possibilities<sup>15</sup>.

In this research, studies of AAC in Autism Spectrum Disorder were ranked in terms of proactive<sup>16,17</sup> and investigative<sup>18</sup> research.

One of the interventional studies<sup>16</sup> addressed dual focus. The objective was to evaluate the effects of a AAC program within the family of people with ASD, designed by demand of family members to establish effective communication with their children. The program fostered significant change in relation to the communicative competence of the participants with autism, managing to fill some of the communicative priorities previously determined by mothers. It is recommended this program implementation in different contexts.

There is another research<sup>17</sup> which reported a single case study, a longitudinal type, of an adult with ASD. The effects of the simultaneous use of signaled speech and The Picture Exchange Communication Symbols (PECS)<sup>19</sup> (Communication System by Exchanging Figures) which were adapted to the Natural Functional Curriculum (PECS – Adapted)<sup>20</sup> were positive for pragmatic language function demonstrating gains after 9 months of intervention. The study shows that individual characteristics must be considered and that the concomitant use of two methods of AAC should not be applied to any person with ASD.

Authors<sup>18</sup> analyzed the methodological characteristics of 56 scientific articles produced in the period of 1980 to 2007, focused on the theme AAC for students with ASD. Of these, 18 were about the use of manual systems and sign language, 26 of them used pictographic communication systems, 9 used assisted systems with voice activators and 3 used hybrid systems containing more than one method of AAC. Reviewed articles support the predominance of experimental, quasi-experimental, intra-subject designs which confirms the lack of group research in this kind of population.

Half of the reviewed studies reported measures of behavior generalization for natural environments or sustainability of responses after the intervention, that is, the maintenance of treatment gains. Few

studies investigate the degree of satisfaction of participants regarding the effects of the intervention.

The implementation of the use of alternative communication boards in a sample of 30 hospitalized patients, adults and seniors aged 20 to 70 years old and unable to communicate by speech was the subject of a study<sup>21</sup>. To assess the quality of life of these patients the SF-36 questionnaire was applied before and after the study, the Portuguese version of the Medical Outcomes Study. The research concluded that the assessment of quality of life of the patients showed improvement with the use of communication boards, demonstrating the importance and necessity of communication between patient-staff and patient-family.

Authors<sup>22</sup> described a case study of a 5 year old child with unexplained syndrome characterized by motor damage and lack of speech from the introduction of Augmentative Alternative Communication board (AAC). During the period studied, the speech therapy intervention supported the introduction of AAC board in a Bakhtinian dialogical operation that included family and school. The advances were significant both in understanding as the linguistic expression. In this case, the AAC use favored the appearance of speech.

A researcher<sup>23</sup> described the oral expressive skills during AAC implementation in a 11 year old with cerebral palsy. There was a need of the use of verbal expressions forms, such as vocalizations, words and unintelligible oral emissions.

The AAC in the aphasia theme was also the subject of research in two studies<sup>9,24</sup>. The effects on life quality were observed in a therapeutic group of patients with different types of aphasia from the implementation of AAC resources<sup>9</sup>, corroborating a study on satisfaction in AAC<sup>21</sup>.

The introduction and use of AAC in early cases of people with dysarthria/apraxia due to aphasia is defended by authors<sup>24</sup>, because it is known that the speech therapy in situations of severe aphasia may be limited. The AAC was a support for speaking, reading and writing of two patients with 44 to 66 years.

Publications<sup>25-27</sup> conducted literature reviews on AAC focusing on the area of Speech, Language and Hearing Sciences<sup>25,26</sup> and Occupational Therapy<sup>27</sup>, thereby contributing to an overview of knowledge production per area.

In the educational field, the assisted assessment tool was feasible with a support in an AAC<sup>28</sup> computerized system. Thus, we see the importance of assistive technology in augmentative and alternative communication in educational inclusion practices beyond the social one.

## ■ CONCLUSION

Speech, Language and Hearing Sciences, Physical Therapy Specialty, Occupational Therapy, Psychology and Education are the areas that investigate AAC but Speech, Language and Hearing Sciences is the most significant area to publish. Despite being an area of knowledge still in consolidation in Brazil, there is an increase in the inclusion

of studies focusing on adults and elderly, and consider the family as the object of analysis.

Early implementation and in different contexts, such as hospital and school, favors the use of AAC. This is a support for speaking, listening, reading and writing.

We suggest investigative practices that address the effects produced by the intervention on life quality of disabled people.

## RESUMO

No Brasil, as práticas clínicas e educacionais em Comunicação Aumentativa e Alternativa têm sido ampliadas. Esse estudo tem como objetivo identificar as áreas do conhecimento brasileiras que pesquisam a Comunicação Aumentativa e Alternativa e suas contribuições. Fonoaudiologia, Fisioterapia, Terapia Ocupacional, Psicologia e Educação são as **áreas que investigam a** Comunicação Aumentativa e Alternativa, sendo a Fonoaudiologia a área mais expressiva a publicar. Apesar de ser uma área do conhecimento ainda em consolidação no Brasil, observa-se aumento na inclusão de estudos com foco no adulto e no idoso, além de considerar a família como objeto de análise. A implementação precoce e, em diferentes contextos, favorece a manutenção do uso da Comunicação Aumentativa e Alternativa. Esta é um apoio para a oralidade, compreensão, avaliação assistida, leitura e escrita. Sugerem-se práticas investigativas que contemplem os efeitos produzidos pela intervenção na qualidade de vida da pessoa com deficiência e amostras maiores.

**DESCRITORES:** Fonoaudiologia; Fisioterapia; Terapia Ocupacional; Psicologia; Educação; Equipamentos de Autoajuda

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