

# Intervening factors in language therapy with autistic children

## *Fatores intervenientes na terapia fonoaudiológica de crianças autistas*

Cibelle Albuquerque de La Higuera Amato<sup>1</sup>, Daniela Regina Molini-Avejonas<sup>2</sup>, Thais Helena Ferreira Santos<sup>3</sup>, Ana Gabriela Lopes Pimentel<sup>4</sup>, Vivian de Campos Valino<sup>5</sup>, Fernanda Dreux Miranda Fernandes<sup>6</sup>

### ABSTRACT

Recent studies state that the incidence of autism spectrum disorders is 1% of the infantile population. It implies the need of urgent identification of efficient intervention proposals as well as of the factors that may intervene in these processes. The aim of this study is to describe three years of language therapy processes of three children diagnosed within the autism spectrum with different developmental characteristics and different responses to the therapeutic process. All the children were attending a specialized ambulatory program once a week. The language therapists were post-graduate students in the field and the therapeutic intervention started approximately six months prior to the beginning of the study. The children presented evidence of the diversity of the autism phenotype. Although it was not the purpose of this study, the reference to the three different features of the autism spectrum is clear. This way, the intervention processes received subtle adjustments to each child's specific needs and possibilities. All children had significant progress in their manifestations. The longitudinal individual analysis of therapeutic intervention processes allows the identification of associate process that might be determinant to the results and that demand consistent approaches.

**Keywords:** Autistic disorder; Child; Language disorders; Speech therapy/methods; Therapeutics

### INTRODUCTION

Recent studies point out that the occurrence of Autism Spectrum Disorders (ASD) is up to 1%<sup>(1)</sup>. Such a high incidence places the demand if the urgent identification of efficient

intervention models and of factors that may intervene in these processes<sup>(2)</sup>.

The distinction among the different diagnoses included in the ASD is still not strictly defined<sup>(3)</sup> but there is a fairly determined consensus about the existence of a spectrum<sup>(4)</sup>.

The diagnostic issues sometimes start with the suspicion of deafness by the families<sup>(5)</sup>, related to the lack of speech in many children; and they extend to the discussions about the boundaries between the great developmental disorders such as the ones of the autism spectrum, specific language impairments and hyperactivity and attention deficits<sup>(6)</sup>.

Families with autistic children have been recently studied, as could be observed on a recent revision<sup>(7)</sup>. In the Brazilian reality the studies also address the quality of life of families with ASD children<sup>(8)</sup> and their participation in the diagnosis processes, contributing with data about the child's performance<sup>(9)</sup>.

Specific aspects of the Brazilian reality have been approached in studies about methods of detailed speech and language diagnosis with ASD children<sup>(10)</sup>; the results of the inclusion of ASD children on the regular school system<sup>(11)</sup> and results of long term speech and language therapy<sup>(12)</sup>.

Systematic reports about therapy processes<sup>(13,14)</sup> may contribute to a body of evidence that support informed decisions about intervention proposals with ASD children.

This is the aim of this paper: to describe three years of

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Study carried out at the Speech-Language and Hearing Science Laboratory in Autistic Spectrum Disorders of the Medical School, Universidade de São Paulo – USP – São Paulo (SP), Brazil.

(1) Department of Physiotherapy, Speech-Language and Hearing Science and Occupational Therapy of the Medical School, Universidade de São Paulo – USP – São Paulo (SP), Brazil.

(2) Department of Physiotherapy, Speech-Language and Hearing Science and Occupational Therapy of the Medical School, Universidade de São Paulo – USP – São Paulo (SP), Brazil.

(3) Postgraduate Program (Masters degree) in Rehabilitation Sciences of the Medical School, Universidade de São Paulo – USP – São Paulo (SP), Brazil.

(4) Postgraduate Program (Masters degree) in Rehabilitation Sciences of the Medical School, Universidade de São Paulo – USP – São Paulo (SP), Brazil.

(5) Postgraduate Program (Masters degree) in Rehabilitation Sciences of the Medical School, Universidade de São Paulo – USP – São Paulo (SP), Brazil.

(6) Department of Physiotherapy, Speech-Language and Hearing Science and Occupational Therapy of the Medical School, Universidade de São Paulo – USP – São Paulo (SP), Brazil.

**Correspondence address:** Fernanda Dreux Miranda Fernandes. R. Cipotânea, 51, Cidade Universitária, São Paulo, (SP), Brazil, CEP: 05360-160. E-mail: fernandadreux@usp.br

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individual speech and language therapy with 3 children with ASD, with different developmental characteristics and different responses to the therapeutic process. The children received speech and language therapy once a week, for 45 minutes, in a specialized service and the parents signed the approved consent form (#460/02). The speech and language therapy started approximately six months prior to the first reports presented here.

**CLINICAL CASES**

**Case 1**

She is a girl with diagnosis of autism, six years of age at the onset of the speech and language therapy, attending regular public preschool. She is brought to the therapy by her mother but her absence index is about 50%.

*Behaviour, socialization and interests:*

2007 – manipulates magazines and books; brings sheets of paper to the therapy but just leafs through them. Very agitated stays for just few minutes in each place of the room or with any toy. During the second semester she starts to show some interest in miniature household items. The teacher reports some aggression episodes.

2008 – maintains the interest in paper items but starts to play with miniatures performing activities or seriation and differed imitation; during the second semester starts to play with puzzles and is less agitated but with reduced attention span. Sometimes, in the beginning of the year, refuses to leave the room by the end of the session, throwing herself on the floor, but by the second semester is more adapted to the routine and social markers (kisses when saying good-by). She engages in interactive exchanges during the year, accepting and demanding physical contact.

2009 – makes systematic eye contact, maintains the short attention span and little interest in any activity. Plays with puzzles and performs symbolic games with activities related to every-day life activities. During these activities engages in joint attention activities with the therapist’s initiative.

*Language and communication:*

2007 – uses mainly the gestural means of communication in regulation and interaction activities. Exchanges communi-

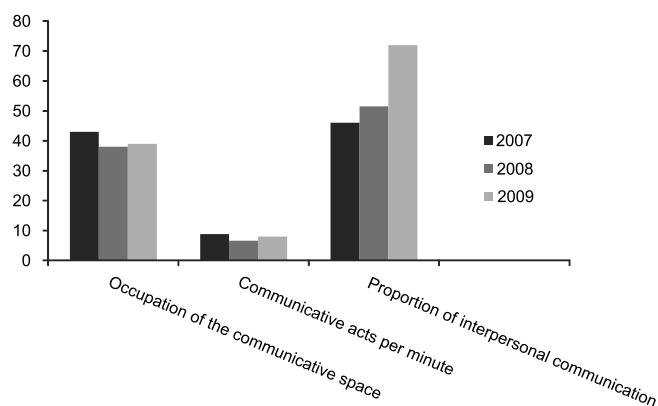
cative turns but her utterances characterize as vocalizations due to the large articulation distortions that hinder the speech intelligibility.

2008 – continues to use mainly the gestural communicative mean but starts to use vocal and verbal means more frequently. Despite the articulation problems the vocabulary limitations become evident. Started to show more communication intent.

2009 – some articulation problems continue to exist and the preference order of the use of communicative means is gestural and vocal. There was a clear increase in the proportion of communication addressed toward the other and in joint play.

The Chart 1 shows the results observed in the different areas of the Social-Cognitive Performance of the three children during the three years.

Figure 1 shows the evolution of the functional communicative aspects.



**Figure 1.** Functional communicative aspects (case 1)

**Case 2**

He is a boy with diagnostic of autism, eight years of age at the onset of speech and language therapy, well adapted to the second year of a regular public school. He is brought to the therapy by his mother and has less than 5% of absences.

*Behaviour, socialization and interests:*

2007 – a talkative child that initiates communicative turns with unknown adults but do not holds a dialogue with several conversational turns. Performs complex symbolic plays and keeps the same activity for long periods of time in self-centered

**Chart 1.** Social-cognitive performance tested in 2007, 2008 and 2009 in the three children

Tested areas	2007			2008			2009		
	C1	C2	C3	C1	C2	C3	C1	C2	C3
Gestural communicative intent	4	6	3	6	6	6	6	6	6
Vocal communicative intent	4	6	3	5	6	6	5	6	6
Tool use	3	3	3	4	4	3	4	4	4
Gestural imitation	3	4	3	4	4	4	4	4	4
Vocal imitation	4	3	-	3	4	2	3	4	4
Combinatory play	6	5	-	5	5	3	5	6	5
Symbolic play	6	6	-	6	6	6	6	6	-

**Legend:** C1 = case 1; C2 = case 2; C3 = case 3

games rarely engaging in joint attention activities. Manifestations that aren't adequate to the context, like singing and dancing in inappropriate situations, are eventually observed.

2008 – maintains a good contact with the therapist and accepts the participation of others in several situations, is less self-centered and stays in the same activity for smaller periods of time but do not proposes other alternatives. When he is very involved with an activity he doesn't allow the participation of the therapist. These situations frequently involve complex and detailed symbolic play.

2009 – continues attentive and focused but starts to ask for the therapist's help when meets any difficulties and verbally communicates his intentions and desires. His favorite activities now include dolls and he engages in cooperative activities with the therapist, participating in long dialogues with the intermediation of the dolls.

*Language and communication:*

2007 – presents frequent delayed echolalia in situations of self-centered play. The preferred communicative mean is the verbal, which he uses in socially appropriate ways in superficial contacts; generally politeness and recognition of others markers, which are basically the sole spontaneous communication initiatives. Although he usually responds to the therapist's initiations, he generally does it with one-word phrases.

2008 – seems to present better understanding of gestures and facial expressions but still makes very few eye contact. He continues to present some delayed echolalia that seems to be related to a communicative initiation as requests for social routines. Presents more communicative initiatives related to his interests with short phrases or isolated words.

2009 – continues to present some delayed echolalia in moments of less interaction but initiates communicative turns, identifies and corrects communication failures, identify breaks and uses strategies to maintain the communication partner's attention. He uses some gestures, mainly as support to communicative acts with protest expression function.

Figure 2 shows the evolution of the functional communicative aspects.

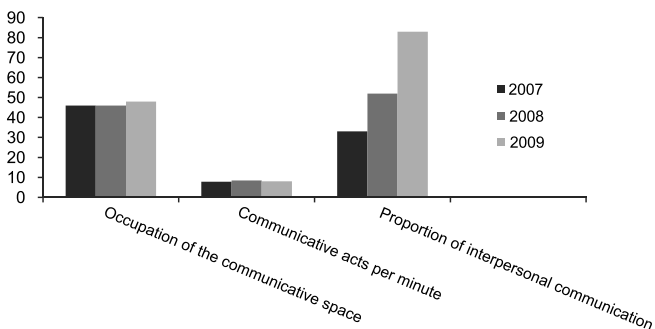


Figure 2. Functional communicative aspects

**Case 3**

He is a boy with diagnosis of autism, four years of age at the onset of the speech and language therapy, attending regular public preschool with reports of good performance and a

special interest in reading. He is brought to the therapy by her mother and almost never fails to be present.

*Behaviour, socialization and interests:*

2007 – recognizes the therapist, maintains eye contact and uses it as a strategy to get the communication partner's attention. He always refuses changes in routine or activities. Sometimes presents tantrum crises, throwing himself on the floor at the end of the therapeutic session, refusing to go and crying very much. Engages in symbolic play and in joint games. Performs logographic reading and is interested in reading but doesn't say the names of colors although recognizes them.

2008 – maintains eye contact and shows better adaptation to the routine e duration of the therapy do not presenting disruptive behaviors at the end of the sessions. Engages in complex symbolic games but do not porporses new situations during the game. Reads some words.

2009 – asks for physical contact and exchanges communicative turns, but his eye contact is less systematic and there is few attention to the therapist's facial expression. Develops some routines as to step over the red parts of the floor. Shows a great interest in the computer but accepts proposals of other activities.

*Language and communication:*

2007 – communicates mainly with verbal and vocal means with the support of gestures. Has some articulation imprecision but agrees in repeating or rephrasing his utterances when is asked to do it. He doesn't present evidences of difficulties in understanding language.

2008 – presents longer phrases and repairs communicative failures when the therapist requests but do not recognizes the failures without this support. His utterances are better articulated what contributes to the increase in the proportion of the use of the verbal communicative mean.

2009 – shows communicative intention, produces phrases with adequate syntax and understands simple and complex orders. Initiate turns, introduces topics and engages in dialogues when interested. Uses gestures as support in a more consistent form, what contributes to the increase in the use of this mean. But he doesn't make coherent narratives.

Figure 3 shows the evolution of the functional communicative aspects.

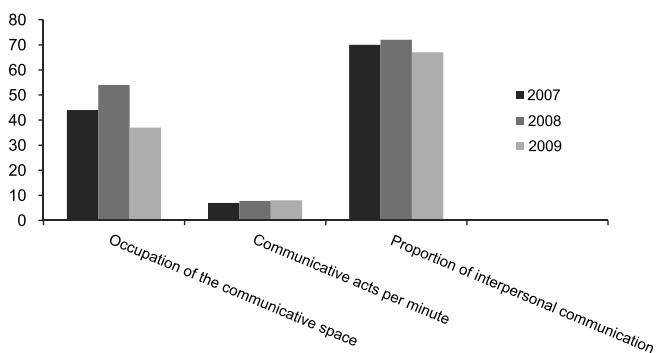


Figure 3. Functional communicative aspects

## DISCUSSION

The three children received individual language therapy once a week during the whole period of this study. In each year there are two vacation periods with duration of two weeks in July and three weeks by the end of December and beginning of January. Although the therapists are changed annually in March the continuity of the processes are guaranteed with continuous reassessments, supervision stability and intensive follow-up of each case.

The cases presented highlight the diversity of the phenotype of autism<sup>(2,4)</sup> since we have a six-year old girl with large behavior problems, very few intelligible utterances and a very restrict range of non-functional interests. The first boy described has eight years of age, good performance in school to which he is well adapted but with empathy impairments, few communicative initiatives, out of context behaviors and echolalia. The second boy presented is four-year old, presents cognitive performance above the expected for his age, has interests that are not age-appropriate and good abilities with the formal aspects of language.

Although it was not the aim of this study, the reference to the three different diagnosis included in the autism spectrum is clear<sup>(3,4,6)</sup>. This way the intervention processes were subjected to subtle changes adjusting them to the needs and possibilities of each child<sup>(2,9,13,14)</sup>.

It is interesting to note that all children had important progresses in their performances. The girl started to engage in joint attention and symbolic play activities and increased the proportion of interpersonal communication. The first boy started to engage in joint play, dialogues and interpersonal exchanges; initiates communicative turns, makes adequately use of the discursive resources and uses non-verbal communication as support. The second boy is interested in computers but agrees to alternate its use with more interactive initiatives; consistently uses support gestures, has adequate syntactic and discursive abilities although he doesn't present productive narratives.

These results demand the consideration of the intervening factors of each process<sup>(2,13,14)</sup>. As observed before the girl was absent from almost half of the planned therapeutic sessions and even so her progress was significant. It poses the question of what would have happened if she had attended to all sessions and of what may be the managing alternatives to cases like this. It is common that the absences to the therapeutic sessions are

justified by objective and real factors, especially in complex environments such as the city of Sao Paulo<sup>(8)</sup>. However, the consideration of the resources allocated in the frequency, even when not systematic, and by the reservation of therapeutic time for a not frequent patient demand objective data to support any decision. The observed in this case is that, even with a large proportion of absences, the therapeutic process was productive to the child.

The first boy presents a virtually opposed situation. The family and school are collaborative and interested and the possibility of offering therapy just once a week (due to space issues that are inherent to the service) demand efforts to allow the increase of this offer. Probably due to the kind of disorder presented this child was brought to a specialized service with more than six years of age, when there are consistent reports of better results with children that receive earlier adequate intervention<sup>(14)</sup>. On way to compensate this delay would be a more intensive intervention program, what has not been accessible to all children in our reality.

The second boy, on the other hand, raises the interest of family members as well as school personal due to his interest in reading and in the formal aspects of language that create the impression of an above-average functioning. It has lead to the increase in the availability of activities and materials that reinforce the interests and the maintenance of systematization activities, decreasing the ones that include empathy. This reinforces the need for more investments in actions directed towards family and school orientation<sup>(11,12)</sup>.

## FINAL COMENTS

The longitudinal individual analysis of the therapeutic intervention processes brings the focus to associated aspects that may be determinant of the results and that demand a consistent approach.

The analysis of individual experiences in such a way that they can be significant to an evidence-based practice depends on the systematic record of these therapeutic processes.

In what refer to the autism spectrum, considering the incidence now determined, it is essential that individual and small-group experiences are systematized in a way to provide alternatives to a much larger group of children that probably present the same needs but that haven't been diagnosed or didn't reach specialized services.

## RESUMO

Estudos recentes mencionam que a incidência dos distúrbios do espectro autístico chega a 1%. Isso implica na necessidade de identificação urgente de modelos de intervenção eficazes, bem como dos fatores que podem interferir nesses processos. O objetivo deste artigo é descrever três anos de processos de terapia de linguagem de três crianças com diagnósticos incluídos no espectro do autismo com diferentes características de desenvolvimento e diferentes respostas ao processo terapêutico. Todas as crianças são atendidas em sistema ambulatorial, uma vez por semana, num serviço especializado, por fonoaudiólogas pós-graduandas na área há aproximadamente seis meses antes dos primeiros relatos apresentados. Os casos apresentados evidenciam a diversidade do fenótipo do autismo. Embora não fosse o objetivo deste estudo, fica aparente a referencia a três diferentes quadros incluídos no espectro do autismo. Desta forma, os processos de intervenção foram objeto de sutis ajustes às necessidades e possibilidades de cada uma das crianças. Todas as crianças tiveram progressos importantes em suas manifestações. A análise longitudinal individualizada de processos de intervenção terapêutica permite a abordagem de aspectos associados que podem ser determinantes nos resultados e que exigem abordagem consistente.

**Descritores:** Transtorno autístico; Criança; Transtornos da linguagem/terapia; Fonoterapia/métodos; Terapêutica

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