

Fonoaudiologia e autismo: resultado de três diferentes modelos de terapia de linguagem*****

Language therapy and autism: results of three different models

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Abstract

Background: language and communication disorders are essential features of the autistic spectrum disorders, and are part of the diagnostic criteria. **Aim:** to verify the existence of observable differences in the functional communicative profile and in the social cognitive performance of autistic children and adolescents receiving language therapy in three different situations. **Assessment** focused on the period of modified intervention and on the following period. **Method:** subjects were children and adolescents with psychiatric diagnosis within the autistic spectrum. Participants were divided in three groups according to the intervention received during a period of six months. **Results:** determined observable differences, but not statistically significant. The group that presented the most progress was the one in which the subjects received therapy in pairs. The fact that none of groups presented a decrease in their progress indicators, as well as the fact that in a few situations the number of subjects who presented progress increased after this period was not expected. **Conclusion:** the results of the present study reinforce that the procedures used to determine the individual abilities and inabilities were useful in planning the intervention procedures.

Key Words: Speech; Language; Autism; Children.

Resumo

Tema: as dificuldades de comunicação e linguagem são elementos essenciais dos distúrbios do espectro autista, fazendo parte da tríade de sintomas utilizada para o diagnóstico. **Objetivo:** verificar a existência de diferenças observáveis a partir das características do perfil funcional da comunicação e do desempenho sócio-cognitivo de crianças e adolescentes do espectro autístico, atendidos em três diferentes situações terapêuticas, tanto no que diz respeito a um período experimental pré-determinado de intervenção, quanto na manutenção dos resultados obtidos após um igual período de tempo de atendimento fonoaudiológico regular. **Método:** os sujeitos foram crianças e adolescentes com diagnósticos psiquiátricos incluídos no espectro autístico em início de processos de terapia fonoaudiológica. Os participantes foram divididos em três grupos de acordo com o desenho terapêutico oferecido por um período de seis meses. **Resultados:** não indicaram diferenças estatisticamente significativas, embora observáveis. O grupo com mais indicadores de progresso durante o período específico de intervenção diferenciada, foi o grupo A, em que os sujeitos eram atendidos em duplas. O resultado não previsto foi que não só em nenhum dos grupos foi observada diminuição dos índices obtidos, após um período de seis meses, como em algumas situações o número de sujeitos com progresso aumentou após esse período. **Conclusão:** os resultados do presente estudo reiteram a adequação de procedimentos de determinação do perfil individual de habilidades e inabilidades de cada sujeito como fundamentação para definições a respeito do modelo de intervenção adotado.

Palavras-Chave: Fonoaudiologia; Linguagem; Autismo; Criança.

Introduction

The concept of autism spectrum involves a wide range of neurodevelopmental disorders whose central axes include three great domains: social interaction deficits, verbal and non verbal communication deficits and restrict and repetitive behavioral patterns ().

Studies evolved to the notion that the central feature of the language disorders associated to the autism spectrum disorders is related to the functional use of language () and specially its social cognitive development ().

The question about the possible identification of the best therapeutic approach to these children has also been discussed in the literature. Research has confirmed the effectiveness of several different therapeutic methods and points out that any comparison must take into account data about social and familiar context ().

Several studies emphasized that it is premature and deceiving to suggest that one sole therapeutic approach is more effective than the others and that there is a method that is more effective with all children. It is suggested that the intervention program should be individualized, considering each child's actual development level and identifying personal profiles of abilities and inabilities ().

The aim of the present study was to verify the existence of observable differences on the functional communicative profile and social cognitive performance of children and adolescents attending language therapy during a six-month period in three different therapeutic situations. The results right after the pre-determined period of six-month and the continuity of the results after another six-month period of regular language therapy were investigated.

Method

This research was approved by the institution's ethic committee (#0186/07) and the parents of all participants signed the consent form.

Subjects

Children and adolescents with psychiatric diagnosis included in the autism spectrum starting language therapy processes were divided in three groups:

. group A: 10 participants that had already started language therapy for at least six months and for not

more than a year; paired according to development and interests and that were included in language work-shops (of two patients) during a six-month period (20 therapeutic sessions) and after that returned to individual sessions for another period of 20 sessions. Mean age 9:7 y (standard deviation 2:4y).

. group B: 9 participants that had already started language therapy for at least six months and for not more than a year; received language therapy with their mothers for a six-month period (20 therapeutic sessions) and after that returned to individual sessions for another period of 20 sessions. Mean age 7:11 y (standard deviation 4:6m).

. group C: 17 participants that had already started language therapy for at least six months and for not more than a year; received individual language therapy sessions for a period of twelve months (40 sessions). Mean age 9:6y (standard deviation 3:4y).

Procedures

In all situations the therapeutic processes received the same orientations, with emphasis on functional and inter-personal communication.

All participants were filmed in play interaction situations with their therapists in three moments:

. before starting the period of the modified language therapy situations.

. after the period of modified situations (20 sessions of double, with the mother or individual language therapy sessions).

. after the following period of 20 individual sessions.

The filmed corpus was digitalized and transcribed according to the criteria proposed to the analysis of the functional communicative profile () and the social cognitive performance ()

Results

In what refers to the number of communicative acts expressed per minute the situation that led to the best results was the Language Workshop. Subjects of groups A and B presented similar performances on the use of communication means, showing increase on the proportion of use of verbal mean and decrease on the use of gestures. It was possible to observe the increase on the proportion of interactive communication on all subjects presented on the first studied time interval (that is, after the modified therapy situation) but it didn't continue on the following time interval.

Table 1 synthesizes the number of progress indicator for each subject of each group on the Functional Communicative Profile and on the Social-Cognitive Performance.

The t-student test was used to verify the significance of the observed differences among the three groups. The significance level considered was 5% (0.050).

Table 2 presents the results referring to the significance levels of the differences on functional

communicative profile. These data show that the differences on the mean performances of the first and second groups were not significant to either of the considered variable pairs. The only significant differences identified refer to the comparisons with the group C.

Table 3 presents the data about social cognitive performance and shows that the only significant differences refer to groups A and C.

TABLE 1. Total numbers of progress indicators on the Functional Communicative Profile (FCP) and on Social-Cognitive performance (SCP)

	N	1 st to 2 nd recording				2 nd to 3 rd recording				Mean of indicators per subject	
		Subjects with progress		Areas with progress		Subjects with progress		Areas with progress			
		FCP	SCP	FCP	SCP	FCP	SCP	FCP	SCP	FCP	SCP
Group A	10	10	6	23	14	9	8	13	22	3.6	3.6
Group B	9	8	3	15	6	9	9	16	31	3.4	3.1
Group C	17	15	12	34	21	15	12	31	28	3.8	2.9

TABLE 2. Significance of the observed differences.

Considered pairs of variables	(p) Value
1 st and 2 nd periods – number of subjects with progress	0,.
1 st and 2 nd periods – number of areas with progress	0.16
Areas with progress – groups A and B	0.36
Areas with progress – groups A and C	0.07
Areas with progress – groups B and C	0.03*
Subjects with progress – groups A and B	0.25
Subjects with progress – groups A and C	0.02*
Subjects with progress – groups B and C	0.02*

TABLE 3. Significance of the observed differences

Considered pairs of variables	(p) Value
1 st and 2 nd periods – number of subjects with progress	0.07
1 st and 2 nd periods – number of areas with progress	0.13
Areas with progress – groups A and B	0.48
Areas with progress – groups A and C	0.02*
Areas with progress – groups B and C	0.31
Subjects with progress – groups A and B	0.35
Subjects with progress – groups A and C	0.06*
Subjects with progress – groups B and C	0.14

Discussion

The subjects of this study were divided in groups according to subjective clinical criteria and responding to each one's objective demands referring to week-day and hour. This way, subjects of group B had the lowest mean age because this is a variable that wasn't controlled in the research. In several prior studies chronological age was discarded as a significant element to autistic children's performance if the mean of a certain group is considered (Bartak, Rutter e Cox, 1975).

Data referring to the number of communicative acts per minute show that the subjects attending language workshops presented greater evolution of this aspect especially if the specific language therapy situation period is considered Individual, with the mother or double). Cardoso (2004) had already observed that autistic individuals tend to use more of their communicative abilities in situations of interaction with peers, what is also confirmed in other studies (Ingersoll, Schreibman, 2006). Apparently peer communication situations provide a symmetry that is not obtained in situations with the adult. This symmetry, on the other hand, provides performance demands in which the subjects affectively use their communicative abilities.

On the other side it is interesting to note that the three groups presented very similar averages on the number of communicative acts expressed per minute at the third recording, demanding reasoning about individual rhythm of development (Rogers et al, 2006; Toth et al, 2006; Whalen et al, 2006; Sutera, 2007). Experience suggests (Fernandes, 1999, 2005) that each individual experience periods of development and balance - and some of them also periods of regression - that are absolutely individual and can hardly be anticipated.

The results presented by subjects of group A, that is, those attending language workshops show progresses in the period of therapy, reinforcing this model as a productive alternative of language therapy with autistic children (Loveland, Landry, 1986; Grela, Mclaughlin, 2006; Keen et al, 2007).

Long term therapeutic processes as is the case with autistic children (Rogers et al, 2006; Eigsti, 2007; Keen et al, 2007; Rutherford, 2007) also demand the consideration of the long term results obtained from short term interferences. This way it is possible to observe that subjects of group B, that is, the ones whose mothers also participated in the therapies for six months were the ones with

greater progress indicators on the functional communicative profile, as the number of communicative acts expressed per minute and the proportion of use of the verbal communicative mean, after another six-months period. These results suggest the hypothesis that the period of therapy with the mothers produced better long term results to the dyadic interaction (Kuschner et al 2007).

The lack of significant differences between the results presented by subjects from the three groups on the other hand keeps the individual therapy as a possible alternative for language therapy (Grela, Mclaughlin, 2006; Ingersoll, Schreibman, 2006; Koegel, 2000). Nevertheless it is also essential to take into account the fact that the distribution of the subjects among the various groups followed clinical subjective criteria because, due to ethical issues it wouldn't be possible to perform a random distribution.

The results about social cognitive performance presented similar configuration with the subjects from the three groups presenting similar performances at the beginning of the study and groups B subjects showing smaller evolution during the period of therapy with their mothers and a rapid recover during the following period.

If we consider only the situations where the identification of some changes in behavior is possible, it is observed that only the children in group B presented higher indexes of development in the areas of gesture and vocal intentional communication, and use of mediator object in the second period that was analyzed. In other words, once again, the group of subjects that received therapy with their mothers for a period of 6 months presented the higher number of subjects with progress in these three areas. It is possible to suggest the hypothesis that, although the situations with the mothers are not the situations that offer the better opportunities to use the abilities in this domain, it offers a safer environment for their use when necessary (Fernandes 2003, 2005).

Overall, this result was a tendency that repeated itself when analyzing the data regarding combinatory and symbolic game. In the areas of gesture and vocal imitation, group B presented a percentage of subjects that gave evidence to a development inferior to that presented by group A, but still it was the second best result and agrees with previews studies (Molini, 2001; Rutherford et al, 2007).

These data require a more careful consideration about the inclusion of the family in the therapeutic intervention processes with autistic children.

Apparently, this alternative approach can be considered as a possibility along the therapeutic processes, although other studies are still necessary to identify indicators of the most adequate moment to use this type of intervention. The use of communication opportunities that occur in daily situations evidently increases the impact of speech-language intervention in the development of each individual (Buitelaar et al, 1991; Giddan et al, 1995; Kamps et al, 1994).

In general, great individual differences among subjects with autistic spectrum disorders produce results where the group mean values do not vary significantly. This does not disqualify the importance of the obtained results, since they confirm the need to identify individual ability and inability profiles in order to determine the most productive intervention procedures (Gothem et al, 2007; Guzder et al, 1996; Koegel, 2000). On the other hand, these results indicate the possibility of using temporary changes, if these are standard, during the therapeutic process, maintaining the rhythm of progress in the long term.

Conclusion

The main purpose of the present study was to verify the existence of observable differences on the functional communicative profile and on the social cognitive performance of autistic children and adolescents receiving language therapy in

three different situations, not only in terms of a pre-determined experimental intervention period but also in terms of the maintenance of results after an equal period of regular speech-language therapy.

The results do not indicate statistically significant differences, although differences are observable. The group with a greater number of progress indicators during the specific period of differentiated intervention was group A, where the subjects were seen in pairs.

The result which was not expected was that none of the groups presented a decrease in the obtained indexes after a period of six months, with a few subjects presenting an increase in progress during this period.

The obtained results indicate that temporary changes can be made in the therapeutic scheme of autistic children, as an alternative for obtaining better results. This type of intervention, however, requires a specific control of the results after short periods of intervention.

The inclusion of mothers in the therapeutic process during a set period of time is a proposal that requires other studies, aiming at the search for parameters that indicate when to begin this type of intervention, its duration and the procedures of support a long time.

The results of the present study also reinforce the adaptation of procedures to determine the individual ability and inability profile of each individual as the bases to determine the model of intervention.

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