

Debora Maria Befi-Lopes¹
Marcely Vieira¹
Ana Manhani Cáceres¹

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Correspondence address:

Debora Maria Befi-Lopes
R. Cipotânea, 51, Cidade Universitária,
São Paulo (SP), Brasil, CEP 05360-160.
E-mail: dmblopes@usp.br

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Time of pragmatic analysis in children with specific language impairment

Tempo de análise da pragmática em crianças com alteração específica de linguagem

ABSTRACT

Purpose: To verify whether the use of a shorter filmed sample influences the results of pragmatic assessment in children with language impairment. **Methods:** Data was obtained from videotaped samples and protocols for pragmatic analysis of 30 children between 3 and 6 years old. Each 15-minute sample (total moment) was analyzed and divided into three moments with five minutes each (initial, medial and final moments). For data comparison, the number of communicative acts per minute, the percentage of communicative space, the predominant communicative functions and the percentage of each communicative mean (gestural, vocal and verbal) were registered in all moments. **Results:** No differences were found between moments for number of communicative acts, communicative space used and communicative functions used. Regarding communicative functions, in all moments the most recurrent were Comment, Information Request and Performative, and the least frequent were Request for Social Routine, Non-Focused and Narrative. Regarding communicative means, a difference was found between initial and final moments ($p=0.048$) and a tendency of difference was found between initial and medial moments ($p=0.097$) only in the use of the gestural mean. **Conclusion:** Pragmatic assessment in children with language impairment can be reduced five-minute samples, as long as the first minutes are discarded and the medial or final minutes are used for analysis.

RESUMO

Objetivo: Verificar se haveria influência nos parâmetros da pragmática com a redução do tempo da filmagem em crianças com alteração específica de linguagem. **Métodos:** Foram utilizadas as filmagens e os protocolos de análise da pragmática de 30 crianças entre 3 e 6 anos de idade. Foram analisados 15 minutos (momento total) divididos em três momentos de cinco minutos cada (inicial, medial e final). Para a comparação dos dados, foi registrado o número de atos comunicativos por minuto, a porcentagem de utilização do espaço comunicativo, o uso de funções comunicativas predominantes e a porcentagem de uso de cada meio comunicativo (gestual, vocal e verbal) para os quatro momentos. **Resultados:** Não foram encontradas diferenças entre os momentos para o número de atos comunicativos, uso do espaço comunicativo e uso de funções comunicativas. Com relação às funções utilizadas, em todos os momentos as mais recorrentes foram Comentário, Pedido de Informação e Performativa. Já as menos frequentes foram Pedido de Rotina Social, Não-focalizada e Narrativa. Para o meio comunicativo, houve diferença quanto ao meio gestual entre os momentos inicial e final ($p=0,048$) e uma tendência entre o inicial e o medial ($p=0,097$). **Conclusão:** A análise da prova de pragmática de crianças com alteração específica de linguagem pode ser reduzida para somente cinco minutos, desde que os primeiros sejam descartados e sejam utilizados os mediais ou finais.

Study carried out at the Laboratory of Language Development and Disorders of the Speech-Language Pathology and Audiology Course of the School of Medicine, Universidade de São Paulo – USP – São Paulo (SP), Brazil. (1) Speech-Language Pathology and Audiology Course of the School of Medicine, Universidade de São Paulo – USP – São Paulo (SP), Brazil.

INTRODUCTION

The disruption in the language acquisition process in children with preserved hearing, appropriate cognitive, neuro-motor, mental and social developments characterizes language impairment (LI)⁽¹⁾.

This impairment includes two different frames: language delay^(2,3), in which development respects the typical sequence, but there is a timing delay; and specific language impairment (SLI), a multifactorial pathology⁽⁴⁾ that corresponds to a persistent language impairment, in which the linguistic deficits affects structural aspects, but might also affect pragmatics⁽⁵⁾. The differential diagnosis is possible after five years of age, when the language delay should already be overcome⁽²⁾.

During normal language development, the emergence of pragmatic skills occurs since the beginning of interactions and requires basic conversational skills, as well as respect to communicative turns⁽⁶⁾. A 3-year-old child uses predominantly the verbal mean with simple and coherent turns⁽⁷⁾.

This assessment must consider the communicative context and non-verbal language^(8,9). The protocol proposed by Fernandes⁽¹⁰⁾ has shown to be effective, being indicated to analyze spontaneous speech of children with SLI⁽¹¹⁾.

These children are pragmatically less efficient than their peers⁽¹²⁾, showing persistent deficits on the elaboration of communicative initiative⁽¹³⁾ and difficulties on maintaining communication⁽¹⁴⁾, due their linguistic deficit⁽¹⁵⁾.

The assessment of pragmatic skills development in children with language impairment is a complex task^(8,15). The purpose of this research was to verify whether the use of a shorter filmed sample influences the results of pragmatic assessment in children with language impairment.

METHODS

This research was approved by the Ethics Committee for the Analysis of Research Protocols of the Clinical Hospital of the School of Medicine of Universidade de São Paulo, under protocol number 552/06.

Participants were 30 children of both genders with ages between 3 and 6 years, with language impairment diagnosis, who had attended weekly speech-language pathology therapy at the Laboratory of Language Development and Disorders of the School of Medicine of Universidade de São Paulo (USP), Brazil. Data were collected from 15-minute videotaped samples and protocols for pragmatic evaluation⁽¹⁰⁾ carried out at least one year after the beginning of the therapeutic process.

The researcher analyzed each 15-minute sample of inte-

raction between child and therapist, fulfilled the protocols, and divided the samples into three moments with five minutes each (initial, medial and final moments). For data comparison, two researchers registered the number of communicative acts per minute, the percentage of communicative space, the predominant communicative functions and the percentage of each communicative mean (gestural, vocal and verbal) for four moments. The minimum reliability was 80%.

Statistical analyses were carried out using non-parametric techniques, since data were not homogenous. Friedman's test was used for comparisons between moments. The significance level adopted was 5%, indicating that all confidence intervals conducted over the analysis were done with 95% of statistical confidence.

RESULTS

No differences were found between moments regarding number of communicative acts per minute ($p=0.947$) and communicative space used by the children ($p=0.509$).

Differences were found for all communicative means only between partial moments (initial, medial and final) and total ($p<0.001$); however, a difference was also found between initial and final moments ($p=0.048$), and a tendency of difference was found between initial and medial moments ($p=0.097$) only in the use of the gestural mean. These results indicate that initial moment shows different values from the others (Table 1).

A difference was found for communicative functions' mean only in the comparison between partial and total moments ($p<0.001$). In all moments the most recurrent communicative functions were Comment, Information Request and Performative, while the least frequent were Request for Social Routine, Non-Focused and Narrative. No differences were found for functions used between the three partial moments (Table 2).

DISCUSSION

The comparison between partial and total moments showed difference only for communicative means, because gestural mean was used more at initial moment. That might be because at the beginning of the evaluation procedure the child usually recognizes the interlocutor and explores the area, but it might also happen because children with SLI tend to be shy⁽¹²⁾.

These results corroborate another study with children with Down syndrome, in which the researchers concluded that the sample reduction does not compromise the reliability of assessment⁽⁸⁾.

Thus, we are able to consider that the study's objective was

Table 1. Comparison between moments related to communicative mean used by child

	Verbal			Vocal			Gestural		
	Initial	Medial	Final	Initial	Medial	Final	Initial	Medial	Final
Medial	0.962	-	-	0.655	-	-	0.097 [#]	-	-
Final	0.837	0.741	-	0.380	0.524	-	0.048 [*]	0.580	-
Total	<0.001 [*]	<0.001 [*]	<0.001 [*]	<0.001 [*]	<0.001 [*]	<0.001 [*]	<0.001 [*]	<0.001 [*]	<0.001 [*]

* Significant values ($p\leq 0.05$) – Friedman's test; [#] Values with tendency towards significance ($p\leq 0.10$) – Friedman's test

Table 2. Comparison between mean of communicative functions used by children in each moment

Communicative function	Initial	Medial	Final
Comment	14.9	14.9	14.9
Information request	4.0	4.8	4.8
Performative	3.9	3.9	3.9
Action request	2.0	1.8	1.8
Play	0.9	1.2	1.2
Recognition of other	1.2	1.0	1.0
Exploratory	1.1	1.0	1.0
Exclamatory	1.0	1.0	1.0
Reactive	0.7	0.8	0.8
Self-regulatory	0.6	0.6	0.6
Joint play	0.5	0.5	0.5
Expression of protest	0.4	0.3	0.3
Nomination	0.5	0.2	0.2
Exhibition	0.3	0.1	0.1
Object request	0.2	0.1	0.1
Consent request	0.0	0.1	0.1
Protest	0.1	0.1	0.1
Request for social routine	0.1	0.0	0.0
Narrative	0.2	0.0	0.0
Non-focused	0.0	0.0	0.0

reached, and that time of pragmatic assessment analysis might be reduced to five minutes, as long as the analysis occurs after the initial five minutes of interaction.

CONCLUSION

This study indicates equivalence between 15 and five-minute interaction analysis for pragmatics evaluation. We conclude that pragmatic assessment in children with language impairment can be reduced to five-minute samples, as long as the medial or final minutes are used for analysis.

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