

Pragmatic Skills in Language Age Matched Children with Autism and Typically Developing Children

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Abstract

The pragmatic aspect of language is concerned with social nature of language. Over the past decades, research on autism spectrum disorders (ASDs) has shown that pragmatic impairments are widespread in both children and adults with autistic disorder. The present study assessed performance of six Kannada speaking children with autism (language age of 1 to 2 years) in comparison with 1 to 2 year old six typically developing Kannada speaking children on five pragmatic skills: Communicative intent, Refusal, Response for negation, Request for object and / or action and Response to request of object and / or action. One hour audio-video sample of mother-child interaction was recorded. The findings of this study are discussed in terms of frequency of pragmatic skills used during the course of interaction with his/her communicative partner (i.e., mother).

Key words: Pragmatic skills, Autism, typically developing children, Kannada speakers.

Introduction

Autism spectrum disorders (ASD's) refer to a wide spectrum of developmental disorders characterized by three core features: difficulties in social interaction, impairments in communication and language, and restricted and repetitive patterns of behaviour (American Psychiatric Association, 2000). Autism spectrum disorders (ASDs) have been identified as a group of language disorders that, at their core, involve pragmatic impairments (Baltaxe, 1977; Tager-Flusberg, 1981; Lord & Paul, 1997). Landa, Volkmar, & Klin (2000) reported that both nonlinguistic and linguistic pragmatic impairments are marked and pervasive in individuals with Autistic spectrum disorders, including the most gifted children.

Anjana (1999) studied the pragmatic abilities of children with Autism spectrum disorders (ASDs) in comparison with typically developing children matched for mental age range between 3-6 years. Each group consisted of 5 participants. Pragmatic skills of all the

participants were assessed on parameters adapted from the test developed by Roth and Spekman (1984). The results indicated quantitative and qualitative difference between the two groups. Children with ASDs had used language predominantly for non-social or quasi social purpose in comparison to typically developing children who had utilized language for a social function.

Chiang, Soong, Lin, & Rogers (2008) studied the nonverbal communication abilities in young children with autism. Nonverbal communication was measured using abbreviated version of the Early social communication scales (ESCS) (Mundy, Hogan, & Doehring, 1996). The subjects were 104 children and infants. 28 children with autism, 24 with Developmental delay (DD). DD included speech and language delay (n = 10, 42%), Down's syndrome (n = 3, 12%), and unspecified mental retardation (n = 11, 46%), 27 (13–15-month old) typically developing infants (TD1), and 25 (18–20-month old) typically developing children (TD2). The results revealed that there was a significant difference in the average number of nonverbal communicative acts in four groups in ESCS. Children with autism had significantly fewer nonverbal communications than the children in other three groups, while the latter three groups did not differ. Social interaction data revealed that children with DD group displayed more initiating social interaction than children with autism group and both of typically developing groups.

Need

The communication impairment which partially defines Autism is closely related to the impairment of social interaction, and includes impaired use of language even when language is present (Boucher, 2003). In some cases, it may be the only parameter of language that is deficient (Young, Diehl, Morris, Hyman, & Bennetto, 2005). The results of the study on early social-communicative difficulties in autism highlight the need for both diagnosis and intervention. Hence, the present was carried out with the following objectives:

Objectives

1. To study the pragmatic skills in 1-2 year old typically developing Kannada speaking children in the context of mother-child interactions.
2. To study the pragmatic skills in language age matched Kannada speaking children with Autism in the context of mother-child interactions.

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3. To compare the pragmatic skills between the two groups in the context of mother-child interactions.

Method

The present study evaluated the performance of typically developing children and children with Autism on five pragmatic skills.

1. Communicative intent: Child's utterances that indicate a range of communicative intentions either by gesture, vocalization and / or by words.
2. Refusal: Child protests by saying "no", shaking head, moving away or pushing objects away.
3. Response for negation: Gestures and / or utterances that indicate absences of object / item.
4. Request for object and / or action: Gestures and / or utterances that direct the listener to provide an object and / or to perform an action.
5. Response to request of object and / or action: Child uses gestures and / or utterances that acknowledge the communicative partner's request for an object and / or action.

Participants

Group I: Reference Group: Six (male) typically developing children in the age range of 1 to 2 years and their mothers participated in this study. All participants were from native Kannada speaking families. Participants were screened for normal Speech and Language skills, Motor development and Hearing ability.

Group II: Clinical Group: Six (male) children with Autism in the chronological age 2.6 – 3.6 years (mean chronological age 2.9 years) and language age of 1 to 2 years with their mothers participated in this study. All participants were from native Kannada speaking families. Children with Autism met the DSM-IV criteria for Autistic disorder (American Psychiatric Association, 1994) as per diagnosis by Psychologists. All participants had also received a diagnosis of Autistic disorder from qualified Speech-language pathologists based on routine screening tests / diagnostic tests / and on clinical observation and profiling. Demographic details of children with Autism are presented in table: 1.

Table-1: Demographic details of children with Autism and language age

Participants	Gender	Chronological age (years)	Current Language age (years)		Therapy duration
			Receptive	Expressive	
A1	M	2.6	1.4	1	6months
A2	M	2.10	1.8	1	6months
A3	M	3	1.8	1	8months
A4	M	3	1.4	1	8months
A5	M	3.6	1.4	1.4	6months
A6	M	3.6	1.8	1.4	12months

Materials: Toys and activities suitable for children in the selected age range were included based on guidelines from ‘Toy kit for children with developmental disabilities’ (Venkatesan, 2003). The toys included were flash cards, picture books, building blocks, noise makers, toy vehicles / animals / fruits / common objects, ball, and doll. The same sets of toys were provided for both the groups.

Procedure: An informed consent in writing was obtained from all the mothers of children of the study. A semi instructed mother-child interactions procedure was used. Before the recording participants were familiarized with the clinical settings. Mothers and children were instructed to play and interact with each other as they would normally do at home using as many of the toys and materials provided to them. The audio-video recording was done using a Sony (DCR-DVD703E) digital video camera recorder. The video camera was handled by the investigator. Recording was done at home environment. An hour’s audio-video recording of mother-child interaction was collected in 3 – 4 sittings for 20-15 minute duration within a week. Based on the temperament of the child, adequate rest periods were given between the recordings. At the end of each session, children were provided with tangible reinforcement. During the time of recording except the investigator and mother-child pair, no other person was entertained

Coding Procedure: The recoded video samples of mothers-child interaction were subjected to frequency calculation. Frequency referred to the number of instances of initiation from mother and responses given by each child and self-initiation by each child for each pragmatic

skill. The responses obtained from each child to mother’s initiation of pragmatic skills was grouped into two categories namely, response and no response.

1. Response: Contextually appropriate response (gestures and / or utterances) from the child that occurred to mother’s initiation of pragmatic skills
2. No response: Ignoring the question without answering. Responses out of topic were also grouped in “no response” category.

Judges: Three Speech-Language Pathologists (postgraduates) served as judges for this study. Audio-video recorded samples were given to the judges along with the operational definitions / explanatory note and score sheets for analyzing frequency of response. The samples were judged independently by these three judges.

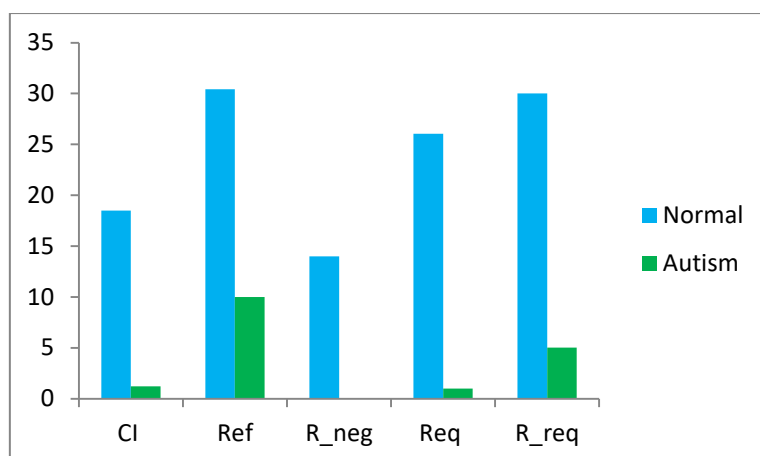
Inter-judge Reliability: Reliability co-efficient alpha was calculated for each pragmatic skill and it was found to be 0.8 indicating high reliability between the judges.

Results and Discussion

Table: 1- Mean, SD values and Mann-Whitney U test of significance between typically developing children and children with Autism for pragmatic skills

Sl. No	Pragmatic skills	Typically developing children		Children with Autism		Z value
		Mean	SD	Mean	SD	
1	Communicative intent	18.50	4.01	1.20	2.80	3.02
2	Refusal	30.41	8.02	10.00	5.02	2.01
3	Response for negation	14	6.20	.00	.00	3.23
4	Request for object and / or action	26.05	5.00	1.00	2.80	3.40
5	Response to request of object and / or action	30	12.10	5.02	3.20	4.10

Fig: 1- Mean value between typically developing children and children with Autism for pragmatic skills



CI: Communicative intent, Ref: Refusal, R_Ng: response for negation, Req: Request for object and / or action, R_Rq: response for request of object and / or action.

Table and Fig-1: show mean and SD values for pragmatic skills by typically developing children and children with Autism. The mean values were calculated for raw scores. Raw scores in the study referred to the number of times each pragmatic skill was initiated and responded. Frequency of use of all the pragmatic skills studied was very less in children with Autism compared to typically developing children. Negation skill was not seen in children with autism. Mann-Whitney U test results of pragmatic skills between the two groups indicated significant differences at 0.05 level of significance. Pragmatic achievement is reported to be both innate and socially conditioned. Autism is one such language disorder characterized by very prominent pragmatic deficits. The results of this study are in support and add information to the existing literature on the pragmatic skills in children with Autism.

Conclusion

The study highlights the need to understand the pattern of pragmatic skills used in different social contexts and need for such assessment in children with Autism for planning therapeutic activities to train on various pragmatic skills.

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