

## **Pervasive Developmental Disorder Not Otherwise Specified: A case study on Mother- Child interaction**

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### **Abstract**

Autism Spectrum disorders (ASD) are group of disorders exhibits triads of symptoms like deficits in communication, social interaction and presence of stereotypic behaviors. Deficits in social reciprocity skills are the core feature of ASD. Studies have reported that parents being important participants in a communication context; the nature of parent-child interaction would be one of the important components that would affect the language acquisition process in children. The present study attempted to explore patterns of mother's interaction with her child with Pervasive Developmental Disorders-Not Otherwise Specified and findings revealed that the style of mother's interaction is different compared to normal children. So it can be hypothesized that the inadequate language in child was maintained because of mother's poorer language modeling.

**Keywords:** Autism, Parent Child interaction, social reciprocity, Pervasive Developmental Disorders- Not Otherwise Specified.

### **1. Introduction**

Contemplative deficit in social reciprocity skills is the core, underlying feature of the autism spectrum disorders (ASD). Socialization deficits are a major source of impairment regardless of cognitive or language ability for individuals with ASD (Carter, Davis, Klin & Volkmar, 2005). Furthermore, social skill deficits do not remit with development. Certainly, impairment and distress may increase as children approach adolescence because the social environment becomes more complex and the child becomes more aware of their social disability (Schopler & Mesibov, 1983; Tantam, 2003). The social impairments in individuals with ASD are diverse and involve speech, linguistic conventions and interpersonal interaction.

Language is a social act that develops under social influence. To develop good language skills in children, parent- child interaction is very important. Difficulties with social interaction and understanding are the core features of autism (Fein, Pennington, Markowitz, Braverman & Waterhouse, 1986). The poor interaction of mother with the child was presumed to be the main cause of autism in early 1940s. The "Refrigerator mother hypothesis" proposed by Bruno Bettelheim, in the

year 1949 states that autism was caused by maternal coldness towards their children. However this theory was rejected in the later years.

The importance of parent interaction in language acquisition is well defined by the social interaction theory (Vygotsky, 1962) of language acquisition. The theory states that language develops because; human beings are motivated to interact socially to develop concepts of self and others. Language acquisition usually occurs in the context of dyadic, dynamic interactions, which are motivated by the child's drive to develop a concept of self and to interact with others socially. Parents contribute significantly to the language acquisition process by adjusting their linguistic input to be compatible with the child's developing linguistic and communicative abilities and by supplying a scaffold to allow the child to communicate despite primitive abilities (Bruner, 1978). Bruner (1968) reported that children will develop a kind of symbolic communication in infancy by involving communicative eye-gaze, smiling, and vocalizing patterns, which could be distinguished from language and he noted the importance of the parental role in establishing this code early in infancy. Parents respond to their child's initiative by converting some feature of the spontaneous behavior into a signal. As development continues, caregivers modify their speech so that it is comprehensible at the assumed level of the child, and systematically advances in complexity. This process by which adults mediate experiences to assist young children to be more competent than they could be by themselves is called scaffolding (Bruner, 1975, 1977; Cazden, 1983). Thus scaffolding is a requirement for the normal language development.

According to Gallagher and Prutting (1993), the mother as a communicative partner can potentially affect a child's language performance significantly. It would be true probably because the maternal speech would be the child's primary source of linguistic data (Cross, 1979). Parents, particularly the mother, would use the methods of fine tuning semantic contingency and predictable routine to facilitate the children's language learning. Thus, the nature of parent-child interaction and the linguistic input the parents provided would be one of the important components that would affect the language acquisition process of the children.

A study by Noh, Dumas, Wolf and Fisman (1989) revealed that parents of children with autism were at much greater risk for parenting stress when compared with that of the parents of normal children. Autism is characterized by deficits in language, socialization and behavior. The behavior of these children, together with developmental delays and minimal parental reinforcement, would result in considerable caretaker stress. Batshaw (1997) and Moes (1995) have also pointed out that looking after of a child with Pervasive Developmental Disorder (PDD) is enormously stressful for the family. Since mothers are generally the primary caretakers, it would be probably true that they would experience greater stress and psychological distress in parenting exceptional children. Such additional stress may affect their parenting style. One of the core features of autism is the qualitative impairment in verbal and non-verbal skills. The children with autism would produce echoed speech of his/her own utterances in an inappropriate manner, fail to give verbal responses to the simple questions and have breakdown in social interaction (Biklen, et al., 1992; Batshaw, 1997). This frustrates the mother, which would reduce communication during interaction (Frankel, 1982) and thereby affecting the style

of interaction of mother and the child. Early studies (Goldfarb, Goldfarb, & Scholl, 1966; Goldfarb, Levy, & Meyers, 1972; Goldfarb, Yudkovitch, & Goldfarb, 1973 cited in Wolchik, 1983) suggested that the mothers of the children with autism would provide poorer language models and give less response to their children's requests when compared with that of the mothers of the normal children. The inaccuracies in the children's language were preserved by the mother's poorer language modeling skills. The mothers of children with autism may have to put more effort in controlling the behaviors of these children which could further affect the language patterns of the mother. So it is important to study the style of mother-child interaction in children with autism. Thus the present paper discusses the patterns of mother-child interaction in a child with PDD NOS. The objective of the study was to explore the patterns of mother's interaction with her child with Pervasive Developmental Disorders-Not Otherwise Specified.

## **2. Materials and Methods**

A client aged 2year 3months approached the Department of Audiology and Speech Language Pathology at Kasturba Medical College, Mangalore with the complaint of delay in speech acquisition and no response to name call for the past three months. The father works as an engineer and the mother is a house wife, the client being the only offspring for the parents. Child was born and brought up in a multi-lingual environment where she was exposed to three languages Konkani, Kannada and English. The prenatal, natal and postnatal period was uneventful. The child's mode of communication was restricted to inconsistent gestures supplemented with vocalization only for the basic needs. Speech and language milestones were reported to be delayed, with poor interaction in social environment. A detailed communication evaluation was carried out. The child had poor pre-linguistic skills and on language evaluation using Receptive Expressive Emergent Language Scale-Third Edition developed by Kenneth. R. Bzoch and Richard League (1991), the child had receptive language age of 10-11 months and expressive language age of 8-9 months. There were no complaints about sensory deficits, and the clinical evaluation confirmed the same. Oral structure mechanism examination revealed normal structure and function. There were no deficits in feeding skills either reported or observed. On clinical observation, the child was found to have features of autism. However the Childhood Autism Rating Scale (CARS) scores showed below average probability for autism. However, based on DSM IV criteria, a diagnosis of Child with Receptive Expressive Language Disorder secondary to Pervasive Developmental Disorder- Not Otherwise specified was given.

To explore the parental interaction pattern, mother-child interaction was video recorded, transcribed and analyzed. The dyadic interaction of the child with her mother took place in a distraction free environment. The toys familiar to the child were used during the interaction. The suggestions made by Konstantareas, Mandel and Homatidis (1988) were followed while analyzing language functions used by the mother in the interaction. The cultural difference in language was also considered during analysis. Each utterance was assigned to only one functional category in line with earlier studies (Howlin et al., 1973, Konstantareas, Mandel and Homatidis, 1988). A total of 143 utterances were transcribed for analysis. An utterance is defined as the any statement that can be differentiated from

the previous one with a significant pause.

### **3. Results**

The present paper attempted to study the interaction patterns of a mother with her child diagnosed as Pervasive Developmental Disorder- Not Otherwise Specified. The transcribed mother child interaction was analyzed for the frequency and the percentage of the occurrence of different language functions. The results are summarized (table I).

The frequency of each language function category was calculated by dividing total of each category by total number of scorable utterances. From the results it was observed that the language function categories like language modeling, prompts, residual language, labels, reinforcement for language, indirect modeling, answer and unclassified utterance were the least used with the frequency of occurrence less than 5%, followed by descriptive language, open questions and closed questions where the frequency of occurrence was between 7% to 18% and the direct directives were the most used language category with the frequency of occurrence of more than 40%.

### **4. Discussion**

The present study aimed to explore the language function categories favored by mother during the interaction with her child diagnosed with Pervasive Developmental Disorder- Not Otherwise Specified through a case study. The result of the study revealed that the language function categories like indirect modeling, answer, unclassified utterances, language modeling, prompts, residual language, labels and reinforcement for language were the least used ones followed by descriptive language, open questions and closed questions and the direct directives are the most recurrently used language category.

Direct directives had the highest frequency of occurrence in the interaction and it is known as a functional language category where the mother directs the child to speak or to respond motorically. It is well known that children with PDD exhibit poor social interaction; and mothers try to involve these children more in social interaction by verbal or non-verbal mode of communication through direct directives. The study results also revealed that the frequency of occurrence of direct directives was followed by closed and open questions. Mak Lai Yina and Doris (2000) obtained a similar finding where the mothers of children with autism used more of open questions in the interaction. Open questions are regarded as a strategy to encourage the child to speak or to elicit the children's language (Howlin et al., 1973). The children with autism are passive and interact in a strange way, so questions are the effective ways to call their attention and let them take an active participation in the communication (Kagan, 1972 cited in Depaulo & Bonvillian, 1978). The other language function categories like prompts, language modeling, reinforcement for language; indirect modeling were of low frequency in occurrence in the interaction which could be due to the presence of qualitative impairments in verbal communication and reciprocal social interaction which is seen in children with PDD-NOS. On contrary, Mak Lai Yina and Doris (2000) have reported that mothers of children with autism use more of language modeling, which was not observed in the present study.

The findings from the present study advocate that the interaction patterns of mother with the child diagnosed as PDD- NOS is atypical in some ways which is supported by the studies done by Frank, Allen, Stein and Meyers, 1976; Wolchik and Harris, 1982 cited in Howlin and Rutter, 1989. This can be accredited to the behaviors exhibited by the child. Studies have reported that taking care of child with Pervasive Developmental Disorder (PDD) is stressful for the family (Batshaw, 1997; Moes, 1995) and since mothers are the primary caretakers this would significantly affect the parenting style in turn reflecting in the mother-child interaction patterns. Raising a child with autism spectrum disorder (ASD) is uniquely challenging to parents. The children's restricted social, communicative and emotional competencies, their uneven cognitive development, and their maladaptive behavior place tremendous stress on parents of children with ASD (Davis & Carter, 2008; Hastings & Johnson, 2001). In comparison to mothers of typically developing (TD) children and mothers of children with other disabilities, mothers of children with ASD report elevated stress levels (Eisenhower, Baker, & Blacher, 2005; Montes & Halterman, 2007; Estes, et al., 2009; Rao & Beidel, 2009) and they are at an increased risk for depression (Olsson & Hwang, 2001). The children with autism have impaired verbal and non-verbal communication, echolalia and impairment in social interaction (Biklen et al., 1992; Batshaw, 1997) which hinders mother's interaction, resulting in the use of less facilitative communication during interaction (Frankel, 1982). This can result in the use of different language stimulating strategies by mothers of children with autism compared to normal.

The results of the present study also showed that the frequency of language function categories like reinforcement for the language and language modeling skills that are essential for the language acquisition were used less. So it can also be hypothesized that the inadequate language as well as the inaccuracies in the child's language were maintained because of mother's poorer language modeling or by a lack of corrections or prompts that would provide children some feedback on the mistakes in their language.

## 5. Conclusion

The present study attempted to analyze the language function used by mother during the interaction with her child diagnosed as PDD-NOS. The findings of the study revealed that the patterns of interaction involved significantly more of direct directives, open and closed questions compared to other language function categories. The frequency of other language function categories like reinforcement for language and language modeling was less. These observations need to be advanced with similar such studies done on a larger population.

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Table 1. The results are summarized in the table

<b>Language function categories</b>	<b>Frequency</b>	<b>Percentage</b>
Direct directives	64	44.75
Descriptive language	13	9.09
Open Questions	21	14.68
Closed Questions	25	17.48
Prompts	1	0.69
Language modeling	0	0
Residual language	7	4.89
Labels	6	4.19
Reinforcement for language	2	1.39
Indirect Modeling	1	0.69
Answer	0	0
Unclassified utterances	3	2.09
Total number of utterances	143	

Frequency and percentage of different language function categories observed in the interaction of mother with her child diagnosed as PDD-NOS



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