

Pragmatic Profiling in Down Syndrome

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Abstract

Pragmatics has been described as the study of the rules prevailing in the use of language in social context. Pragmatic or communicative competence is the capability to produce socially and culturally appropriate spoken discourse in a variety of participation configurations, including the interpersonal mode. In contrast, children with difficult in recognizing and satisfying the social rules of language are usually described as having pragmatic disabilities.

The present study aimed to profile the pragmatic skills in Malayalam speaking Down syndrome in the age range of 4-12 years. The study involved a total number of 10 children and 5 children each across the age group of 4-7.11 years and 8-11.11 years of mental age. The statistical result shows that their exit a significant difference in the age group of 4-7.11 years and 8-11.11 years for clinician initiated and self-initiated pragmatic skills and no significant difference across the age group for both the clinician initiated and self-initiated. The present study concluded that as the age increases couple of clinician initiated pragmatic skills like eye contact, gaze exchange, joint attention, labeling answering question turn taking, repair, topic initiation topic maintenance and adding information were improved. Pragmatic skills like smiling, request for object and feedback was same across the age. Negation got decline with age. In self - initiating skill, refusal, stylistic variation, turn taking, narration topic initiation, maintenance, topic change initiation of joint attention and request for repair were improved as age increases. Communicative intent and questioning were same across the age.

Key words: Down syndrome, Pragmatic skills, Pragmatic Profiling

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Introduction

Communication is a key element by which individual exchange information and ideas (Tourish & Owen, 2004). Communication clearly depends on not only recognizing the meaning of words in utterances, but recognizing what speaker's means by their utterance. Language is the major vehicle of communication. Language is a learned code or system of rules (Owens, 2008) and it is a primary means by which human being maintain interpersonal contact, socialize with others and regulate interactions. Effective communication requires not only linguistic knowledge but social knowledge as well. The term pragmatics has been introduced into the field of speech–language by Elizabeth Bates, a psychologist at the University of California. Bates (1976) defined pragmatics as the rules governing the use of language in context.

Pragmatic Profiling is an informal interview carried out to explore a child's communication in everyday interactions. It asks questions about how the child usually reacts in each of a series of situations. (Dewart, 2012). Language development in Down syndrome has been the focus of a considerable amount of study over the years. Down syndrome (DS) is the leading genetic cause of intellectual disability, with a prevalence of 1 in 700 births [Centers for Disease Control and Prevention, 2006].

Some developmental syndromes like Down syndrome place children at risk for pragmatic language impairment. The profile of pragmatic development in Down syndrome is characterised by areas of relative strength and weakness and changes with age, reflecting both the changes in the domains of competence supporting pragmatic behavior and the dynamic nature of the societal demands for communication on the individual.

Robert, Price & Malkin (2007) reported that pragmatic skills are strong attribute in children with DS. Although children with DS use communicative gestures for longer periods of time than most typically developing children, the use of gesture is considered a general strength for children in the DS population because it provides significance to communication. Typically, children with DS are extremely social, engaging and caring (Martin, Klusek, Estigarribia & Roberts (2009). Conversely, Robert, Price & Malkin(2009) reported there is evidence that not all areas of pragmatics are consistent for example, some children with DS demonstrate difficulties with requesting, while other display skills similar to typically developing peers with topic

maintenance thus, further research is needed to assist in defining pragmatic skills at different linguist levels and ages.

Thomas (2001) studied a comparative study of pragmatic abilities in Down syndrome with typically developing children in the age range of 6-8 years. The pragmatic study used is the modified version of “Test of pragmatics” designed by Shulman (1986). The sample size was 10 for Down syndrome and normal population respectively. The results indicated that children with Down syndrome have poor pragmatic skills when compared to normal children.

Pragmatic issues in Down syndrome are being increasingly addressed in clinical practice. The study of pragmatic skills in Down syndrome’s communication helps us to develop practical procedures in rehabilitation of these individuals. Social use of language is important for child’s communication and good academic performance. Speech language pathologist needs to understand the development of pragmatic skills for the proper diagnosis and intervention program. Currently research on pragmatics in children with Down syndrome are carried out in western countries and dearth of studies in Indian scenario prompted to take up the present study of profiling pragmatic skills in Malayalam speaking DS children.

Materials and Methods

The objective of this study was to profile the pragmatic language skills in 4-12 years old Malayalam speaking Down syndrome children.

Participants

The present study included ten Malayalam speaking Down syndrome children who were diagnosed with DSM-IV and ICD-10 as participants of the study. The participants were further divided into two groups of five each based on their mental age. 4 to 7.11 years and 8 to 11.11 years participated in the present study. Children with mental ages below 4 and above 12 years and also Down syndrome with associated problems (Hearing loss, severe intellectual disability, visual impairments) were excluded from the study.

Procedure

In order to profile the pragmatic language skills, ten children with Down syndrome of 4-12 years and who were selected by SLP irrespective of gender. An interactive session between the clinician and the child was video recorded for 15-20 minutes in a comparatively quiet and well illuminated room. To aid the interaction between the clinician and the child, the materials like toys, picture cards and chocolates were used. The modified developmental protocol for pragmatics (Shilpashri, 2010) taken from the developmental protocol for pragmatics (Shyamala & Dheepa, 2008) was utilized for the present study which includes 26 pragmatic skills like Response for eye contact, Smiling, Response for gaze exchange, joint attention, request for objects and /or action, labeling, Answering questions, Response for negation, turn taking, repair, topic initiation, topic maintenances, comment/feedback, adding information and self-initiation of pragmatic skills like refusal, communicative intent, requesting of objects, stylistic variation, questioning, initiation of turn taking, narrative, initiation of topic change, topic maintenance, initiation of joint attention and request for repair were assessed in the study.

Data Analysis

The video samples were recorded by using Huawei –Y300 smart phone. The clinician-child interactions were subjected to frequency calculation. Frequency referred to the number of instances of initiation from clinician and responses given by the child and self-initiation by each child for each pragmatic skill was grouped into two categories namely, response and no response.

- Response:-Contextually appropriate response (gestures/utterances) from the child that occurred to clinician's initiation of pragmatic skills.
- No responses:-Ignoring the question without answering, Responses out of topic were also grouped in 'no response' category, for ease of practical analysis for statistical purpose.

The obtained data was statistically analyzed for significance.

Results & Discussion

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The aim of the present study was to profile the pragmatic skills in Malayalam speaking Down syndrome children and the obtained data were statistically analyzed and result are discussed below.

I. Pragmatic skills within the age group

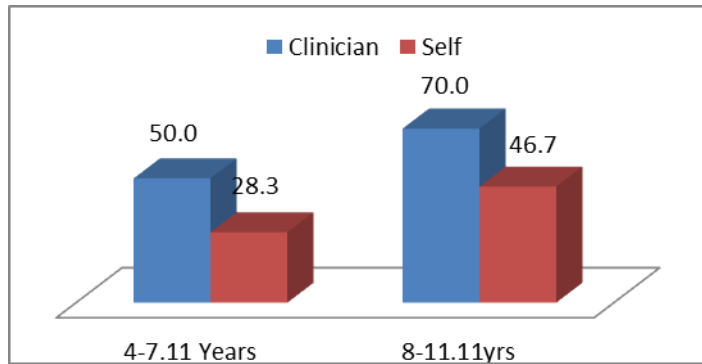


Fig 1:-Showing Clinician and self -initiated pragmatic skills within the age group

Age group	Initiation	N	Minimum	Maximum	Mean	Std. Deviation	Mannwhitney test Z value	p
4-7.11 Years	Clinician	5	35.71	64.29	50.00	13.36	2.003	.045
	Self	5	8.33	50.00	28.33	15.14		
8-11.11yrs	Clinician	5	50.00	92.86	70.00	19.82	2.001	.044
	Self	5	16.67	66.67	46.67	19.18		

Table 1:- Showing clinician and self -initiated pragmatic skills within the age group

From the above figure 1 and table1 it clearly shows that there is significant difference for clinician initiation (P =.045) and self-initiation (P=.045) task in 4.0 years to 7.11 years. Significance difference was also noted in 8 to 11.11 years for both clinician (P=0.44) and self-initiation (P=0.44).

II. Pragmatic skills across the age group

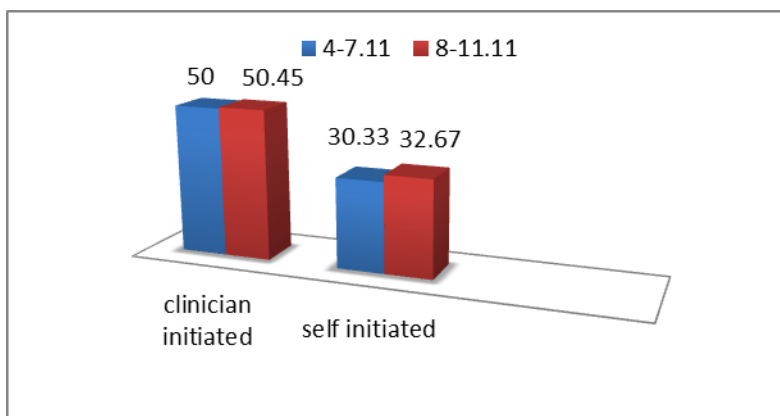


Fig2:-Showing Clinician and self-initiated pragmatic skills across the age group.

Initiation	Age group	N	Minimum	Maximum	Mean	Std. Deviation	Mannwhitney test Z value	p
Clinician	4-7.11 Years	5	35.71	64.29	50.00	13.36	1.792	.073
	8-11.11yrs	5	50.00	92.86	70.00	19.82		
	Total	10	35.71	92.86	60.00	19.11		
Self	4-7.11 Years	5	8.33	50.00	28.33	15.14	1.471	.141
	8-11.11yrs	5	16.67	66.67	46.67	19.18		
	Total	10	8.33	66.67	37.50	18.94		

Table 2:-Clinician and self -imitated pragmatic skills across the age group

From the above figure 2 and table 2 it clearly shows that there is no significant difference for 4.0 years to 7.11 years and 8.0 years to 11.11 years ($P = .073$) in clinician initiation task. No significant difference was also noted in 4.0 to 7.11 years and 8.0 years to 11.11 years in self-initiation ($P = .141$).

III. Frequency of clinician initiated pragmatic skills in 4-7.11 years.

Clinician initiated pragmatic skills	No. of respondents	%
Response for eye contact	4	80
Smiling	4	80
Response for gaze exchange	3	60
Response for joint attention	3	60
Response for request for an objects	4	80
Response for labeling	4	80
Answering question	2	40
Response for negation	4	80
Response for turn taking	1	20
Response for repair	2	40
Response for topic initiation	2	40
Response for topic maintance	1	20
Response for comment /feedback	1	20
Response for adding feedback	0	0

Table 3:- Response in % by 4-7.11 years for the clinician initiated pragmatic skills.

From the above table 3, it is clearly shows that response for eye contact, smiling, request for object, labeling and negation registered 80%. Response for joint attention and joint attention registered 60%. Answering questioning, response for repair and response for topic initiation registered 40%. Response for turn taking, topic maintance, comment a feedback registered 20% and response for adding feedback did not yield any response.

IV. Frequency self-initiated pragmatic skills in 4-7.11 years.

Self-initiated pragmatic skills	No. of respondents	%
Refusal	4	80
Communicative intent	4	80
Request for object and/ or action	3	60
Stylist variation	1	20
Questioning	2	40
Initiation of turn taking	2	40
Narration	0	0
Topic initiation	0	0
Initiation of topic maintenance	0	0
Topic change	0	0
Initiation of joint attention	1	20
Request for repair	0	0

Table 4:- Response in % by 4-7.11 years for the self-initiated pragmatic skills.

Table-4 shows that, total of 12 self-initiated pragmatic skills only refusal and communicative intent registered 80%. Request for objects registered 60%. For questioning and initiation of turn taking 40%. Stylistic variation and initiation of joint attention registered 20% and did not yield any response for self-initiated pragmatic skills like narration, topic initiation, and initiation of topic maintenance, topic change and request to repair.

V. Frequency of clinician initiated pragmatic skills in 8-11.11 years.

Clinician initiated pragmatic skills	No. of respondents	%
Response for eye contact	5	100
Smiling	4	80
Response for gaze exchange	4	80
Response for joint attention	4	80
Response for request for an objects	4	80
Response for labeling	5	100
Answering question	4	80
Response for negation	3	60
Response for turn taking	3	60
Response for repair	3	60
Response for topic initiation	3	60
Response for topic maintenance	3	60
Response for comment /feedback	1	20
Response for adding feedback	3	60

Table 5:- Response in % by 8-11.11 years for the clinician initiated pragmatic skills.

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Table-5 clearly that shows that in the age group of 8-11.11 years , eye contact and labeling registered 100% and 80% registered in smiling, gaze exchange, joint attention, request for an objects and labeling. Response for negation, turn taking, repair, topic initiation and topic maintance and adding feedback registered 60% and response for comment /feedback registered 20%.

VI. Frequency of self -initiated pragmatic skills in 8-11.11 years.

Self- initiated pragmatic skills	No. of respondents	%
Refusal	5	100
Communicative intent	4	80
Request for object and/ or action	2	40
Stylist variation	2	40
Questioning	2	40
Initiation of turn taking	3	60
Narration	3	60
Topic initiation	2	40
Initiation of topic maintance	2	40
Topic change	1	20
Initiation of joint attention	3	60
Request for repair	2	40

Table 6:-Response in % by 8-11.11 years for the self-initiated pragmatic skills

From the above table 6, refusal registered 100%.Initiation of turn taking and joint attention registered 60%. Pragmatic skills like request for object, stylistic variation, questioning, topic initiation, topic maintance and request for repair registered 40%. Communicative intent and topic change registered 20%.

Discussion

The overall responses for pragmatic skills used by Down syndrome for clinician initiation of pragmatic skills in the study indicate that responses for most of the pragmatic skills increase as age increases. It means to say that as age increases the number of ‘no responses’ decreased in Down syndrome. The findings of present studies are in accordance with Martin, Klusek, Estigarribia & Roberts (2009) where they have find similarities in children with Down syndrome and typically developing peers in function such as commenting, answering and protesting. Abbeduto, Warren & Conners (2007) found similarities demonstrated in their language attempts, since typically developing toddlers and preschool children with DS answer yes / No questions when interacting with adults. Martin, Klusek, Estigarribia & Roberts (2009) found that Down

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syndrome may initiate topics less often than typically developing children. However in Indian context there are only few studies which has a focused on pragmatic skills in Down syndrome. Thomas (2001) studied a comparative study of pragmatic abilities in Down syndrome with typically developing children in the age range of 6-8 years. The results indicated that children with Down syndrome have poor pragmatic skills when compared to normal children.

Summary & Conclusion

The available literature mostly reveals that there is no data available for pragmatic skills in Malayalam speaking Down syndrome between the age ranges of 4-12 years. Since the social use of language is important for child's communication and better academic performance. Pragmatic issues in Down syndrome are being increasingly addressed in clinical practice. The study of pragmatic skills in Down syndrome communication helps us to develop practical procedures in rehabilitation of these individuals.

The present study aimed to profile the pragmatic skills in Malayalam speaking Down syndrome in the age range of 4-12 years. The study involved a total number of 10 children and 5 children each across the age group of 4-7.11 years and 8-11.11 years of mental age. The interaction samples were video recorded and Mann-Whitney Z test was carried out to find out the significance within the group and across the age group and also to find out the better pragmatic skills between the clinician initiating and self -initiating skills. The statistical result shows that there is a significant difference in the age group of 4-7.11 years and 8-11.11 years for clinician initiated and self-initiated pragmatic skills and no significant difference across the age group for both the clinician initiated and self-initiated.

The present study concluded that as the age increases couple of clinician initiated pragmatic skills like eye contact, gaze exchange, joint attention, labeling answering question turn taking, repair, topic initiation topic maintenance and adding information were improved. Pragmatic skills like smiling, request for object and feedback was same across the age. Negation got decline with age. In self -initiating skill, refusal, stylistic variation, turn taking, narration topic initiation, maintenance, topic change initiation of joint attention and request for repair were improved as age increases. Communicative intent and questioning were same across the age.

Implication of the Study

The present study has thrown light on the knowledge of pragmatic skills in Malayalam speaking Down syndrome with the age range of 4-11.11 years which could be used as database for assessment and intervention of these children.

Limitation

The study comprised limited number of participants. The study group is not controlled for socio-economic status and the study is not compared with controlled group. In this study only clinician child interaction is used.

Future Direction

The present study can be further extended to a large population and across disorders can be compared. The study can be done by the interaction with others (peer group, family members, and siblings) can be incorporate.

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