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Verbal Stereotypy in Autism - A Study of Expressive Language Behaviour

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Autism is a least understood childhood disorder inspite of a fair amount of research in the area. Language disorder is an actual and integral entity in the multivariate symptomatology of this pathological group. This being so, it has not received as much of attention as needed. This problem and the need for investigation is all the more poignant in the multilingual context of India. Autism as a language disorder is however, beginning to make an entry into the domain of Indian speech and language pathology. The present study has attempted to make a start towards such an intention.

In this study, a few specific, isolated and salient features of phonological, and syntactic aspects of expressive language of a small clinical population are identified and gross similarities and difference across these autistic children are reported.

This paper incidentally is a small extract of the larger project on the study of speech characteristic - in a cross linguistic autistic group.

Clinical observations

The verbal features that have been noted are a few phonological aspects including voice, articulation and prosody, syntactic aspects including speech output, lexicon, pronominal usage, echolalia, perseveration and idiosyncratic features in terms of all these. However, explanations for their occurrence have not been given. These aspects have been observed over five sessions of 45 minutes each and one and half hours speech sample has been analyzed to illustrate and supplement the observations.

This one and a half hour's speech data is obtained based on the children's responsive speech, informal imitation and elicitation aided by picture books. The data has been transcribed with broad IPA transcription and analyzed. No formal tests were used.

Subjects

The subjects were three males S1, S2 and S3 aged 5 years, 11 years and 6 years respectively. S1 and S2 spoke Kannada (a Dravidian language) as their mother tongue and S3 spoke Hindi (a language belonging to the Indo-Aryan family of languages). All of them had an exposure to English through

nursery rhymes, etc. All the children were from upper middle class families with well-educated parents.

Although no strict criteria were adapted, the subjects S1 and S2 were categorized as having moderately severe and S3 mild degree of autism based on an appraisal of the severity of characteristics presented. All of them had normal motor milestone.

Phonology

All the three children had vowel and consonant phonemes that could be traced as belonging to their respective languages inspite of the misarticulations of sounds they presented. The allophonic distribution of phonemes appeared to be normal, although it needs to be further analyzed.

(a)Articulation

These children showed inconsistent articulatory patterns. The various consonant phonemes involved, included fricatives, trill and laterals in S1, fricatives and trills in S2 and trills only in S3. Omissions and distortions were the main types (S1 had substitutions also) of articulatory errors seen irrespective of the position of the phoneme. These incorrect articulations were observed in both spontaneous and echolatic utterances. Besides, S1 had a peculiar articulatory style of uttering only a part of each word correctly, the first one or two syllables usually.

(b)Voice and prosody

All the three subjects had normal speech mechanism both in appearance and functioning.

The vocal characteristics included use of dull monotone for a length of time occasionally interrupted by an inconsistent use of high and low pitches. The pattern was as follows:

Generally S1 had a softer voice sometimes leading on to whisper or mere mumbling and unintelligible speech. Occasionally it was alternated by spells of loudness. He had a hoarse voice.

S2 generally had a louder volume alternated by extreme soft voice leading on to just mumbling. His voice had a harsh and nasal quality.

S3 had a more monotonous voice with very less variations. Periodical changes loudness were observed.

Prosody was certainly affected in all the three subjects. All of them had deviant intonation patterns. S2 had a fairly fast rate of speech, S1 had an extremely fast rate of speech so much so that speech was almost unintelligible. S3, however had an extremely slow rate of speech and he also had a peculiar way of speaking with excess and equal stress on each syllable.

(c)Fluency

Fluency was affected as the speech flow was interrupted by inappropriate pauses and inflections even with the faster rate of speech in S1 and S2. S3 however, had a consistent, stereotyped pause and prolongations. As a result, there was a bizarre appearance of disjointed utterances. Although the deviance in fluency could be compared to stuttering none of the children presented typical features of stuttering in terms of hesitations, repetitions, pauses or prolongations. There was no struggle behaviour or secondary features seen and it was observed even in highly automatized verbal material.

Verbal output

The spontaneous speech was restricted highly to automatic speech, echolalia, perseveration and talking-to-the self behaviour (The illustrations are give the appendix). Sustained dialogue was impossible with all the three subjects. The utterances in responsive speech were in majority inappropriable and irrelevant. Some appropriate (and relevant to the immediate context) responses could be obtained but they could be traced back to highly habitualized verbal material. This is illustrated in appendix IA.

The incorrect/inappropriate responses were identified as being so, because they were incorrect responses to the verbal stimuli (as discerned by a contextual appraisal) although a semantic association could be established between the verbal items of the stimuli and the child's response (Appendix IB)

Object naming was the best form of spontaneous response that could be elicited with least prompting and persuasions. Even here, however there were incorrect responses and in some semantic associations could be established between the correct (and the appropriate) and incorrect responses (Appendix IC)

(a)Lexicon

The lexical choice mainly consisted of open-class (content) words than function (pivot-class) words except when being echolalic. Nouns and in lesser quantity the verbs, were found to be abundant. There were very few adjectives, adverbs and prepositions and conjuctives used except in echolalic utterances.

There appeared to be a preponderance of the lexical development towards certain categories such as eatables (in S1 and S2), vehicles (in S1, S2 and S3) and names of things (in S1, S2 and S3) irrespective of whether they served any communicative function or not. S1 could come out with as many as 8 names of eatables and S2 with 17, S3 could name seven vehicles at a stretch aided by the word a:me:Le (then,) or u: (nasalized vowel) prompted by the investigator.

(b)Automatic speech

This was the best form of verbalization that could be sustained for a longer time. All the children could name the days of the names of the week, the names of months, could count the numbers, could remember the letters of the alphabet and could recite some nursery rhymes. S1 could even recite short Sanskrit verses.

However, these children differed in terms of the promptings needed in between. S1 needed a prompting for every word or occasionally for every small phrase, S2 for every sentence, and S3 for every 2-3 sentences. Every prompt was either a repetition of what he had recited earlier or a partial utterance of the next intended form. For instance, S1 would utter b the letter of the alphabet only when the previous letter a was uttered by the other person. S2 would need to be prompted with matte meaning 'then' or 'then after', after his naming every 2-3 eatables. S3 needed a prompt fir meaning 'then' or 'then after' after every line of a nursery rhyme.

(c)Pronominal usage

The pronominal forms of I person, II person and III person viz., na:nu; ni:nu, ni:vu; adu, avanu, avalu, avaru respectively in their singular and plural (or honorofic) forms in Kannada and mai, ham, tum, a:p, and vo: respectively in Hindi were very rarely seen in these children's speech except as echolalic or perseveratory utterances. However, the PNG markers were found correctly used occasionally (Appendix IIA).

It was also observed that there was a reversal in the pronoun use as evidenced by the person markers or endings (Appendix IIB).

(d)**Echolalia**

All the three children presented both immediate and delayed echolalia and their speech had an abundance of both. "Immediate echolalia" was defined as the parrot like repetition of a word or group of words in a given immediate context, without reference to the meaning (Appendix IIIA).

"Delayed echolalia" was the meaningless repetition of a previously stored verbal material in a novel and often inappropriate situation (See Appendix IIIB).

This echolalic behaviour of the child contributed greatly to the bizarre nature of speech. Relevance and appropriateness of the responses suffered in part, because of echolalia The echolalic utterances were either full or partial repetitions of the utterances (usually sentences) of the previous speaker. The utterances were repeated regardless of sentence types in terms of form and function.

(e)**Verbal perseveration**

Verbal perseveration as found in these subjects was a consistent and continuous repetition of a verbal item in the absence of original stimuli that triggered of in the first instance. S2 had a great many number of these, S1 had this in a slightly lesser degree and S3 lesser still (Appendix IVA).

(f)**Length and word order**

Single word utterances were the major trends in all the three. All these children used a few 2-word phrases/sentences and S2, the older child could use 3-4. word sentences very occasionally in spontaneous speech. Echolalic utterances however, had no such restrictions in terms of the length of utterances. No gross deviances in the word-order were observed.

Conclusions

It was felt that there was certainly a developmental delay as well as a deviance in these children in terms of language use. It was noted that, although certain similarities across these children could be discerned at a gross level, each child presented an idiosyncratic picture as to differentiate himself from the others in terms of verbal behaviour. An indepth analysis of this aspect is emphasized for a finer understanding and management of each autistic child in terms of language.

Reference

Chengappa, S. Study of language behaviour autism (forthcoming).

Appendix

Verbal outputIA

Appropriate utterances

bella kodata:re

S1 (granny) jaggery gives

This was always the response given to the question ajji ninge:n kodta:re 'what does grand mother give you?'

S2 Pen gi:dini

(I will) Pen scribble

This was usually the response given to any verbal stimuli dealing with pen. This was in particular a response to the question

Pen ya:k ninge

Pen why you (need)

S3 ye:mo:ta:rbo:t hoi

This motor boat is

This was the response to any question asking about a thing/object on water.

IB

Inappropriate response (on the basis of co tual observation)

S1 pera (for paisa) 'Coin'

This was in response to the question angdi:ge Ya:r ho:gtra:re 'Who goes to the petty shop?' The semantic interpretation was between 'petty shop' and "money given there" .

S2 sartu ma:dde

Shirt (I) did.

This was in response to the question ni: e: n ha: ko idiya

You what wearing

S3 Ca:y

tea

This was a response to the question

turn ne kya: kha.ya

you what ate.

IC

Inappropriate object flaming

Ka : lu

leg (for kai 'hand')

This was in response to the hand.

cendu

ball

This was in response to a question e:n a:ta a:dti da:le avlu "What game playing is she" Pointing to a picture of a girl skipping

S3 pe:nta

a cool drink

When pointing to the picture of a glass filled with water and asking ye: kya hai This what is

Pronominal useIIA.

Correct P N G markings

S1 bikket tinti:ni
(1) biscuit (will) eat
S2 barde nenne
(I) wrote yesterday.
S3 doudta: hai
(that) is running
IIB

Reversed person markers

S1 III person marker substituted for I person tindi tinta:ne
(he) eatable eats
substituted for tindi tinti:ni - (I) will eat eatables
I person marker substituted for II person chitra :nna ma:d kodtini
(eatable) prepare give (I will)
substituted for Chitra:nna madkodu - The 'eatable' (you) prepare give (me)
S3 II person marker substituted for III person da:ggi: doud ja:vo
'dog (your) go run'
for da:ggi : doudta hai - 'dog running is' pointing to a picture of dog running
IIIA

Immediate echolalic utterances

S1 e:n be:ku
What (do you) want - repeated twice after the question
e:n be:ku ninge - What do you want?
S2 pa:pa malkondida:ne
baby (is) sleeping
after my uttering pa:pa malkondida:ne no:du - baby (is) sleeping look
S3 ladka dau:d
'boy milk (is) drinking'
after my utterance
ladka du:d pi:ta hai de kha - 'boy milk is drinking look'
IIIB

Delayed echolalia

S1 passu gissu
'parsu girsu' (reduplicate form) for 'purse' for the question i;g ellig ho:g be:ku - now where (do we) go?
S2 mani kodtini mani kodtini
(I will) bead give bead give

this was a response for this question kudre e:n ma:dtide no:du - horse what (is) doing look
S3 machli jalki ra:ni
fish water queen (a phrase from a llullaby mother used to sing to him)
This was in response to the question : kaha : khelenge ham - where play shall we
IVa

Verbal perseveration

S1 said the following for five consecutive questions put to him - bikket 'biscuit'
S2 said the following thrice continuously for different verbal stimuli - ca:ya 'a name'
S3 uttered the following at a stretch for four different verbal stimuli - kva:k kva:k 'duck's cry'