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AUTISTIC FEATURES IN CHILDREN WITH MENTAL RETARDATION

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ABSTRACT

Most of the autistic disorder patients are also mentally retarded and many mentally retarded persons exhibit autistic symptoms. By using a standard instrument (Ritvo-Freeman Real Life Rating Scale) the autistic features of the mentally retarded children were studied. The study also examined the influence of age, sex and level of mental retardation on the occurrence of autistic symptoms. Children who came for consultation to child psychiatric unit were compared with those at a school for children with mental retardation receiving stimulation. Male children from child psychiatric unit had significantly higher scores than those from the school. Social and language impairment could be reliably identified and grouped. It was possible to diagnose the syndrome of autism in children with mental retardation in a significant number (9.6%)as compared to that was possible only clinically (1.9%). More number of children with severe/ profound mental retardation could be diagnosed as autistic. The autistic syndrome in children with mental retardation can be picked up more effectively by the use of structured instrument.

Key words : Autism, mental retardation

The presence of autistic behaviour in children with mental retardation is well recognized. Lotter (1978) examined 1300 mentally retarded children and found that 2.3% had some autistic behaviour and only 0.6% were autistic. Wing & Gould (1979) studied 132 children from 35,000 under 15 years age in Camberwell and found out 12.8% children as having autistic syndrome. Kar et al. (1993) observed autistic disorder in 13% of 55 mentally retarded children with most of them having an IQ of less than 50. Cantu (1990) screened 780 mentally retarded and identified 9.3% as having autism or autistic behaviour. He noted that it was not immediately clear whether they truly had autism. Lack of adequate measure for these studies have kept the researchers still in the early stages of evaluating the questions of prevalence and classification. Dosen (1985) opined that the contact disturbances in mentally retarded children often misled the diagnosticians to the diagnosis of autism and psychosis, while the reason for this discord could lie in an inappropriate stimulation of the child to social contact. Cantu (1990) on the contrary, noted that exact diagnosis of autism is difficult in this population and the symptoms in certain number of subjects were probably attributed to mental retardation rather than to autism per se. Distinction, however, is essential not only from nosological point of view but as the autistic behaviour can be reduced by behaviour modification and medication (De Myer, et al., 1981).

The present study was undertaken with an aim to determine the occurrence of autistic features in mentally retarded children by use of a standard instrument and to assess the relationship between age, sex and degree of

intellectual impairment with the autistic features.

MATERIAL AND METHOD

The study sample consisted of 31 consecutive mentally retarded children from child psychiatry unit of C.I.P. Ranchi, who came for consultation over a three month period (group one) and 21 children from a school for mentally retarded persons situated in Ranchi (group two). Out of the total 30 children in the school considered, 21 children fulfilled the criteria of selection to be included in the study. Those who satistified DSM-III-R criteria for mental retardation within 1 to 16 years of age with IQ below 66 and were not receiving neuroleptics for last one month, were included in the study. The children who had physical illness which might produce symptoms mimicking autistic features and those who were blind & or deaf were excluded. Informed consent was obtained from the parents. All the children were rated for the autistic features by means of Ritvo Freeman Real Life Rating Scale (RLRS) (Freeman et al., 1986). It is a scale for rating symptoms of patients with autism in real life setting. The instrument contains 47 well defined specific behaviour which are grouped into five areas of scales. They are (i) sensory motor, (ii) social relationship to people, (iii) affectual responses, (iv) sensory responses and (v) language. The impairment of behaviour in any area was considered to be significant when it was present almost always involving more than one component and yielding a score of more than three in that particular scale. The RLRS rating was done by one of us (NK) in the playrooms at both the settings. Parents and/or teachers of the child were present during the 30 minute observation period and sufficient play materials were available to simulate real life situation. At this time the rater was blind to the level of retardation. The level of retardation was assessed by using Binet-Kamat Test of Intelligence, Seguin Form Board and Raven's Progressive Matrices in the Department of Clinical Psychology of Central Institute of Psychiatry. All the children were evaluated clinically by consultant and senior resident at child psychiatry unit for psychiatric comorbidity. The statistical evaluation of the study was made by using chi- square and t-test.

RESULTS

The sample characteristics are shown in table 1. The children were divided into two age-groups 4 to 11 years and 12 to 16 years. There were only 2 children in 1 to 3 year age group,

TABLE 1
SAMPLE CHARACTERISTICS

Variables	Gp.I (n=31)	Gp. II (n=21)	Total (n=52)
Sex * Male	28 (90.3)	14 (66.6)	42 (80.7)
Female	3 (9.6)	7 (33.3)	10 (19.2)
Age # Mean±SD	7.87±3.56	11.02±3.58	9.41±3.77
Level of mental retardation			
Mild	5 (16.1)	4 (19.0)	9 (17.3)
Moderate	13 (41.9)	8 (38.1)	21 (40.3)
Severe	10 (32.3)	7 (33.3)	17 (32.7)
Profound	3 (9.7)	2 (9.5)	5 (9.6)

* X^2 = 4.51, df=1, p<0.05; # t = 3.12, df 50, p<0.01
Figures in parentheses are percentages

so were excluded from all age related comparisons. There was no difference in age composition and distribution of levels of mental retardation between two groups. Children attending the school were older than those brought for consultation. It is obvious that younger children with mental retardation are likely to be at home and older ones with better adaptive ability may find a place in school. Mean period spent in school was 18 months (range 2-36 months). They were exposed to increased interaction, stimulation of verbal, motor and communication skills for 4-5 hours, 5 days a week. The children were present on most of the days though absences were not uncommon. There were more number of males in group one compared to group two, who were of course comparable by age. The former had significantly more RLRS score ($t=2.67$, $df=40$, $p<.02$). Females were significantly older in group two (mean age & SD : group one 7.3 ± 1.5 years, group two 12.5 ± 2.6 years, $t=3.9$, $df=8$, $p<.01$) but they did not differ in RLRS score. The RLRS score was not different between sexes and age groups. It was also not different between same age children and same level of mental retardation of both groups. It was significantly more in severe/profound retardation group in relation to moderate and mild retardation ones. The mild and moderate retardation groups did not differ significantly (table 2).

The social impairment was considered to be significant when the score of scale II was more than 3 which meant the impairment to be present almost always, and in more than one component. Thirty eight (73%) children had significant social impairment. The proportion of children from mild, moderate and severe/profound retardation having social impairment were 66.6%, 52.4%, 95.5% respectively ($x^2=10.4$ df = 2, $p<.01$). There was no difference between age groups and sexes.

Fifteen (28.5%) children were found to have significant language impairment i.e. score of more than 3 in scale V. The distribution within different age, sex, mental retardation groups was not significant. However, while around 40.9% severely retarded had significant language impairment, the figures for moderate and mild retardation groups were 23.8% and 11.1% respectively.

TABLE 2
DISTRIBUTION OF RLRS SCORES IN DIFFERENT LEVELS OF MENTAL RETARDATION

Level of mental retardation	n	Mean±SD RLRS score
Mild	9	0.350 ± 0.08
Moderate	21	0.352 ± 0.24
Severe & Profound	22	0.540 ± 0.24

Mild vs. Moderate	$t=0.034$, $df=28$, p=NS
Moderate vs. Severe & Profound	$t=2.56$, $df=41$, $p<0.01$
Mild vs. Severe & Profound	$t=3.29$, $df=29$, $p<0.01$

From 52 mentally retarded children, 50(96.1%), scored positive on the real life rating scale. The number of children with significant impairment in both social and language areas was thirteen (25%). Among these, five (9.6%) children had markedly restricted repertoire of activity found from different scales of RLRS. All of them had stereotyped movements, two were having it almost always. Two children had preoccupation with parts of objects. Distress over change was shown by three of them. These children fulfill the criteria for a diagnosis of autistic disorder according to DSM-III-R. The remaining eight (15.4%) children with some impairment in the repertoire of activity can be given the diagnosis of pervasive developmental disorder not otherwise specified (PDDNOS). It was found that only 1.9% of the total sample of mentally retarded children studied were clinically diagnosed as having autistic disorder and another 7.6% as PDDNOS.

Of these thirteen children given an additional diagnosis, there were 9 males and 4 females; 9 were in 4-11 years and 4 in 12-16 years age group. There were only one (11.1%) from mild retardation group, three (14.2%) from moderate and nine (40.9%) from severe/pro-

found mental retardation group. Their RLRS score was significantly higher than the rest ($t=3.37$, $df=50$, $p<.01$).

DISCUSSION

The inclusion criteria were more accommodative keeping in view the changing concept of autism (De Myer et al., 1981). Excepting those physical conditions which seriously impair speech and motor function, others were not considered as exclusion criteria, those might be etiologically related to autistic features. The significant representation of males in sample, in a proportion greater than that found in epidemiological studies, may indicate sociocultural bias towards male child, or alternatively there may be more problems in males with mental retardation.

The study strengthens the reports that confirm the presence of autistic features in a significant proportion of mentally retarded children. Though not all, around 96% having some autistic features is a figure more than that found in epidemiological studies. This can be explained by the fact that children seeking consultation at the tertiary level may have greater behavioural problem and the present sample was represented more by children with moderate to severe/profound retardation which are associated with more autistic features (Wing & Gould, 1979; Kar et al., 1993).

The proportions of mentally retarded with social impairment have varied from 45.8% by Reises (1990), 56% by Wing & Gould (1979), to 73% in this study. The increase in proportion may be due to greater representation of moderate to severe retardation in this sample and a more structured assessment. The lack of appropriateness in the social interaction is stressed. The social responses of mentally retarded are according to their mental age. However, the significantly impaired group have proportionately greater degree of deficiency in relation to children with similar level of retardation. This was most marked with severe/profound mental retardation group. In contrast to findings of Wing & Gould (1979) where social impairment in males just reached significance, we found no such difference between sexes. There was also no difference between elder and younger ones though it was recognized that autistic features change with age (Kanner, 1973).

There seems to be a consensus that mentally retarded children have deficits in language and communication. The relationship is usually inverse (Beitchman, 1986) which is evident in our finding though it did not reach significance. Absence of speech, idiosyncratic use, echolalia and lack of communicative use of language was marked, similar to those described by Srinath et al. (1989). There is a significant association of language and communication impairment with social impairment (Rick & Wing, 1975; Wing & Gould, 1979). About 86% i.e. thirteen out of fifteen language impaired children of our study had social impairment as well.

The findings of 9.6% of children as having autistic disorder is similar to that by Cantu (1990) and Wing & Gould (1979) who had most of the children also in severe mental retardation group. A cumulative 25% could be given an additional diagnosis in contrast to 9.6% which was possible clinically, stresses the contribution of a structured instrument and a more atheoretical approach to autistic features. It also confirms that more number of severe/profoundly retarded children could be diagnosed having autistic disorder or PDDNOS which would otherwise be lost due to over shadowing phenomena decreasing the diagnostic importance of abnormal behaviour due to presence of mental retardation.

The observation that the unstimulated male children at the child psychiatry unit having significantly higher scores than the stimulated males at the school needs further study. The evaluation of the effect of stimulation may be attempted in a longitudinal study by comparing the autistic score before initiation of stimulation at school with that after stimulation.

The study has certain limitations. The

sample size, especially the number of females in group one was small. The sample studied were highly selective. They were attending tertiary level of health care of the school for mentally retarded, having more representation from moderate and severe retardation. They did not represent the universe of mentally retarded, having more representation from moderate and severe retardation. It was a cross sectional study observing the subjects only once. Longitudinal assessment would have consolidated the findings and would have reflected the change of autistic features by stimulation in the same group.

In conclusion it was possible to identify reliably the autistic feature in a large number of mentally retarded children by use of a standard instrument. Additional diagnoses of autistic disorder or PDDNOS could be made in a significantly more number of cases in comparison to that was clinically possible.

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