

Assessment of autism among children across age

BAVITA^{1*} AND SHALINI AGARWAL²

¹Research Scholar and ²Assistant Professor

Department of Human Development and Family Studies, School of Home Science,
Babasaheb Bhimrao Ambedkar University (Central University), Vidya Vihar, Raebareli Road,
Lucknow (U.P.) India

ABSTRACT

Background: Autism spectrum disorder (ASD) is characterized by impairment in social interactions and communication and restricted, repetitive, and stereotyped patterns of behaviour. ASD symptoms are often noted early in life and diagnosis can occur as early as 2 years of age. 'ASD' Autism Spectrum Disorder, refer to a category of developmental disabilities with problems in initiating and maintaining social interaction, problems in communication and the use of idiosyncratic language and repetitive motor mannerism. **Objective:** With this background, this study was carried out with the objectives to assess category of Autism among children across age. **Methods:** A standardized scale "Indian Scale for Assessment of Autism" used to assess category of autism among children. Total 100 children from different NGOs working for special children were selected for the study. In the present study descriptive statistics like frequency, percentage, mean and standard deviation were used to analyse. The data and relational statistics like Chi square test were used to analyse the data. **Result:** It was found that more than half 60.3 per cent respondents belonging to age of 5-8 years and 47.6% respondents belonging to age group of 9-12 years had mild autism, While 36.2% respondents age group of 5-8 year and 52.3% respondents age group of 9-12 year had moderate autism, Very few (3.4%) respondents age group of 5-8 year had sever autism. Results of hypothesis testing revealed that as the $p > 0.05$ thus, the null hypothesis was accepted stating that there exists no significant difference in category of autism across age.

Key Words : Autism, Age, Children

INTRODUCTION

Autism spectrum disorder (ASD) is characterized by impairment in social interactions and communication and restricted, repetitive, and stereotyped patterns of behaviour. ASD symptoms are often noted early in life and diagnosis can occur as early as 2 years of age (American Psychiatric Association, 1994 and Charman and Baird, 2002).

The term autism is derived from the Greek word *Autos*: means self. Autism is a behaviourally-defined condition, but is caused by brain dysfunctions that affect the developing brain's ability to handle information. Autism is a neurodevelopmental disorder. The different way of processing information, such as perceiving, processing and interpreting information, learning new things and behaving in a well-adapted way, leads to the behavioural deviations that can be observed. The

majority of children with autism also have a learning disability (mental retardation) and have average intelligence

'ASD' Autism Spectrum Disorder, refer to a category of developmental disabilities with problems in initiating and maintaining social interaction, problems in communication and the use of idiosyncratic language and repetitive motor mannerism (American Psychiatric Association, 1994).

ASD (Autism Spectrum Disorder) is used as an umbrella term which includes-

- Autism disorder,
- Asperger disorder
- Childhood disintegrative disorder,
- Rett disorder

- Pervasive developmental disorder – not otherwise specified (American Psychiatric Association, 1994; American Psychiatric Association, 2000; Charman and Baird, 2002; Chawarska *et al.*, 2007; Fombonne, 2003).

Children with Autism Disorder can appear to have little or no interest in making friends or establishing relationships with others and appear more interested in objects than people. (American Psychiatric Association, 2000).

Asperger's Disorder is characterized by highly impaired social skills, children with Asperger's develop typical communication skills in the first few years of life and do not understand social rules and might lack empathy for others (American Psychiatric Association, 2000).

Childhood disintegrative disorder is characterised by deterioration in cognitive, language and social functioning following a period of at least two years of normal development. The child with Childhood Disintegrative Disorder loses previously acquired skills such as language, social skills, bowel or bladder control, play and motor skills.

Rett's disorder appears only in females and is characterised by deteriorating cognitive and physical development usually occurring between 6 and 12 months of age. Some of their characteristic behaviors include: loss of speech, repetitive hand-wringing, body rocking, and social withdrawal. Those individuals suffering from this disorder may be severely to profoundly mentally retarded.

A child with PDD-NOS (Pervasive developmental disorder – not otherwise) specified has severe impairment in verbal or non-verbal communication skills or displays unusual behaviors, interests, and activities (American Psychiatric Association, 2000).

Children with impairments in nonverbal communication, imaginary play, repetitive motor behaviors, and inflexibility in routines were more likely to be diagnosed at a younger age

Children with deficits in conversational ability, idiosyncratic speech and relating to peers were more likely to be diagnosed at a later age (Maenner *et al.*, 2013).

There is evidence to suggest that diagnostic features of ASD are evident in very young children. Most families/caregivers report observing symptoms within the first 2 years of life and typically express concern by 18 months of age. Studies of children with ASD have found

- parental reports of abnormalities in their children's language development and social relatedness were first noticed at about 14 months of age (Chawarska *et al.*, 2007);
- displays of significantly fewer joint attention and communication behaviors at 1 year of age than shown by their typically developing same-age peers (Osterling and Dawson, 1994; Zwaigenbaum *et al.*, 2005; Watson *et al.*, 2013; Werner and Dawson, 2005)
- demonstrated atypical eye contact, passivity, decreased activity level, and delayed language by 12 months of age (Zwaigenbaum *et al.*, 2005);
- subtle differences in sensory-motor and social behaviors as well as differences in the use of

communicative gestures by 9 to 12 months of age (Watson *et al.*, 2013)

Autism-specific symptoms was associated with earlier diagnosis. Two additional studies found that developmental regression was associated with earlier diagnosis, defined in one study as moderate to severe social or communication skill loss before the age of 3 years, and in the other as a period of typical development in the first 1–2 years of life followed by a loss of previously acquired skills. (Hertz-Picciotto and Delwiche, 2009).

Among studies reporting age at diagnosis for autistic disorder (n = 24), mean and median ages ranged from 32 to 89 months and 34 to 88 months, respectively. Age at diagnosis for Asperger's disorder (n = 16), mean and median ages ranged from 45 to 134 months and 89 to 116 months, respectively. Age at diagnosis for PDD-NOS (n = 13), mean and median ages ranged from 40 to 111 months and from 48 to 77 months, respectively (Hertz-Picciotto and Delwiche, 2009).

Seven studies assessed the mean or median age at which a specific diagnosis of "ASD" (*i.e.* "ASD-NOS," "general ASD," etc.) was assigned; mean and median age at diagnosis estimates ranged from 42 to 78 months and from 36 to 106 months, respectively. The "ASD-NOS" category was used in the Shattuck *et al.* study. Among studies that reported combined estimates for all ASDs (n = 27), mean and median estimates ranged from 38 to 120 months and from 36 to 82 months, respectively (Hertz-Picciotto and Delwiche, 2009).

Objective:

To assess category of Autism among children across age.

Hypothesis:

There exists no significant difference between categories of Autism among children across age.

METHODOLOGY

An exploratory research design was used for the study. This study was carried out on children with Autism in Lucknow city. Nine Non-government organisations (NGO's) working with Autistic children were first identified, then children enrolled in these NGO's were selected for the study. Total 100 children were selected through purposive random sampling technique for the study. Standardized tool Indian Scale for assessment of Autism by National Institute for the Mentally Handicapped (Ministry of social justice and Empowerment Government of India) was used to collect data from selected sample. The Statistical analysis was done by SPSS version 20. In the present study descriptive statistics like frequency, percentage, mean and standard deviation and relational statistics like f-test were used to analyse the data.

Study tools :

The survey tools (Indian scale for Assessment of Autism) were developed to capture information on children with autism. This scale contain 40 statements which are divided under six domains like Social Relationship and Reciprocity, Emotional Responsiveness, Speech Language and Communication, Behaviour Pattern, Sensory Aspect and Cognitive Component. Each questions provided respective score (Rarely upto 20% Score 1, Sometimes 21 - 40% Score 2, Frequently 41 – 60% Score 3, Mostly 61-80% Score 4, Always 81-100% Score 5). First domain is Social Relationship and Reciprocity were presented as 9 questions with dichotomous response formats. For example: Has poor eye contact? with the separate tick box response for the question etc. This measure

focused on ability of eye contact of children. So each domain contains questions accordingly and present. At the last total score of respondent present the category of autism (No Autism <70, Mild Autism 70-106, Moderate 107 -153, Sever Autism > 153.

RESULTS AND DISCUSSION

Results in Table 1 depicted frequency and percentage distribution of respondents across age. From the data it was revealed that from the total sample, 58 per cent respondent of age between 5-8 years and 42 per cent respondents were age between 9-12 years having Autism. This meant that majority of respondents were age between 5-8 years

Table 1 : Frequency distribution of respondents having Autism on the basis of age

Age	Frequency	Percentage
5-8 Years	58	58.0%
9-12 Years	42	42.0%
Total	100	100.0%

Distribution of respondents on the basis of category of Autism across age :

Table 2 discussed distribution of respondents on the basis of category of autism across different Age group, Results showed that 60.3 per cent respondents belonging to age of 5-8 years and 47.6% respondents belonging to age group of 9-12 years had mild autism While 36.2% respondents age group of 5-8 year and 52.3% respondents age group of 9-12 year had moderate autism, Very few (3.4%) respondents age group of 5-8 year had sever autism.

Table 2 : Frequency distribution of respondents on the basis of category of Autism across age (N=100)

Sr. No.	Category of Autism	Respondents	
		5-8 Year (N=58)	9-12 Year (N=42)
1.	Mild autism	35(60.3%)	20(47.6%)
2.	Moderate autism	21(36.2%)	22(52.3%)
3.	Sever autism	2(3.4%)	0

Testing of hypothesis

Ho1: There exists no significant difference between categories of autism among children across age.

Table 3 discussed the differences between categories of Autism across age group using Chi-square test. Results showed that as the $p > 0.05$ thus, null hypothesis was accepted stating that there exists no significant differences in category of autism across age group. Mean values also showed the same. Thus it was concluded that though results have shown that respondents of age 5-8 year suffer more from mild Autism, but regarding categories of autism, where it is mild, moderate or severe no significant differences across age group were found. The results were found at par with American Psychiatric Association. (1994). American Psychiatric Association Diagnostic and

Table 3 : There is no association between category of autism and age of respondents

Age	Category of autism			df	Chi square	Conclusion
	Mild	Moderate	Severe			
5-8 year	35	21	2	2	0.161	NS
9-12 year	20	22	0			

$P > 0.05$

Statistical Manual of Mental Disorders (4th ed.), and Diagnosis of autism spectrum disorder in 2- and 3-year-old children 2002.

Conclusion :

Autism spectrum disorder (ASD) is characterized by impairment in social interactions and communication and restricted, repetitive, and stereotyped patterns of behaviour. ASD symptoms are often noted early in life and diagnosis can occur as early as 2 years of age. Autism is a neurodevelopmental disorder. In conclusion I have found that the autism is not occur at any specific age.

Acknowledgement :

I want to acknowledge the NGOs like Samarpan, Subhlakshya, Navdeep, Jingle bell, Asha School, Pyssum, Parvarish, Chetna, and Touch and care for giving the support and cooperation to do my research.

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