

## EXPLORING CLINICAL FEATURES OF CHILDREN WITH AUTISM IN BOGURA CITY OF BANGLADESH

MST. AMBIA KHATUN, BIJON BAROI, NOOR MUHAMMAD AND MOST. AEYSHA SULTANA<sup>1\*</sup>

*Department of Psychology, Jagannath University, Dhaka-1100, Bangladesh*

<sup>1</sup>*Department of Psychology, University of Dhaka, Dhaka-1000, Bangladesh*

*Keywords:* Clinical Features, Children with Autism, DSM-V

### Abstract

Autism is marked by a dense shortage of social, language, and cognitive abilities. To become aware and start earlier treatment, these criteria needed to be known from their cultural context, helpful for the betterment of children with autism and their caregivers. The study aimed to explore the severity of six clinical features (e.g., socio-emotional, language, behavioral, affective, cognitive, and physical symptoms) of Bangladeshi children with autism according to the DSM-V. Thirty six parents (55.56% mother and mean age = 33.75 years) of autistic children participated as respondents. Required data were collected using a personal information form and the Bangla version of the Clinical Features of Autistic Children Questionnaire. Data were analyzed through frequency, percentage, and correlation. The results showed that the severity of social and physical developmental symptoms was comparatively lower, while language, behavioral, affective, and cognitive developmental symptoms were comparatively higher among children with autism. In addition, no significant correlation was found among socio-emotional, language, behavioral, affective, cognitive, and physical symptoms in terms of parents' educational qualifications and family income of children with autism. The study recommends that the concerned authorities should immediately focus on the more severe clinical features and affecting factors for the betterment of both children with autism and their caregivers.

### Introduction

Autism was first described in 1943<sup>(1)</sup> and later termed Autism Spectrum Disorder (ASD)<sup>(2)</sup>, which is a neurodevelopmental disorder mostly noticed between three to six years old children<sup>(3)</sup>. Worldwide, 1 in 160 children (or 62.5 per 10,000) are affected by ASD<sup>(4)</sup>. In Bangladesh, the prevalence rate of ASD ranges from 0.15% to 0.80%<sup>(5)</sup>. A child with autism has a persistent shortage of social communication and interactions within various contexts and shows various prohibited or repetitive behaviors, actions, or/ and interests<sup>(2)</sup>.

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\* Author for correspondence: Email: [aeysa\\_sultana06@yahoo.com](mailto:aeysa_sultana06@yahoo.com)

In addition, these conditions should exist in early childhood and create significant disruptions in functions, which are not better narrated by intellectual disability<sup>(2)</sup>. Overall, before age 5, for the diagnosis of autism, the most predictive factors are related to the presence of difficulties in communicative and nonverbal abilities<sup>(6)</sup>. Furthermore, children with autism face deficits in their communication, social skills, and behaviors which are important obstacles to adult self-sufficiency<sup>(7,8)</sup>. Past studies explored that children with autism have social, language, behavioral, affective, cognitive, and physical symptoms<sup>(2,6-8)</sup>, but the scenario might be varied based on different cultural contexts<sup>(9)</sup>.

Firstly, among children with autism, primary problems were expressed as impairment or deficit in social skills, including poor orientation towards a social stimulus, inappropriate eye contact, inability to understand both verbal and nonverbal social cues, unfit emotional response, and scarcity in showing empathy to others' troubles<sup>(10-12)</sup>. Besides, they face troubles in social interactions, bonding, instrumental actions, and relationships related to experience-sharing<sup>(13)</sup>, which may impetus the ability to gain normal developmental milestones<sup>(14)</sup>. In turn, it increases the chance of peer rejection, dissatisfying family relationships, and social isolation<sup>(15)</sup>, which ultimately may forebode mood and anxiety-based problems later in development<sup>(16)</sup>.

Secondly, children with autism face difficulties in communicative abilities<sup>(17)</sup>, like systematically lacking intonation and vocal quality, idiosyncratic use of words and stereotyped phrases, echolalia, and pronoun reversal<sup>(18)</sup>. These difficulties are evident in their restricted range of speech acts<sup>(19)</sup>, which ruined conversational and narrative skills linked to scarcities in understanding other minds and to other features of the disorder, specifically in social functioning<sup>(17)</sup>.

Thirdly, children with autism are wretched in their development of copying abilities about both physical movements and activities on objects<sup>(20)</sup>. In the impairments of play, within free-play conditions, they express significantly less pretend play, but intact functional play as compared with the same chronological or mental aged groups<sup>(21)</sup>. Children with autism's restricted and repetitive behaviors ranged between higher-order motor symptoms including an encompassing preoccupation with certain interests or non-functional routines, and lower-order symptoms, containing stereotyped and repetitive motor mannerisms<sup>(22)</sup>.

Fourthly, children with autism were incapable of distinguishing between expressions of anger, scare, flatness, pleasure, and amazement in a familiar context, and their reactions were earmarked for certain emotional expressions<sup>(23)</sup>. Besides, aged between 8 and 10 months they cannot start to exercise their emotional expressions for social referencing<sup>(24)</sup>, which is observed in behavior, participation, and response to emotions corresponding roughly to emotional processing<sup>(25)</sup>.

Fifthly, autism creates difficulties with encoding, sequencing, and abstraction, which contributed to their slowed language development<sup>(26)</sup>. Besides, children do not respond

appropriately to others' emotional displays as compared to normal children<sup>(27)</sup>. Sixthly, physiological health problems are also consistent over the lifespan and are over-represented among young children with autism, including newborn babies who are later diagnosed with ASD, as well as among adults with ASD<sup>(28)</sup>.

Past studies explored the severity of clinical features of autism in different countries (such as social skills<sup>(10-11)</sup>, language<sup>(18-19)</sup>, behavior<sup>(22)</sup>, affection<sup>(23)</sup>, cognition<sup>(27)</sup>, and physical conditions<sup>(28)</sup>), but lack of evidence where all the six dimensions focused on DSM-V (the latest version) simultaneously explored in a single study in Bangladeshi context. Besides, several suspected factors (e.g., parents' education and income) are required to be ensured. This evidence is required for making an intervention plan to optimize the potential for more successful treatment outcomes and individual improvements<sup>(29-30)</sup>.

Another two issues motivate the current exploration. Firstly, in recent years, the Bangladesh government has given special attention to children with autism. Some reputed organizations and welfare foundations are working to help children with autism and their parents but due to a lack of updated evidence about clinical features, their work efficiency has been disturbed. Besides, it is hoped that a better understanding of autism would guide clinicians and future researchers toward more accurate and possibly earlier diagnosis as well as more effective treatment for ASD. Lastly, there is not enough information to make strong predictions as to which symptoms of autism are most or least severe. Considering all these issues, present investigators planned to conduct a study to identify the severity of socio-emotional, language, behavioral, affective, cognitive, and physical symptoms of Bangladeshi children with autism (according to DSM-V).

## Materials and Methods

A total of 36 parents of children with autism were selected as participants through purposive sampling techniques from three Autism Care Centers in the Bogura district of Bangladesh, where children with autism were already diagnosed by their assigned Psychiatrists. In addition, a focused-group discussion (FGD) and interview guide (including certain open-ended questions on autistic symptoms) were added, beginning with some simpler questions on daily activities, environmental factors, communication patterns, and the structure and functions of the individual. Among parents, the father's age ranged between 24 to 45 years, while the mother's age ranged between 21 to 35 years. Among the participating parents, 55.56% were mothers. 38.7% of the parent with ASD had an undergraduate degree or more, 31% had completed secondary or higher secondary education and 30.3% had lower secondary education.

A personal information form was used to collect socio-demographic information, including parents' age, gender, educational qualification, employment status, income, and family patterns and their children's age, gender, present severity of autism, and details of received treatment. The Clinical Features of Autistic Children questionnaire consisting of 35 items was used to measure the clinical features of autism, which was prepared in Bangla by following the symptoms of autism described in DSM-V and previous literature<sup>(31)</sup>; Autistic

disorders' signs and symptoms- Raising Children Network.au). It was classified into six domains, socio-emotional adjustment, language, behavior, affection, cognition, and physical condition. Each item has two options such as 'Yes' scored as '1' and 'No' scored as '0'. The number of items for each domain in the questionnaire was as follows: 11 items (6 positive and 5 negative items) for the socio-emotional adjustment, 10 items (2 positives and 8 negative items) in the language, 4 negative items for behavioral, 3 negative items for affection, 4 negative items for cognition, and 3 negative items for physical condition domain. The total score ranged between 0 to 35, while a lower score indicates more severity of the symptoms. It has good content validity and the internal consistency reliability was above .81.

Data were collected by personal interviewing with necessary instructions after establishing rapport with the participants by taking informed consent informing the purpose, importance, risk, and benefits of the study. This study was run by imitating the Helsinki Declaration ethical code<sup>(32)</sup>. In the study, the participants faced no potential risks (e.g., either physical, psychological, social, or legal), and the confidentiality of data was also assured.

## Results and Discussion

To describe the clinical features of children with autism, data were analyzed through mean, standard deviation, frequency, percentage, and correlation.

**Table 1. Frequency and percentage of participants responding to each response category for socio-emotional adjustment.**

	Symptoms (1-11)	Frequency ( <i>f</i> )		Percentage (%)	
		Yes	No	Yes	No
1.	Reciprocity in social relationships (+)	12	24	33.33	66.67
2.	The use of social or emotional gestures (+)	26	10	72.22	27.78
3.	Understanding the problem of rules governing social interaction (-)	15	21	41.67	58.33
4.	Impaired ability to form loving relationships (-)	20	16	55.56	44.44
5.	Attachment problems (-)	7	29	19.44	80.56
6.	Little interest in peer relationships and in sharing positive emotion (-)	26	10	72.22	27.78
7.	To use parents as a secure base (+)	33	3	91.67	8.33
8.	Seem to be in their world (-)	25	11	69.44	30.56
9.	Show little eye contact (-)	20	16	55.56	44.44
10.	Response to their names (+)	23	13	63.89	36.11
11.	Show interest in other children or peers (+)	19	17	52.78	47.22

*Note.* (+) = Positive Item, (-) = Negative Item.

As shown in Table 1 indicated that there are eleven symptoms under the socio-emotional domain, whereas six out of eleven symptoms were disrupted. Among these symptoms, in item 1, 33.33% of participants responded 'Yes', while 66.67% of participants responded 'No', indicating a small number of children with autism can reciprocate in social relationships. In response to the positive item regarding the ability to use social or emotional gestures, 72.22% of participants gave a "Yes" answer, indicating mostly children with autism can use social or emotional gestures. 58.33% of participants confessed that their children have no problems understanding the rules governing social interaction. Besides, 80.56% of parents responded that their children have no attachment problems with them and their siblings. In addition, 72.22% reported that children with autism have little interest in peer relationships and in sharing positive emotions, 91.67% of children with autism use parents as a secure base, and 69.44% also seem to be in their world. However, 55.56% reported their children's impaired ability to form loving relationships, 55.56% showed little eye contact, 63.89% can't respond to their names, and 52.78% showed interest in other children or peers. These findings reflect that most of the components of the social development of autistic children are poor within the majority of the children as compared to normal children. These findings are consistent with several earlier findings<sup>(12-13, 33-34)</sup>, which indicated that children with autism have a lack of reciprocity in social relationships, impaired ability to form loving and peer relationships, little interest in sharing positive emotion, seem to be in their world and showed little eye contact.

**Table 2. Frequency and percentage of participants responding to each response category for language.**

Symptoms (12-21)		Frequency (f)		Percentage (%)	
		Yes	No	Yes	No
12.	Developmental language delay (-)	32	4	88.89	11.11
13.	Lack of social conversation (-)	30	6	83.33	16.67
14.	Lack of creative language use in conversation (-)	28	8	77.78	22.22
15.	Pronominal reversal relationships (-)	5	31	13.89	86.11
16.	Echolalia (-)	14	22	38.89	61.11
17.	Idiosyncratic use of language (+)	17	19	47.22	52.78
18.	Have little or no babble (-)	32	4	88.89	11.11
19.	Have little or no spoken language (-)	26	10	72.22	27.78
20.	Pretend play (+)	13	23	36.11	63.89
21.	Have difficulty understanding and following interactions (-)	18	18	50.00	50.00

*Note.* (+) = Positive Item, (-) = Negative Item.

As results presented in Table 2 that there are ten symptoms under the language domain, where seven out of ten symptoms were apart from normal development. Among these symptoms, parents reported delayed language development (88.89%), lack of social conversation with other people (83.33%), lack of creative use of language in conversation (77.78%), and lack of pronominal reversal (86.11%), little or no babble (88.89%), and little or no spoken language (72.22%) of their children. In addition, 38.89% of children with autism do echolalia, and (47.22%) of them can idiosyncratically use language. 36.11% do pretend to play, and 50% have difficulty understanding and following interactions. These indicate that the language developments of children with autism are comparatively very sluggish. Similar results have been found in previous studies<sup>(1,18,26,34)</sup>, which reported that developmental language delay, lack of social conversation, lack of creative use of language in conversation, idiosyncratic use of language, little or no babble, have little or no spoken language and pretend play are common problems in children with autism.

**Table 3. Frequency and percentage of participants responding to each response category for behaviors.**

Symptoms (22-25)	Frequency ( <i>f</i> )		Percentage (%)	
	Yes	No	Yes	No
22. Absence of imaginative play (-)	25	11	69.44	30.56
23. Have an intense interest in certain objects (-)	29	7	80.56	19.44
24. Insist on following routines and be easily upset by change (-)	26	10	72.22	27.78
25. Show repetitive or unusual body movements (-)	22	14	61.11	38.89

*Note.* (-) = Negative Item.

Table 3 indicated that there are four symptoms under the behavior domain. Among these symptoms, 80.56% of parents of children with autism parents reported that their children had an intense interest in certain objects, and 72.22% show they insist on following routines and are easily upset by change. Moreover, 61.11% and 69.44% of respondents thought that their children show repetitive or unusual body movements (e.g., back-arching, hand-flapping, or walking on toes) and have a lack of imaginative play, respectively. This reflects that the behavioral developments were comparatively worse. These results are consistent with several earlier findings<sup>(20, 34)</sup> which found that the absence of imaginative play, an intense interest in certain objects, insistence on following routines and being easily upset by change, and showing repetitive or unusual body movements are common problems in children with autism.

**Table 4. Frequency and percentage of participants responding to each response category for affection.**

Symptoms (26-28)	Frequency (f)		Percentage (%)	
	Yes	No	Yes	No
26. Inappropriate emotional impression (-)	25	11	69.44	30.56
27. Fears and phobias common in younger cases (-)	13	23	36.11	63.89
28. Occasionally, intense negative emotional responses to change (-)	21	15	58.33	41.67

*Note.* (-) = Negative Item.

Further, Table 4 reported that there are three symptoms under the affection domain. Among these symptoms, 69.44% showed inappropriate emotional impressions and 58.33% occasionally show intense negative emotional responses to change. However, one-third (36.11%) showed fears and phobias which are common in younger cases. These indicate the behavioral developments of children are comparatively very poor. Past studies also found that the absence of inappropriate emotional impressions and occasionally intense negative emotional responses to change are common problems in children with autism<sup>(27, 34)</sup>.

**Table 5. Frequency and percentage of participants responding to each response category for cognition.**

Symptoms (29-32)	Frequency (f)		Percentage (%)	
	Yes	No	Yes	No
29. Difficulties with social problem solving (-)	27	9	75.00	25.00
30. Difficulties with interpersonal problem solving (-)	27	9	75.00	25.00
31. Islets of ability (-)	9	27	25.00	75.00
32. Visuospatial IQ greater than verbal IQ (-)	31	5	86.11	13.89

*Note.* (-) = Negative Item.

The results presented in Table 5 showed that there are four symptoms of the cognitive development domain, while three were not normal. Among these symptoms, three-fourth (75.00%) of respondents reported that children with autism have difficulties with social and interpersonal problem solving and 86.11% of their visuospatial IQ is greater than verbal IQ. However, one-fourth of children (25.00%) have islets of ability. These indicating the cognitive development of children was comparatively worse. These findings are similar to several earlier findings<sup>(26, 34)</sup>, which found that difficulties with social problem-solving,

difficulties with interpersonal problem-solving, and visuospatial IQ greater than verbal IQ are common problems in children with autism.

**Table 6. Frequency and percentage of participants responding to each response category for physical condition.**

Symptoms (33-35)	Frequency (f)		Percentage (%)	
	Yes	No	Yes	No
33. Enuresis and encopresis (-)	11	25	30.56	69.44
34. Show self-injurious behavior (-)	14	22	38.86	61.11
35. To develop epilepsy in late adolescence (-)	14	22	38.86	61.11

*Note.* (-) = Negative Item.

The results presented in Table 6 revealed that there are three symptoms under the physical development domain. Among children with autism, enuresis and encopresis problems (30.56%), self-injurious behavior (38.86%), and developing epilepsy in late adolescence (38.86%). This reflects that the physical developments of children with autism are comparatively not too bad. These results are consistent with several earlier findings<sup>(34)</sup>, which found enuresis and encopresis problems, self-injurious behaviors, and epilepsy in late adolescence are common problems in children with autism.

**Table 7. The average percentage of response within six dimensions of autism based on the symptoms of DSM-V.**

Dimensions (DSM-V)	Percentage (%) of parent's response to autism symptoms	
	Yes (%)	No (%)
Dimension 1: Socio-emotional	57.07	42.93
Dimension 2: Language	59.72	40.28
Dimension 3: Behaviors	70.83	29.17
Dimension 4: Affection	54.63	45.37
Dimension 5: Cognition	65.28	34.72
Dimension 6: Physical condition	36.10	63.90

The results in Table 7 showed that more than half of the parents reported that their children with autism have problems in socio-emotional development, language, behaviors communication, affection, and cognition but around one-third of parents reported that their children with autism have physical problems. Besides, according to the parent's report, the worst problems are seen in behavioral dimensions as compared to other dimensions.



**Table 8. Correlations of six dimensions with parent's education and family income.**

Dimensions	Father's education	Mother education	Family income
1. Socio-emotional	0.29	0.11	0.30
2. Language	0.18	0.20	0.23
3. Behaviors	0.07	0.22	0.02
4. Affection	0.08	0.09	0.21
5. Cognition	0.12	0.20	0.16
6. Physical condition	0.03	0.08	0.19

The results of the correlation coefficient presented in Table 8 indicated that there is no significant correlation between the six dimensions of ASD children with the variations in their parental educational qualifications and income. However, one limitation of our study is the small sample size and the data were collected from only one city in Bangladesh, which may restrict the generalizability of the findings over a larger population.

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*(Manuscript received on 22 August, 2023; accepted on 28 December, 2023)*



