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Original Research Article

CLINICAL PROFILE IN AUTISTIC CHILDREN

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ABSTRACT

Background: Autism spectrum disorder (ASD) is a complex development condition involving persistent challenges with social communication, restricted interest, and repetitive behaviour. This study was conducted to assess the various clinical profiles of autistic children and the severity of the disease using the Indian Standard Assessment for Autism (ISAA) scale.

Materials and Methods: This is a cross-sectional observation study conducted at Department of paediatrics and neuro centre Telangana, India., over 6 months. 101 children diagnosed with autism spectrum disorder were assessed with detailed birth, developmental history, behavioural issues, screen time, and physical examination.

Results: Among the total subjects, 88(87.1%) of children (56 - complete & 32 - partial) are experiencing a Lack of social smile, 77(76.2%) of children are experiencing a Lack of joint attention, and all subjects are having a Lack of eye contact in which 39% of children are completely lacking it while 61% of are partially lacking eye contact. 63% of children (60% - complete & 3% - partial) are not responding to their names, 50(49.5%) of children are failed to use gestures, 71(70.2%) of children had no proper/meaningful speech, 44(43.5%) of children are not obeying verbal commands while 57(56.4%) of children are obeying them and in 62(61.3%) of children motor stereotypes are present, 62(61.3%) of children had unusual play habits, 60(59.4%) of children are experiencing lack of imaginative play, in 18(17.8%) children there is a presence of self-injurious behaviour. In 19(18.8%) of children, there is a history of epilepsy, 50(49.5%) of children are experiencing echolalia, 50(49.5%) of children there are sleep issues and 54(53.4%) of children had a lack of fear of danger. 86(85.1%) of children are experiencing restlessness and 45(44.5%) of children insisted on sameness.

Conclusion: Autistic children presented with varying clinical features. There is a need for increased awareness about ASD to facilitate early diagnosis and intervention. In the current study most ASD patients are male and with majority of the symptoms and screen addiction and most of the patients are in mild to moderate conditions. Early recognition of symptoms would help in appropriate therapeutic intervention resulting in favourable outcome.

Keywords: Autism, Screen watch, ISAA, Speech delay.

INTRODUCTION

An early-onset neurodevelopmental syndrome with a hereditary component is autism spectrum disorder (ASD). The range of its clinical presentations is immense. The Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM5),[1] states that stereotyped behaviors, limited interests, and ongoing challenges with communication and social relationships are the hallmarks of ASD. It is estimated that 62 out of every 10,000 children have ASD.[2] Etiologic heterogeneity is evident in ASDs, and neither a definite medical diagnostic nor a cure exists for these illnesses.[3] Global studies show that the number of youngsters receiving an autism diagnosis is higher than it has ever been. Studies conducted all around the world in the last ten or so years have suggested that the number of instances of

autism has increased by 50% to over 2,000%. On the other hand, no particular community-based research has been done in India regarding the incidence or prevalence of autism or ASD.[4] The causes of Autism may vary from person to person, but the most potential causes are genetic factors and screen watching. Thanks to a much deeper understanding of the probable variety of behaviors seen at different ages and degrees of functioning, our understanding of the clinical picture of autism has altered considerably over the past ten years.[5] Autism is represented by peculiar and repetitive behavior as well as deficiencies in social interaction and communication. While a specific set of behaviors characterizes autism, children can have any combination of these behaviors, at any severity level. Individual behavioral traits and cognitive capacities, the severity of the problem, the coexistence of additional medical conditions, and environmental factors all vary among children with autism spectrum disorders.[6] A common need for consistency and structure is seen in many autistic children. Early treatments might lessen uncontrollable behaviors and enhance communication abilities. The Indian Scale for Assessment of Autism (ISAA) is a diagnostic tool used to identify children with ASD. It comprises 40 items that represent diverse problematic behaviors associated with the disorder. The six areas that this measure addresses include social relationships and reciprocity; speech, language, and communication; emotional response; behavior patterns; sensory characteristics; and cognitive components. There is a minimum of 40 possible points and a maximum of 200 possible points. Less than 70 denotes no autism, 70–106 mild autism, 107–153 moderate autism, and greater than 153 severe autism.[7]

MATERIAL AND METHODS

We conducted a cross sectional observation study to assess the clinical profile of autistic children. The study was conducted in Department of paediatrics and neuro centre Telangana, India. This study was conducted over 6 months on 101 subjects. The subject selection was done based on clinical diagnosis of ASD. Subjects diagnosed with ASD associated with other diseases were excluded. Data was collected from the data collection form and the score was obtained from the ISAA scale. In this study, we included children who are clinically diagnosed with ASD and excluded children who have clinical diagnoses other than ASD and other comorbidities.

Data collection was carried out using an anonymous data collection form which includes socio-demographic details of the child, detailed birth, developmental history, behavioral issues, screen time, and physical examination.

RESULTS

In our study, 101 subjects were included, according to our inclusion criteria. Among 101 patients, 75(74.2%) of males are present while 26(25.7%) were females. Most of the subjects i.e., 55(54.4%) of patients are from urban areas whereas 46(45.5%) are from rural areas.

Of these subjects, only 23(22.7%) of children's parents had a consanguineous type of marriage while 78(77.2%) of children's parents had a non-consanguineous type of marriage. 38(37.6%) of children had a history of NICU stay while 63(62.3%) of children had no history of it. In most cases, the first visit was at an age of 3 – 4 years. [Table 1]

Among the total subjects, 88(87.1%) of children (56 - complete & 32 - partial) are experiencing a Lack of social smile, 77(76.2%) of children are experiencing a Lack of joint attention, and all subjects are having a Lack of eye contact in which 39% of children are completely lacking it while 61% of are partially lacking eye contact. 63% of children (60% - complete & 3% - partial) are not responding to their names, 50(49.5%) of children are failed to use gestures, 71(70.2%) of children had no proper/meaningful speech, 44(43.5%) of children are not obeying verbal commands while 57(56.4%) of children are obeying them and in 62(61.3%) of children motor stereotypes are present, 62(61.3%) of children had unusual play habits, 60(59.4%) of children are experiencing lack of imaginative play, in 18(17.8%) children there is a presence of self-injurious behavior. In 19(18.8%) of children, there is a history of epilepsy, 50(49.5%) of children are experiencing echolalia, 50(49.5%) of children there are sleep issues and 54(53.4%) of children had a lack of fear of danger. 86(85.1%) of children are experiencing restlessness and 45(44.5%) of children insisted on sameness. [Table 2]

In 85(84.1%) of children there is screen addiction, in which most of the children started screen watching at the age of 2 years (i.e.,27% of children), 3 years (i.e.,20% children) and 18months (i.e., 12% children) And had a screen watch duration of 1hr (4 children), 2hr (25 children), 3hr (29 children), 4hr (10 children), 5hr (17 children) and 6hr (3 children). [Table 2 & 3]

Based on the ISAA scale scoring ASD is divided into various severity levels, that is among 101 patients, 44(43.5%) of children had mild autism, 45(44.5%) of children had moderate autism while 12(11.8%) of children had severe autism. [Table 4]

Table 1: Demographic data results of children

DEMOGRAPHICS		RESULTS	
		In Number	In Percentage (%)
GENDER	Male	75	74.2%
	Female	26	25.7%

MARRIAGE	Consanguineous	23	22.7%
	Non- Consanguineous	78	77.2%
AREA	Urban	55	54.4%
	Rural	46	45.5%
BIRTH TYPE	LSCS	70	69.3%
	NVD	31	30.6%
NICU STAY	NICU	38	37.6%
	NON NICU	63	62.3%
AGE OF VISIT TO HOSPITAL	2 – 3Yr	26	25.7%
	3 – 4Yr	40	39.6%
	4 – 5Yr	18	17.8%
	5 – 6Yr	10	9.9%
	>6Yr	07	6.93%

Table 2: Clinical features of the patients

CLINICAL FEATURES		RESULTS	
		In Nmbr	In Percentage (%)
Lack of social smile	Partially present	32	31.6%
	Completely present	56	55.44%
	Absent	12	11.8%
Lack of joint Attention	Present	77	76.23%
	Absent	23	22.7%
Lack of eye contact	Completely present	39	38.6%
	Partially present	62	61.3%
Response to name	Responding	37	36.63%
	Not Responding	61	68.3%
	Partial Response	03	2.97%
Failure to use Gestures	Present	50	49.5%
	Absent	51	50.49%
Verbal commands	Following	57	56.43%
	Not following	44	43.56%
Motor stereotypes	Present	62	61.38%
	Absent	39	38.61%
Unusual play	Present	62	61.38%
	Absent	39	38.61%
Lack of Imaginative Play	Present	60	59.4%
	Absent	41	40.5%
Self-injurious Behaviour	Present	18	17.8%
	Absent	83	82%
Epilepsy	Present	19	18.8%
	Absent	82	81%
Echololia	Present	64	63.36%
	Absent	37	36.63%
Sleep issues	Present	50	49.5%
	Absent	51	50.49%
Lack of fear of Danger	Present	54	53.46%
	Absent	47	46.5%
Screen watch	Present	85	84.15%
	Absent	16	15.84%
Restlessness	Present	86	85.14%
	Absent	15	14.85%
Insist on sameness	Present	45	44.5%
	Absent	56	55.45%
No meaningful Speech	Present	71	70.29%
	Absent	30	29.7%

Table 3: Screen watch start age

SCREEN WATCH START AGE	**4Yrs**	**05**	**4.95%**
	3Yrs	20	19.8%
	31 months	02	1.98%
	30 months	02	1.98%
	24 months	27	26.7%
	20 months	04	3.96%
	18 months	12	11.8%
	14 months	03	2.97%
	12 months	13	12.8%

Table 4: Severity of ASD

SEVERITY	**Mild**	**44**	**43.5%**
	Moderate	45	44.5%
	Severe	12	11.8%

DISCUSSION

Autism spectrum disorders, which encompass a collection of neurodevelopmental diseases, denote a behavioural syndrome that is clinically evident and typically emerges during the early stages of childhood.[8] The primary manifestations of autism spectrum disorders (ASDs) encompass the absence or atypical reciprocal interpersonal and emotional interactions, compromised language and communication abilities, and the presence of repetitive or stereotypical behavioural patterns. This illness has a global impact on populations. The global prevalence of ASDs is still unspoken.[9]

Since 2000, the majority of research undertaken worldwide have indicated a prevalence rate of 62 per 10,000 individuals for all autism spectrum disorders (ASDs). Research on Autism Spectrum Disorders (ASDs) in India has been focused on hospital settings or specific settings for children with autism.[10-15]

In the current study 101 subjects were included, according to our inclusion criteria. Among 101 patients, 75(74.2%) of males are present while 26(25.7%) were females. According to this, Males are mostly affected by ASD than females. A meta-analysis of 37prevalence studies of autism reported from USA, UK, European countries and Japan has estimated that boys are affected more often than girls and the average male: female ratio is 3.8:1.21. Our study was consistent with the literature. Another similar study conducted by Khader et al., 2019 reported that higher prevalence of autism in men than in women, has led to the suggestion of strong genetic basis and possibility of relation with prenatal brain exposure to androgens.[16]

Most of the subjects i.e., 55(54.4%) of patients are from urban areas whereas 46(45.5%) are from rural areas because in urban areas, mostly single nuclear families are present and in most of the cases both parents are employed, and unable to interact with the child properly which may affect the child development and nutrition. During the child development stage proper diet and care of parents are very important. Another similar study conducted by Bhat et al 2019 reported that Majority of the patients (63.63%) belonged to urban area which can be explained by the overall rural and urban division of the population in the state of J and K, where the majority of the population still resides in urban areas.[17]

These subjects, only 23(22.7%) of children's parents had a consanguineous type of marriage while 78(77.2%) of children's parents had a non-consanguineous type of marriage. So according to our study, consanguineous marriages do not affect the child but may be considered as one of the risk factors for total subjects, 38(37.6%) of children had a history of NICU stay while 63(62.3%) of children had no history of it so NICU stay does not relate to the ASD. Oneib et al conducted a study and reported in their studies that 26.9% of the children are born from a consanguineous marriage.[18] A study carried out in Rabat found 23% of inbreeding cases in their results (n=53 and n=90).[19]

In most cases, the first visit was at an age of 3 – 4 years, but this not mostly affected age the problem was earlier to this age but parents noticed it when they try to send children to school and another reason is parents waited up to 3 years because of a common myth that they can get speech after 3 years.

Among the total subjects, 88(87.1%) of children (56 - complete & 32 - partial) are experiencing a Lack of social smile, 77(76.2%) of children are experiencing a Lack of joint attention, and all subjects are having a Lack of eye contact in which 39% of children are completely lacking it while 61% of are partially lacking eye contact. 63% of children (60% - complete & 3% - partial) are not responding to their names, 50(49.5%) of children are failed to use gestures, 71(70.2%) of children had no proper/meaningful speech, 44(43.5%) of children are not obeying verbal commands while 57(56.4%) of children are obeying them and in 62(61.3%) of children motor stereotypes are present, 62(61.3%) of children had unusual play habits, 60(59.4%) of children are experiencing lack of imaginative play, in 18(17.8%) children there is a presence of self-injurious behaviour. In 19(18.8%) of children, there is a history of epilepsy, 50(49.5%) of children are experiencing echolalia, 50(49.5%) of children there are sleep issues and 54(53.4%) of children had a lack of fear of danger. 86(85.1%) of children are experiencing restlessness and 45(44.5%) of children insisted on sameness.

In 85(84.1%) of children there is screen addiction, which may be due to lack of interaction and care of parents during the development of the child in which most of the children started screen watching at an age of 2 years (i.e.,27% of children), 3 years (i.e.,20% children) and 18months (i.e., 12% children) And had a screen watch duration of 1hr (4 children), 2hr (25 children), 3hr (29 children), 4hr (10 children), 5hr (17 children) and 6hr (3 children). Based on the ISAA scale-scoring ASD is divided into various severity levels: Among 101 patients – 44(43.5%) of children had mild autism. 45(44.5%) of children had moderate autism. 12(11.8%) of children had severe autism.

According to a comprehensive assessment of early ASD diagnosis, many children with ASDs show some discernible difficulties in social interactions throughout the first year of their lives. Given what is currently known about the developmental challenges faced by children with ASDs, it is possible to diagnose the disorder in a significant number of cases relatively early in life. Studies have shown that many youngsters do not acquire a diagnosis until they are of school age, despite the fact that autism spectrum disorders (ASDs) are becoming more and more well-known and that we can recognise their early warning symptoms. The lack of qualified specialists to diagnose ASDs further exacerbates

this. Arun and Chavan discovered the Chandigarh Autism Screening Instrument to be a valid tool in their attempt to create a screening tool for multipurpose health workers to use in a large-scale ASD screening of the Hindi-speaking population in North India. However, they recommended assessing the tool's utility in a more extensive community study. While there are numerous reasons why it is crucial to diagnose ASDs in children at an early age, the primary one is to improve their functioning by initiating early intervention, which may work better for younger children. Research indicates that early interventions improve a kid's long-term prognosis, and that these treatments have dwindling effects as the child ages. The functional benefits of early intervention have been linked to significant cost savings for families of children with ASDs as well as the settings in which they are serviced, according to numerous studies. Dalwai et al. recommended that a definitive diagnosis is not required for initiating intervention, which should start as early as possible and target core features of ASDs.[20] The intervention should be specific, evidence-based, structured, and appropriate to the child's developmental needs in order to provide consensus guidelines on evaluation and management of ASDs in children in India. They also suggested that interdisciplinary teams lead by paediatricians should be responsible for managing these kids. The male to female ratio in our study was 3.58:1, with 78.18% of the participants being men. Studies on the distribution of gender in ASDs have consistently found two things. First, the majority of ASD cases are male, with a roughly four-to-one sex ratio across the board. Second, compared to males with ASDs, girls with clinically diagnosed ASDs typically have lower IQs. Since IQ and ASD symptoms are inversely correlated, intelligence may be a confounding factor in research on sex differences in ASDs, so it's important to account for its effects. However, as research has indicated that children's help seeking differs depending on gender, a bias favouring male predominance could not be completely ruled out in our analysis.[21,22]

CONCLUSION

According to our study, we concluded that Males are more affected by ASD when compared to females. In addition, most ASD patients are from urban localities most families are single nuclear families and parents are unable to take care of children during their developmental stage. The first visit to the clinic was at the age of 3 – 4 years.

With our analysis, we observed almost 85 children with screen addiction for 3 hours. Most of the patients with ASD were in mild and moderate conditions.

Abbreviations

Autism spectrum disorder: ASD

Indian Standard Assessment for Autism: ISAA

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