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RESEARCH

Categorical states of Autism by using ADCL (Autism Detecting Check-List) in Dhaka

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Abstract:

     Autism is known as a complex developmental disorder which varies widely in severity and symptom and may go unrecognized, especially in mildly affected children or masked by more debilitating handicaps. This cross-sectional study was conducted among conveniently selected 200 autistic children attended in Institute of Paediatric Neurodisorder & Autism (IPNA), Bangabandhu Sheikh Mujib Medical University. Autistic children were categorized into mild, lower moderate, higher moderate and severe. About 44% and 35% children came from 3-5 years and <3 years' age group whereas two-third were boys and one-third were girls. Most of the mothers were

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middle age group and completed SSC to post graduate level education. About 31.5%, 39.5% and 29% family had monthly income 5000-15000, 16000-30000and >30000 BDT. Mild, low moderate, high moderate and severe autism were 62%, 24%, 7.5% and 6.5%. Significant association was found between age group of children and category of autism i.e mild autism was more prominent in early age (p=0.001<0.05).

Key words: Category of autism, ADCL

INTRODUCTION

Autism is a complex neurodevelopmental disorder characterized by impaired social interaction and communication, and restricted and repetitive behavior. Autism affects information processing in the brain. However how does this occur is not well understood.[1] The first appearance of autism starts during infancy or childhood, and generally follows a steady course without remission. Overt symptoms gradually begin after the age of six months, become established by age two or three years, and tend to continue through adulthood, although often in more muted form.[2] Autism can be a difficult disorder to understand due to the diverse ranges of abilities. The American Academy of Pediatrics (AAP) recommends ASDs screening in children age 18 and 24 months as part of developmental surveillance during regular health visits.[3] There are many valuable screening tools designed, such as the Checklist for Autism in Toddlers (CHAT)[4-5], the Modified Checklist for Autism in Toddlers (M-CHAT)[6-7], the Screening Test for Autism in Two-Year-Olds (STAT)[8] and the Pervasive Developmental Disorders Screening Test-II (PDDST-II)[9]. All of these tools, except the STAT, are designed as first-level screens (i.e. the tools are administered to all children to differentiate children who are at risk of ASDs from the general population).

MATERIAL AND METHODS

This cross-sectional study was conducted among conveniently selected 200 autistic children attended in Institute of Paediatric Neurodisorder & Autism (IPNA), Bangabandhu Sheikh Mujib Medical University during the period of January to March, 2016. Autistic children were categorized into mild, low moderate, high moderate and severe.[10] Data were analyzed by computer based statistical software 'Statistical Package for Social Science (SPSS) program for windows version 22.0. All quantitative variables were expressed as mean (±SD). Qualitative data were expressed as frequency and percentage and comparison between groups was done by chi-square test. p value ≤0.05 was considered to be significant.

RESULT

Table 1 shows 44% and 35% children came from 3-5 years and <3 years' age group whereas two-third were boys and one-third were girls. Most of the mothers were middle age group and completed SSC to post graduate level education. About 31.5%, 39.5% and 29% family had monthly income 5000-15000, 16000-30000and >30000 BDT. Most of the siblings were in number 1 and family member were 3-6 in number. Mild, low moderate, high moderate and severe autism were 62%, 24%, 7.5% and 6.5%. Significant association was found between age group of children and category of autism i.e mild autism was more prominent in early age (p=0.001<0.05).

Table 1: Sociodemographic condition of study subjects (n=200)

Variables	Frequency	Percentage
Age in year		
<3	70	35
3-5	88	44
6-10	29	14.5
11-12	13	6.5

Sex		
Boys	141	70.5
Girls	59	29.5
Age of mother		
19-28	84	42
29-38	98	49
39-48	18	9
Education of mother		
Illiterate	4	2
Primary to SSC	45	22.5
HSC to graduate	81	40.5
Post graduate	70	35
Monthly family income		
5000-15000	63	31.5
16000-30000	79	39.5
>30000	58	29
Sibling		
1	159	79.5
2-3	38	19
≥4	3	1.5
Family member		
3-4	88	44
5-6	82	41
>6	30	15

Table 2: Categorical states of Autism by using ADCL

Category of autism	Frequency	Percentage
Mild	124	62
Low moderate	48	24
High moderate	15	7.5
Severe	13	6.5

Table 3: Association between age group and categorical states of Autism

Age group in years	Category of autism				Total	χ2	p value
	Mild	Low moderate	High moderate	Severe			
<3	55(27.5)	10(5)	3(1.5)	2(1)	70(35)	45.300	0.001
3-5	52(26)	24(12)	3(1.5)	9(4.5)	88(44)		
6-10	14(7)	10(5)	3(1.5)	2(1)	29(14.5)		
11-12	3(1.5)	4(2)	6(3)	0(0)	13(6.5)		

DISCUSSION

CDC's most recent estimate is that 1 out of every 68 children, or 14.7 per 1,000, have some form of ASD as of 2010.[11] Reviews tend to estimate a prevalence of 6 per 1,000 for autism spectrum disorders as a whole[12], although prevalence rates vary for each of the developmental disorders in the spectrum. Autism prevalence has been estimated at 1-2 per 1,000, Asperger syndrome at roughly 0.6 per 1,000, childhood disintegrative disorder at 0.02 per 1,000, and PDD-NOS at 3.7 per 1,000.[12] These rates are consistent across cultures and ethnic groups, as autism is considered a universal disorder.[13] While rates of autism spectrum disorders are consistent across cultures, they vary greatly by gender, with boys affected far more frequently than girls. The average male-to-female ratio for ASDs is 4.2:1,[14] affecting 1 in 70 males, but only 1 in 315 females.[15] Females, however, are more likely to have associated cognitive impairment. Among those with an ASD and intellectual disability, the sex ratio may be closer to 2:1.[16] The present study found similar findings i.e two-third of the autistic children were boys and one-third were girls (2:1). Autism spectrum disorders are thought to follow two possible developmental courses, although most parents report that symptom onset occurred within the first year of life.[17-18] One course of development is more gradual in nature, in which parents report concerns in development over the first two years of life and diagnosis is made around 3–4 years of age. Significant association was found between age group of children and category of autism i.e mild autism was more prominent in early age but may be it was undiagnosed in early period of life.

CONCLUSION

It is concluded from the study that mild autism starts early age and symptoms become more visible as age increases.

REFERENCES

1. Levy SE, Mandell DS, Schultz RT. Autism. Lancet 2009; 374(9701):1627–38.
2. Rapin I, Tuchman RF. Autism: definition, neurobiology, screening, diagnosis. Pediatr Clin North Am 2008; 55(5):1129–46.
3. Johnson CP, Myers SM. Identification and evaluation of children with autism spectrum disorders. Pediatrics 2007;120(5):1183-215
4. Baron-Cohen S, Allen J, Gillberg C. Can autism be detected at 18 months? The needle, the haystack, and the CHAT. Br. J Psychiatry 1992;161:839-43
5. Baron-Cohen S, Cox A, Baird G, Swettenham J, Nightingale N, Morgan K, Drew A, Charman T. Psychological markers in the detection of autism in infancy in a large population. Br. J Psychiatry 1996;168(2):158-63
6. Kleinman JM, Robins DL, Ventola PE, Pandey J, Boorstein HC, Esser EL, Wilson LB, Rosenthal MA, Sutera S, Verbalis AD, Barton M, Hodgson S, Green J, Dumont-Mathieu T, Volkmar F, Chawarska K, Klin A, Fein D. The modified checklist for autism in toddlers: a follow-up study investigating the early detection of autism spectrum disorders. J Autism Dev. Disord 2008; 38(5):827-39
7. Robins DL, Fein D, Barton ML, Green JA. The Modified Checklist for Autism in Toddlers: an initial study investigating the early detection of autism and pervasive

developmental disorders. J Autism Dev. Disord 2001; 31(2):131-44

8. Stone WL, Coonrod EE, Ousley OY. Brief report: screening tool for autism in two-year-olds (STAT): development and preliminary data. J Autism Dev. Disord 2000;30(6):607-12

9. Siegel B. Pervasive developmental disorders screening test-ii (pddst-ii). San Antonio: Harcourt. 2004

10. Banerjee M. Autistic Diagnostic Check-List. Indian Journal of Clinical Psychology 2007; 34(1):83-93

11. http://www.cdc.gov/ncbddd/autism/index.html

12. Newschaffer CJ, Croen LA, Daniels J, et al. The epidemiology of autism spectrum disorders. Annu Rev Public Health 2007;28:235–58

13. Mash & Barkley. Child Psychopathology. New York: The Guilford Press. pp. 2003;409–454

14. Fombonne E. Epidemiology of Pervasive Developmental Disorders. Pediatric Research. 2009;65(6):591–598

15. Prevalence of autism spectrum disorders-Autism and Developmental Disabilities Monitoring Network. MMWR Surveillance Summary. 2009;58:1–20

16. Volkmar FR, Lord C, Bailey A, Schultz RT, Klin A. Autism and pervasive developmental disorders. Journal of Child Psychology and Psychiatry. 2004;45(1):135–170

17. Zwaigenbaum L, Bryson S, Lord C, et al.. Clinical assessment and management of toddlers with suspected autism spectrum disorder: insights from studies of high-risk infants. Pediatrics. May 2009;123(5):1383–91

18. Lord C. Follow-up of two-year-olds referred for possible autism. Journal of Child Psychology and Psychiatry. 1995;36(8):1365–1382.