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DIFFERENT COMORBIDITIES AND SOCIODEMOGRAPHIC FACTORS IN CHILDREN WITH AUTISM SPECTRUM DISORDER

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ABSTRACT

Introduction: Autism spectrum disorder (ASD) is a common neurodevelopmental disorder which causes impairment of socialization, communication and behavior. Early identification and diagnosis is very important for the management of it. Different comorbidities and sociodemographic play an important role to identify and detection of severity. **Objectives:** To ascertain the sociodemographic factors, different comorbidities and their need for early management. **Methodology**: It is an observational study which was done in Dhaka Shishu (Children) Hospital. Different children with communication disorders are referred to Child development center (CDC) here from all over the country. All the Patient come with the complaints of communication problem in OPD and CDC clinic from January 2019-june 2019 were taken in the study after screening with MCHAT (modified checklist for autism) for below 4 years and SCQ for more than 4 years. After screening all cases are refereed to mental health general assessment clinic of CDC where according to DSM V it is further characterized and according to severity children are categorized as level I, II, III. Full psychological assessment was also done. **Result:** Total 158 children were included in this study. Male female ratio is 1.1:1. 53.6% is male and 46.4% is female. Male child, below 4 years of age and children came from urban and nuclear family had high frequency of autism. Seizure occurs more in level II and level III and P value is statistically significant. Sleep problem, intellectual impairment and learning disabilities are not found statistically significant. Hyperactivities and sensory issues had significant association with severity. **Conclusion**: In this study we saw different factors including sociodemographic and comorbidities which should be considered as important factors for management. Male child, below 4 years, urban area, and nuclear family has high frequency. In case of comorbidities seizure, hyperactivities and sensory issues.

KEYWORDS: Autism spectrum disorder, hyperactivities, sensory.

INTRODUCTION

Autism is a neurodevelopmental disorder, with a multifactorial etiology, characterized by persistent deficits in social communication and social interaction and the presence of restrictive and stereotyped patterns of behavior, interests, or activities.[1]

Changes to diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-V) included eliminating several sub diagnostic categories (i.e., Asperger syndrome, pervasive developmental disorder not otherwise specified, disintegrative disorder) and using only one term: ASD.[2,3] In Bangladesh 2013 pilot study prevalence of all kinds of neurodevelopmental disability is 7.1%. Whereas, for ASD, the study indicates a prevalence of 0.15% (3% in Dhaka city and 0.07% in rural area).[4] In Bangladesh in a study it showed that prevalence on autism in Bangladesh is 8.5/ 1000 population.[5] Autism in rural community in Bangladesh in a specific age group of children (18 – 36 months) was found .075%.[4] A national level study in Bangladesh during 2013 used community health workers, has found prevalence of ASD; the study indicates a prevalence of 1.5/ 1000 (30/ 1000 in Dhaka city and 7/ 10,000 in rural area) within a population of 7200 from eight site.[7] In Bangladesh, some hospital based studies show that the autism related reported cases are increasing which may be due to increased rate of incidence, awareness or both.[8] Socioeconomic factors have a major epidemiological value which may be considered as an effective factor in developing, aggravating or preventing a diseased or unusual condition upon the human body.[9] In DSM V criteria there is an important addition of severity leveling which helps in management the condition. In autism spectrum disorder different comorbidities determines the severity of the disease. Early detection and management can give the better outcome.

OBJECTIVES

This study is done to ascertain the different sociodemographic factors and comorbidities and their need for early management.

METHODOLOGY

It is an observational study which was done in Dhaka Shishu (Children) Hospital. Dhaka shishu hospital is a tertiary care hospital and referral hospital where different children with communication disorders are referred from different part of country to Child development center (CDC). All the children came to OPD and CDC clinic with communication and socialization problems in 6months from January 2019-june 2019 were taken in the study after screening with MCHAT (modified checklist for autism) for below 4 years and above 4 years screening was done by SCQ (Social and communication questionnaire) either by caregivers or by parents, occasionally. If screening were positive then DSM V was applied by a physician and severity is categorized as level I, II, III.

- In level I. Requiring support: At this level, it's tough to start or maintain contact with others, and someone like this might have few friends. It's also hard to plan ahead or switch from one activity to another
- Level II: Requiring substantial support: Limited social interactions are common, and verbal and nonverbal communication skills are limited. Repetitive motions are noticed by others. Coping with change is difficult or impossible without these self-soothing acts.
- Level III: Requiring very substantial support: Verbal skills are impaired, and it's tough to hold or sustain conversations with others. Repetitive behaviors and an inability to deal with change interfere with overall functioning.
- CDC outpatient department, CDC clinics are run by Child health physician, psychologist and developmental therapist. Different comorbidities like seizure, hyperactivities, sleep problems intellectual impairment, learning difficulties were seen. A structured questionnaire was applied. Verbal consent was taken from the parents.

RESULT

Total 158 children were included in this study. Among them 87 were male and 71 were female. Male female ratio is 1.1:1.

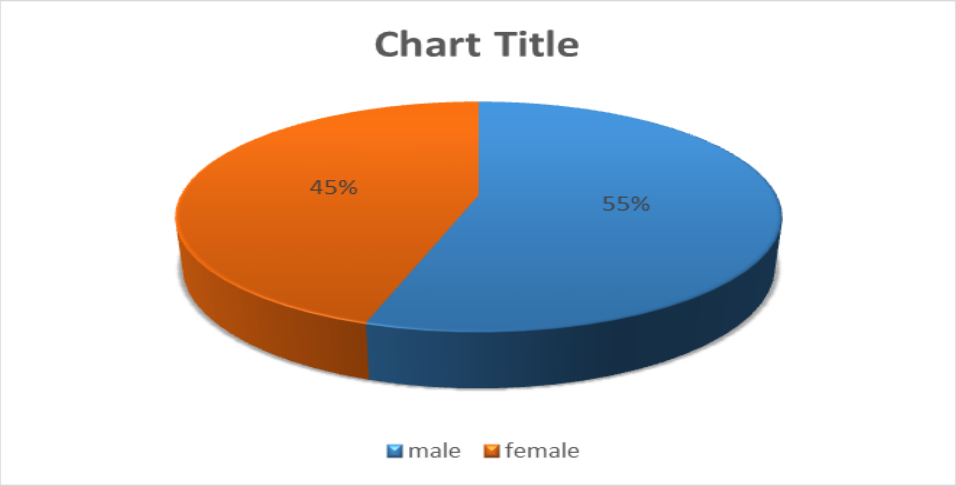

Fig I: Distribution of sex.

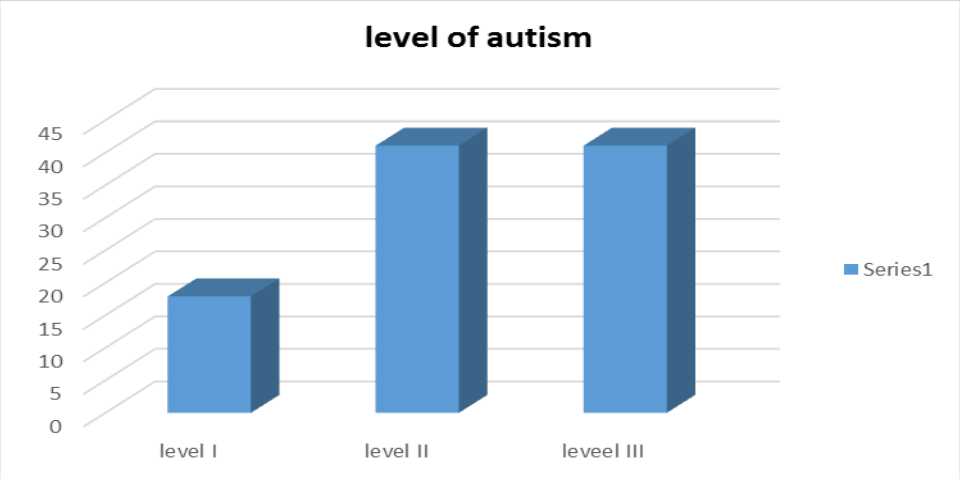

Fig II: level of autism.

In figure II it is shown that severity of autism is categorized in 3 levels according to DSM V. As the study place is a tertiary care center, here level II and level III 35- 40 and level I is 15-20.

Table I: Sociodemographic factors.

		frequency	percentage
Sex	Male Female	87 71	53.6% 46.4%
Age	<4years >4 years	97 54	64.2% 35.8%
Residence	Urban Rural	112 39	74.2% 25.8%
Maternal age	<40yr >40 yr	97 57	62.3% 37.7%
Types of family	Nuclear Joint	100 51	66.2% 33.8%
Family history	Positive Negative	92 59	60.1% 39.1%
Socioeconomic condition	Average Below average	106 45	70.2% 29.8%

In Table I sex of the observed children reveals 53.6% is male and 46,4% is female, age is below 4 years is 64.2 and 35.8 % is above 4 years. 74.2 % children came from urban area. Maternal age represents <40yrs is 62.3%and 37.7% is from above 40yrs. Family types show most of the children came from nuclear family 66.2%, 33.8% is from nuclear family. Positive family history of speech and communication disorder is 60.1%. Most of the children came from average socioeconomic background 70.2%.

Table II: Different important comorbidities.

		Level I	Level II	Level III	P value
Seizure	**present** **Absent**	11.1 25.7	40.8 41.4	48.1 32.9	.036
Sleep problems	**present** **Absent**	19.8 14	41.6 40	38.6 46	0.5%
Intellectual impairment	**present** **Absent**	13.5 20.2	38.5 42.4	48.1 37.4	0.378
Learning disability	**present** **absent**	19.5 15.6	41.4 40.6	39.1 43.8	0.772
Hyperactivities	**present** **Absent**	8.6 32.8	47.3 31	44.1 36.2	.001
Sensory issues	**Present** **Absent**	14.1 39.1	43 30.4	43 30.4	.015

In table II seizure occurs in 11.1 % of level I cases, 40.8% in level II patient and 48.1 % in level III patients and P value is statistically significant. It is seen that 38.6 % and 41.6% children have sleep problem in respectively level II, III. Intellectual impairment and learning disabilities are not found statistically significant. Hyperactivities and sensory issues are associated with severity and statistically it is significant.

DISCUSSION

Management of autism spectrum disorder is a great challenge for both parents and doctors. Different etiological factors and comorbidities has direct influence on ASD. In our study it is seen that boys are more affected than girls. Some study found the similar findings which is near to this study.[10,11,12]

In this study severity was assessed by DSM V criteria. Which is similar to another study where children were assessed by CARS. In our centre we do not practice CARS so we applied DSM V in each patients in General developmental assessment (GDA) clinic for more accuracy by doctors.[10] Majority of children came to the centre were below 4 years is 64.2 % which is similar with a study.[13]

Most children with ASD are often associated with other developmental abnormalities like mental retardation, intellectual impairment, learning difficulties and comorbidities such as epilepsy, attention deficit hyperactivity disorder, sleep problems and sensory hypo or hyper responsiveness. In this study we found seizure occurs in 11.1 % of level I cases, 40.8% in level II patient and 48.1 % in level III patients and P value is statistically significant. It is seen that 38.6 % and 41.6%

children have sleep problem in respectively level II, III. Intellectual impairment and learning disabilities are not found statistically significant. A lots of children come to our center with sleep problem in ASD but sleep problems are not found statistically significant with severity with ASD Hyperactivities and sensory issues are associated with severity and statistically it is significant. Similar findings were found in another study.[10]

CONCLUSION: ASD is one of the most common neurodevelopmental disorder. In this study we saw different factors including sociodemographic and comorbidities which should be considered as important factors for management. Male child, below 4 years, urban area, and nuclear family has high frequency. In case of comorbidities seizure, hyperactivities and sensory issues are found statistically significant with the severity of the disease.

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