



PREVALENCE OF OCD IN ASD: A CENSUS SURVEY

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ABSTRACT:

Background:- The concept of autism was coined in 1911 by the German psychiatrist Eugen Bleuler to describe a symptom of the most severe cases of schizophrenia, a concept he had also created. Autism spectrum disorder (ASD) is a developmental disability caused by differences in the brain. Some people with Autism spectrum disorder have a known differences, such as a genetic condition. People with ASD may behave, communicate, interact, and learn in ways that are different from most other people. Obsessions and compulsions were first described in the psychiatric literature by Esquirol in 1838, and by the end of the 19th century, they were generally regarded as manifestations of melancholy or depression.

Aim:- To see the prevalence of predominant OCD in ASD children.

Method:- In this study 62 Autistic subjects according to inclusive and exclusive criteria were recruited from Jalgaon district. Their ages range from 7 to 15 yrs. The data was collected by using census survey.

Result:- A total 62 subjects with Autism Spectrum Disorder participated in the study (46 male and 16 females) and rated on the Indian Scale for Assessment of Autism (ISAA) and Children's Yale Brown Obsessive Compulsive Scale (CY-BOCS) and the prevalence was seen.

Conclusion:- The study shows significant prevalence of OCD in ASD children, the most prevalent being the aggressive obsession with 67%.

Key words:- Autism Spectrum Disorder, Obsessive Compulsive Disorder.

Index Terms - Component, formatting, style, styling, insert.

I. INTRODUCTION

Autism spectrum disorder is a neuro development disorder characterized by deficits in social communication and social reciprocity as well as repeated behaviour and restricted interest.⁽¹⁾ OCD is a psychiatric condition characterised by persistent and unwanted intrusive thoughts images and urges (obsession) and repetitive behaviours or mental acts (compulsion). Once considered to be rare in youth epidemiological studies have found an estimated prevalence of 0.25% - 4% among children and adolescence. Left untreated symptoms may wax and wane but typically follow a chronic course and cause marked functional impairment across multiple domains including at home school and socially. Further more paediatric OCD is associated with increased risk of other psychiatric disorders in adulthood.

OCD is often regarded as an adulthood disorder and most of the experimental and neurocognitive studies have been conducted in adult samples. This might, at least in part, be driven by the early epidemiological studies that concluded that the prevalence of juvenile OCD is only 0.2% to 1.2%, thus much lower than adult OCD (Shafran 2003). And although the prevalence estimates are still relatively heterogeneous, a commonly accepted prevalence of approx. 2% means that OCD during childhood and adolescence is no less common than in adulthood.⁽²⁾

Neuro psychological models of OCD proposed that OCD arises from alterations fronto striatal circuitry. Hyper activation of the orbit of frontal cortex has been proposed to mediate persistent thoughts about treat and harm that is obsession which in turn lead to attempt to neutralize the perceived threat that is compulsion. There is

robust evidence from functional neuro imaging studies of increased activation in the lateral and medial orbit of frontal cortex in both children and adults with OCD.⁽³⁾

Obsessive-compulsive disorder (OCD) is the fourth most common psychiatric disorder (1), with an approximate lifetime prevalence of 1–3% (2), and is ranked as one of the most debilitating disorders by the World Health Organization (3). It is characterized by both obsessions, defined as recurrent thoughts, urges, or images experienced as intrusive and unwanted and compulsions, repetitive behaviors, or mental acts executed for preventing anxiety or some feared outcome (4).⁽⁴⁾

OCD is often reported in individuals with ASD yet repetitive behaviours and intrusive recurrent thoughts are present in both conditions and difficult to differentiate. The prevalence of ASD has been study increasing over the past 2 decades with current estimates reaching up to 1 in 36 children. Estimates of OCD range from 2.6 to 37.2 percentage in children and adolescence with ASD.⁽⁵⁾

ISAA is an objective assessment tool for person with autism which uses observation clinical evaluation of behaviours testing by interactions with the subject and also information supplementary by parents or caretakers in order to diagnose autism. ISAA consists of 40 items rated on a 5 point scale ranging from 1 (never) to 5 (always). The 40 items of ISAA are divided under 6 domains that are 1) social relationship and reciprocity 2) emotional responsiveness 3) language and communication 4) behaviour patterns 5) sensory aspects 6) cognitive component.⁽⁶⁾

The children's Yale-Brown obsessive compulsive scale (CY-BOCS) is currently the instrument of choice to assess the presence and severity of OCD symptoms in children/adolescence and to monitor treatment. The CY-BOCS is a semi structured interview made up to 10 items rated on a 5 point likert scale evaluating the severity of obsession and compulsion across five dimensions frequency interference distress resistance and control during the previous week and up to the time of interview. The score above 16 is generally considered indicator of the presence of OCD 16 to 23 = moderate severity; 24-40= severe).⁽¹²⁾

ASD are complex heritable disorders that involve multiple genes and demonstrate great phenotypic variations. Estimates of recurrence risk based on family studies of idiopathic ASDs are approximately 5% to 6% when there is an older sibling with an ASD and even higher when there are already two children which ASD in the family.⁽⁷⁾ There are previous studies showing prevalence of ASD and OCD alone, study showing the prevalence of ASD in OCD but no studies showing the prevalence of OCD in ASD, hence the need to study.

II. MATERIALS AND METHODS

II.1 Data collection-

A census survey was done and quantitative data was analysed among 62 children with mild to moderate autism.

II.2 Inclusion and Exclusion Criteria-

Inclusion Criteria:

- 1) Mild and moderate grade of ISAA
- 2) Age: 7-15 years

Exclusion Criteria:

- 1) Severe grade of ISAA
- 2) With other pathological problems
- 3) Other hereditary disease
- 4) Chronic illness

II.3 Procedure-

To conduct the following study permission was taken from the principal of Dr. Ulhas Patil College of Physiotherapy, and Civil Hospital, Jalgaon for the evaluation of autistic children. Ethical clearance was obtained from institutional ethical committee. Patients were screened as per the inclusion and exclusion criteria and the procedure was explained. A written consent was obtained from the patients. Initially the demographic data that is Name, age, gender were assessed. Children were scored according to Indian Scale For Assessment of Autism (ISAA) and Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS).

III. DATA ANALYSIS –

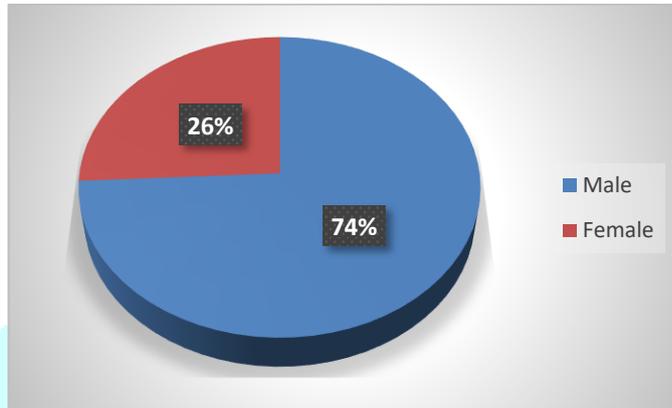
STATISTICAL METHOD USE

The entire data of the study was entered and cleaned in MS Excel before it was statistically analyzed in InStat. All the results are shown in graphical format to visualize the statistical significant difference more clearly. The descriptive statistic was done for gender and age groups.

TABLE NO. 1: GENDER DISTRIBUTION

MALE	FEMALE
46	16

GRAPH NO. 1 : GENDER DISTRIBUTION OF SUBJECT



In this the table no. 1 and graph no. 1 shows gender distribution . In that total no. of male subjects are 46 (74%) and Female are 16 (26%).

TABLE NO. 2 : AGE WISE DISTRIBUTION OF SUBJECTS

Age (years)	No. of subjects
7 to 9	27
10 to 12	20
13 to 15	15

GRAPH NO. 2 – AGE WISE DISTRIBUTION OF SUBJECT

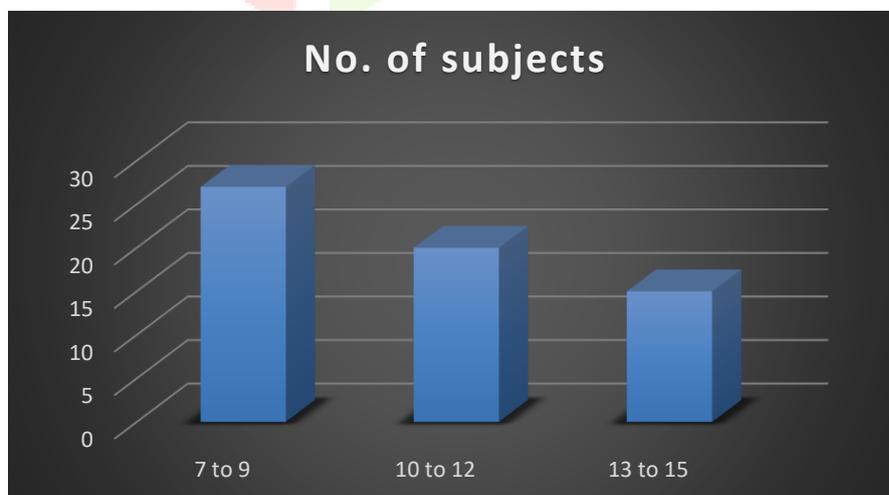


Table and graph no. 2 shows age wise distribution of male and female of which 27 subjects are in 7-9 age group, 20 subjects are in 10-12 age group, 15 subjects are in 13-15 age group. With standard deviation of 3.496 and mean of 12.323.

TABLE NO. 3 – ASD SEVERITY DISTRIBUTION OF SUBJECT

mild	moderate
41	21

GRAPH NO. 3 - ASD SEVERITY DISTRIBUTION OF SUBJECT

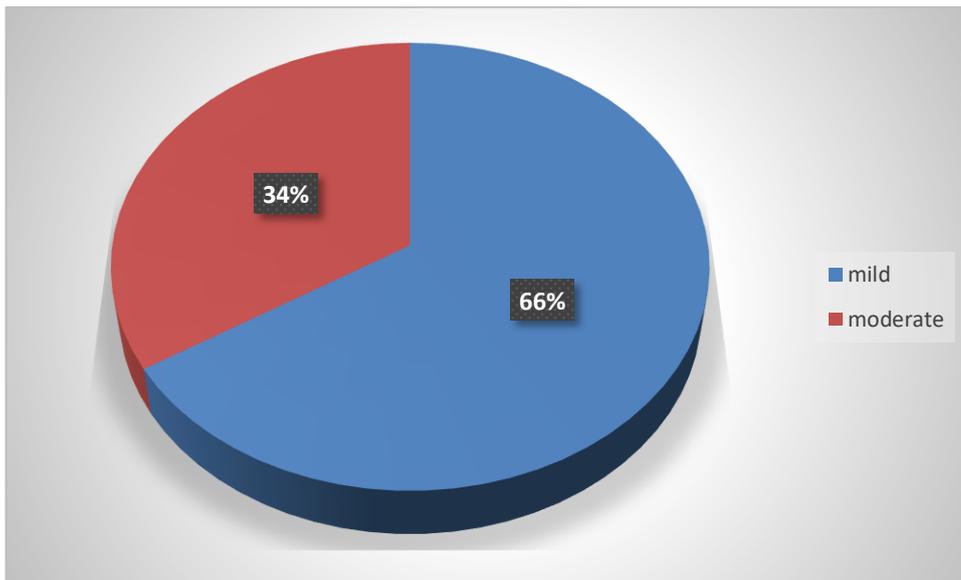


Table and graph no. 3 shows percentage of ASD severity grades. There are 41 (66%) subjects with mild symptoms and 21 (34%) subjects with moderate symptoms.

TABLE 4 : Prevalence of OCD in Autistic children

OCD score	No. of Subjects	%
0 to 7	3	5%
8 to 15	44	71%
16 to 23	15	24%
24 to 31	0	0%
32-40	0	0%

GRAPH NO. 4 : Prevalence of OCD in Autistic children

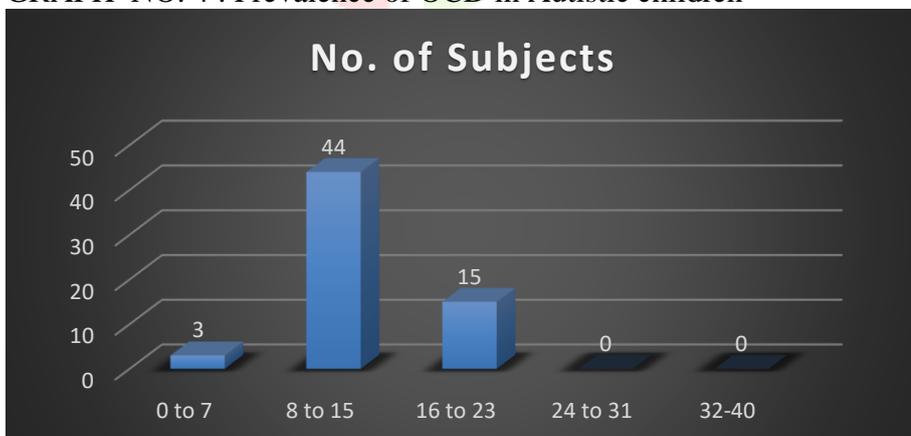


Table and Graph No. 4 shows Prevalence of OCD in children with Autism. There are 3 subjects between score 0-7 (Subclinical symptoms), 44 subjects between score 8-15 (Mild symptoms), 15 subjects between score 16-23 (Moderate symptoms), no subjects were between 24-31 (Severe symptoms) and 32-40 (Extreme symptoms).

TABLE 5: PREDOMINANT OCDs OBSERVED IN ASD CHILDREN

OCDs	Prevalence
Aggressive obsession	67%
Ordering/ Arranging	46%
Repeating Rituals	30%
Washing compulsions	12%
Contamination Obsession	9%
Miscellaneous compulsions	4%

GRAPH NO. 5:

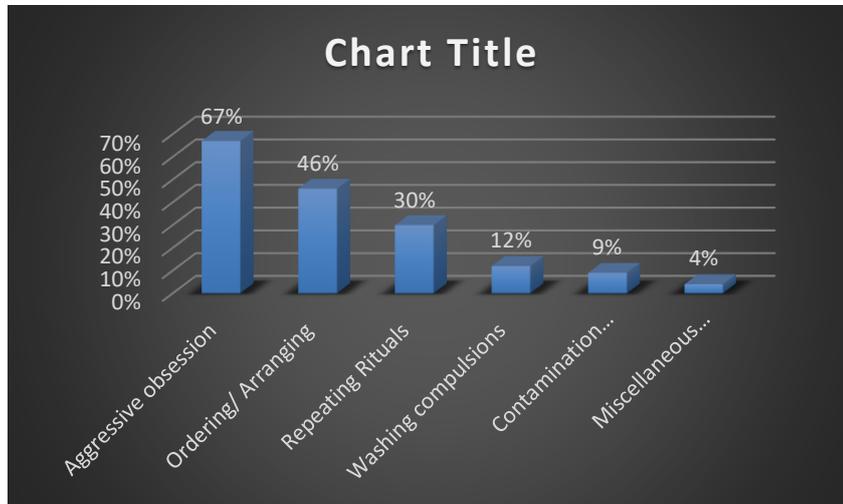


Table and Graph no. 5 shows prevalence of obsessions. Aggressive obsession being the 67%, followed by ordering/ Arranging 46%, Repeating rituals 30%, Washing compulsions 12%, Contamination obsession 9%, and Miscellaneous compulsions 4%.

IV. RESULT-

Present study was conducted to see the prevalence of Obsessive Compulsive Disorder in the Autism spectrum disorder children. A total 62 subjects with Autism Spectrum Disorder participated in the study (46 male and 16 females). The mean age of the patients was 12.323 with SD of 3.496. For the prevalence of Obsessive Compulsive Disorder in Autistic children, Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) was used which showed 3 subjects between score 0-7 (Subclinical symptoms), 44 subjects between score 8-15 (Mild symptoms), 15 subjects between score 16-23 (Moderate symptoms), no subjects were between 24-31 (Severe symptoms) and 32-40 (Extreme symptoms). i.e out of 62 children, 5% children were with subclinical symptoms and 95% children were with mild to moderate symptoms. Out of 59 children experiencing mild to moderate symptoms, 25% were females and 75% were males. Study showed most predominant Aggressive obsession being the 67%, followed by ordering/ Arranging 46%, Repeating rituals 30%, Washing compulsions 12%, Contamination obsession 9%, and Miscellaneous compulsions 4%.

V. DISCUSSION -

The study was survey based study for evaluation of Obsessive Compulsive Disorder in the Autism spectrum disorder children. It has been found that, repeating rituals 30%, aggressive obsessions 67%, ordering/ arranging 46% are dominantly present in these children.

A total 62 subjects participated in the study. Among these, 46 children were male and 16 children were females. Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) was used to score the OCD, which showed 3 subjects between score 0-7 (Subclinical symptoms), 44 subjects between score 8-15 (Mild symptoms), 15 subjects between score 16-23 (Moderate symptoms), no subjects were between 24-31 (Severe symptoms) and 32-40 (Extreme symptoms). i.e out of 62 children, 5% children were with subclinical symptoms and 95% children were with mild to moderate symptoms. Out of 59 children experiencing mild to moderate symptoms, 25% were females and 75% were males. The most predominant Obsession found is Aggressive obsession being the 67%, followed by ordering/ Arranging 46%, Repeating rituals 30%, Washing compulsions 12%, Contamination obsession 9%, and Miscellaneous compulsions 4%.

Valentina Postorino, et al., in 2018 suggested that the range of prevalence rates reported for anxiety disorders and OCD in ASD is likely influenced by the clinical heterogeneity of individuals with ASD,

including the broad spectrum of intellectual and verbal abilities. They concluded that anxiety disorders and OCD are highly prevalent in individuals with ASD. Our study suggested significant prevalence of obsessions and compulsions in children with Autism spectrum disorder.

They also mentioned, repetitive behavior is a defining feature of both OCD and ASD and, in both conditions, refers to a set of behaviors that are performed repetitively and are considered to be inappropriate or odd. In OCD, obsessions are intrusive, recurrent thoughts (often related to contamination, organization, or sexual/religious themes) that cause marked anxiety. Compulsions are typically performed in response to these intrusive thoughts and serve to relieve anxiety. Examples of compulsions include handwashing, checking, or other repetitive routine activities. For individuals with OCD, these repetitive behaviors are unwanted and bothersome. In ASD, repetitive behaviors vary in type and severity and include stereotyped motor behaviors, such as hand flapping, rocking, shaking fingers in front of their eyes, or more complex behaviors, such as insistence on following the same routine in everyday life, lining up objects, and watching the same video over and over. Similarly our study shows evidence of hand flapping in 30% of children with ASD.⁽¹⁾

Matthew Morrissette, et al., in 2019, conducted an assessment of case of an adolescent male exhibiting violent behaviour with a previous diagnosis of ASD and concluded, Aggressive behaviour is a common issue for patients diagnosed with ASD. A variety of medical and other psychiatric conditions may underlie aggressive behaviour, and an assessment for their presence should occur when attempting to determine an etiology for such behaviour. Our study also shows the 67% prevalence of aggressive obsession. Future scope is More Scale can be used with large sample size. Obsessions and compulsions can be studied separately.

VI. CONCLUSION - Our study shows prevalence of certain obsessions and compulsions, more of repeating rituals, 30%, aggressive obsessions, 67% , ordering/ arranging, 46%. The study shows significant prevalence of OCD in ASD children with the scores as follow-

- 1) 5% children with the OCD score of 0-7 score (subclinical symptoms),
- 2) 71% children with the OCD score of 8-15 score (mild symptoms), and
- 3) 24% children with the OCD score of 16-23 (moderate symptoms). And the most prevalent OCD found in the study is aggressive obsession with 67%.

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