

Review Article

A Survey on the Increase in Autism Spectrum Disorders Rate and Present Treatments in India

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Abstract - Autism Spectrum Disorder is dealing with a group of neurodevelopmental disorders, and many are affected by this neuro disorder and have a stereotype interest; moreover, they have a pattern of behavior. This paper contains the information about autism in children and the drugs, treatment given to them, and also the survey list of autism children.

Keywords - Autism, Neuro Disorder, Insomnia, Receptors, and ASD.

I. INTRODUCTION

Autism is a developmental disorder that effect appears in the actions and their behavioral activities. They face a lot of difficulties unless, like a normal human, they act weird, and that makes them being isolated from the normal environment. They always prefer to spend their time with toys and sticks instead of spending time with others. Autism spectrum disorder in shot known as ASD is due to neurological problems. According to the CDC, that is Centers for Disease Control and Prevention, autism often occurs in boys than in girls, with a ratio of 4 to 1 male-to-female. The CDC has done the research and found that 1 in 59 children are affected with ASD in 2014.

Autism can be identified easily with the help of their behavioral activities, and the symptoms start to appear in their childhood days between 12 and 24 months of age. Sometimes it may appear sooner or later. The early symptoms include the delay in work and their response and also the social development. The DSM-5 divides the symptoms of autism into two categories: communication and social interaction problems and repetitive and restricted patterns of behavior. Communication issue includes difficulties in sharing emotions and sharing interest and also back and forth communication. They don't maintain proper body language and eye contact when communicating and so they stay away from people, and that makes the relationship harder for them. The repetitive and restricted issue includes repetitive movements. They also react weirdly and are disturbed when they hear a particular sound and also fixed interest and preoccupations.

A. Autism Causes

The exact causes of autism are not yet found, and there are researches going on; and moreover, they have said that there is no single cause for autism. There are many causes for autism, and those are genetic mutations, being born to older parents, low-birth weight, imbalance of metabolism, exposure to heavy metals, environmental toxins. According to NINDS(National Institute of Neurological Disorders and Stroke), environment and genetics are the major cause of autism. And the researchers have concluded the vaccines are not the cause of autism, but a controversial study was done in 1998 ended up with measles, mumps, rubella (MMR) vaccines, and it debunked and retracted in 2010.

Babies born before 26 weeks of gestation may have a higher risk of autism, and the autism cause in boy children is four times higher than the girl child. 31% of kids with ASD have a scholarly inability (IQ [IQ] <70), 25% are in the marginal reach (IQ 71–85), and 44% have IQ scores in the normal to better than expected reach. The number of children diagnosed with autism is gradually getting higher. Prenatal vitamins that contain folic acid before and at conception and through pregnancy may decrease the risk of autism.

B. Drug Used For Autism

The Food and Drugs Administration (FDA) has approved the first drug for the treatment of Autism-Risperidone (Risperdal, Janssen, and generics), a 2nd generation is antipsychotic. It is a 2006 approval, given to children of age 5.[1] McCracken et al. Conducted an 8-week, double-blind, placebo-controlled trial of risperidone of dosage (0.5 to 3.5 mg daily) in 101 children of age 5 to 17.[2] This study has come to end that there are improvements in the number of tantrums, aggressive episodes behaviors, and also self-injurious activities in children with ASD treated with risperidone compared with placebo; this is measured by irritability scale of Aberrant Behaviour Checklist (ABC) and by Clinical Global Impressions-Improvement (CGI-I) scale (p<0.001). The most common adverse effects(AEs) observed in the risperidone are dizziness, appetite, drooling, fatigue (p<0.05 versus placebo for each).



The FDA endorsed aripiprazole, the psychotropic medication (Abilify, Bristol-Myers Squibb, and generics) in 2009 for the treatment of ASD for children younger than 6 to 17. This medication is additionally utilized for the treatment of schizophrenia, a significant burdensome issue, bipolar I issue, and Tourette's disorder. It includes the mix of halfway agonist movement at dopamine type2(D2) and serotonin type 1A(5-HT1A) receptors and an opponent action at 5-HT2A receptors. [3] The aripiprazole examination was assessed in a multi-week, open-name study including 330 kids who were influenced by ASD. Every one of them was begun a dose of 2 mg each day.

Haloperidol(Haldol, Janssen/Ortho-McNeil, and generics) belongs to the class of butyrophenone and is a highly potent and selective D2 receptor antagonist.[4] It is indicated for schizophrenia treatment and also for vocal utterances of Tourette's syndrome.[5] Haloperidol has a long track record for the treatment of acute agitation. It is the most common 1st-generation antipsychotic which is used to treat agitation in the acute setting.[6,7] A case report was done in Japan; Kosaka et al. [8] described that a 16-year-old girl who has improved her social behavior after a long-term administration of intranasal oxytocin. The ABC score of a patient has decreased from 69 to 7. The authors concluded that long-term oxytocin nasal spray had been a promising treatment for social impairments(ASD). Sertraline (Zoloft, Roerig/Pfizer, and also generics), its a selective serotonin reuptake inhibitor(SSRI) [9], was shown to improve an 11-year-old girl from separation anxiety disorder with Asperger's disorder,[10] and in the case report, sertraline was titrated over a 6 month period, and the dosage of sertraline was 150 mg per day. And there are no large, well-designed trials for the usage of sertraline for the treatment of irritability or aggression in adolescents. And SSRIs are not well tolerated with young people because of the drugs, which include the increased energy, impulsivity, diarrhoea, and also insomnia.[11]

Oxytocin (Pitocin, Par Sterile Products, and also generics) is an endogenous hormone. It's well known for the role in lactation and also parturition.[12] And also play a major role in the formation and social functioning of humans and also animals.[13] The ability of intranasal oxytocin is to reduce the deficits. The oxytocin has enhanced brain functions and also appeared to improve their evaluations of the socially meaningful stimuli, and they have been found by a study report done by Gordon and their colleagues, they have measured the changes in the brain activity during judgments of socially and also non-socially and also submitted with a meaningful picture of 17 children with ASD after treatment with intranasal oxytocin. [14]

II. AUTISM FOR YEARS

About 1 in 54 children are affected or being identified with autism spectrum disorder(ASD) and according to the record from CDC's Autism and Developmental Disabilities

Monitoring(ADDM) Network. And also, 1 in 6 that is almost 17% of children of age 3 to 17, were diagnosed with a developmental disability, and these were the records collected from the parents of ASD children during the period of 2009-2017.

The first survey was recorded in the 1960s, and they have estimated about 2,500 people or 0.04% of the population are affected with ASD and when they have started the research in the early 2000s and the oft-quoted figure was one in every 250 people or among the population count of 0.4%.

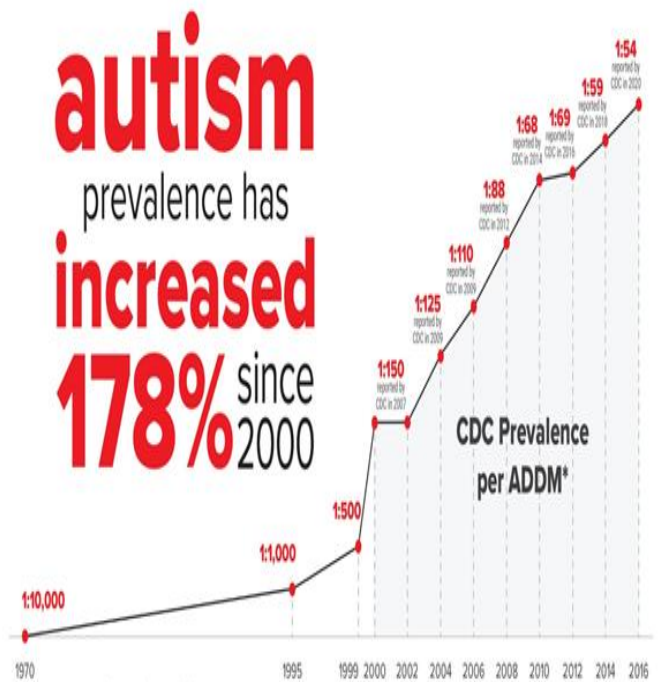


Fig. 1 Autism and Developmental Disability Monitoring Network

A. Parent Training

Parent care is foremost important for each and every baby in the world, but when it comes to the case of autism child, parent training is very important, and the most intense and regular training will not ensure the practitioners with autism in India. ASD-affected children must need parent care all the time, and mainly they must be overnight experts, and there are special coaching schools for them where they can develop themselves and will not feel lonely or apart from others. Actually, with few exceptions of initiated support groups, few families of ASD children have access to mental health professionals or an urgent need for services to support parents with the coping strategies to deal with the stress in parenting an ASD child.

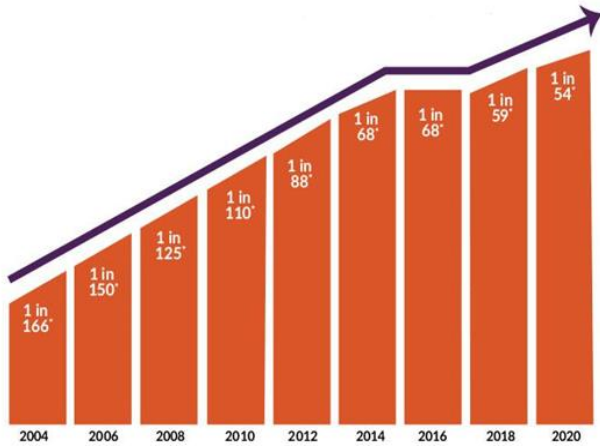


Fig. 2 Autism Prevalence Rate

B. Treatment In India

A typical faith in India even today is that people with Autism have 'a sort of mental hindrance'. Generally, what this suggested was that training for kids with mental imbalance need not vary from that of youngsters with a mental impediment. In this way, while by far most youngsters with chemical imbalance were not suitably recognized, all things considered, the trivial few who did without a doubt get a precise determination were all things considered denied of proper training. Kids with chemical imbalance were likewise frequently seen to be kids who couldn't actually learn, were "untrainable," and were best left to themselves. There were obviously dissipated schools the nation over that were instructing youngsters with mental imbalance before the 1990s. Among them were the Spastics Society of Karnataka in Bangalore, Nambikkai Nilayam in Bagayyam close to Vellore, Saraswati Puri in Delhi, REACH in Kolkata, the BM Institute in Ahmedabad, and the Ali Yavar Jung Establishment in Mumbai, to give some examples. Large numbers of these schools knew that kids with mental imbalance had concentrated requirements, yet staff now and then didn't have the right stuff or the preparation to show their understudies enough. In mid-1994, a school explicitly for youngsters with mental imbalance was begun in Delhi, and schools, therefore, opened in Bangalore and different urban communities. Treatment through training, and absolutely mental imbalance explicit instructive practices, are not the just intercessions that have been utilized in India. Probably the most punctual articles on the mental imbalance in India suggested play treatment (Batliwalla, 1959; Bassa, 1962; Chacko, 1964), while others referenced the utilized of electroconvulsive treatment (Dutta Ray and Mathur, 1965; Gamat, 1968) and parental guiding and family treatment (Chacko, 1964; Hoch, 1967; Gamat, 1968). None of these early proposals were at any point upheld by research. Of the entirety of the potential intercessions, pharmacological treatment of mental imbalance has been one of the most generally rehearsed in India. While there isn't as of now and

has never been a medication to treat chemical imbalance, drugs have been broadly suggested and recommended for mental imbalance tracing all the way back to the 1960s (Dutta Ray and Mathur, 1965; Gamat, 1968).

C. Present Status Of Treatment In India

Right now, the quantity of schools giving training to youngsters with mental imbalance is harshly restricted compared with the need; however, the scope of administrations is incredibly fluctuated and different. These reach from mental imbalance explicit administrations to standard schools. Beginning with a primary school in 1994, there are presently around 15 chemical imbalance explicit schools in India. These have an understudy enlistment going from 15 to 70. Taken together, this is not exactly a small detail for a nation of the size of India. Most kids with mental imbalance who go to class do as such at the closest exceptional necessities office open. This could be a school for youngsters with scholarly delay, hearing debilitation, cerebral paralysis, or of blended handicap. An extremely modest number of youngsters with mental imbalance is in an uncommon requirements study hall in a standard school. Generally, the nature of the schooling conferred is lopsided. There is no observing of norms. Most schools – even a few mental imbalance explicit ones – don't have staff prepared in either conduct standards or mental imbalance. There is an obscure, and one would envision countless youngsters with chemical imbalance who are in standard study halls. A huge number of these are kids who have not gotten a finding and are probably going to be kids on the truly capable finish of the range who oversees to get by with a couple of troubles. These kids try not to seem to require pressing consideration. Notwithstanding, numerous kids who go to customary homerooms are compelled to exit as they become more seasoned and the instructive situation turns more unbending and resolute. In the event that the expanded scholarly pressing factor doesn't drive them out, many leave school since they are unfit to manage the harassing and social alienation that regularly happens. Subsequently, a significant issue for guardians of kids in the present circumstance becomes whether to uncover to the instructor also, the school that their kid has a chemical imbalance. In spite of different measures embraced to advance all-inclusive instruction, youngsters with handicaps are not ensured instruction in India. Accordingly, both public and tuition-based schools, especially non-public schools, acknowledge, reject, and remove kids with mental imbalance however they see fit. This makes a force differential between schools that have long holding up records and urgent guardians.

D. Monetary Costs

The expense of really focusing on Americans with Autism had reached \$268 billion in 2015 and would ascend to \$461 billion by 2025 without more-compelling intercessions and backing across the life expectancy. Most of the mental imbalance's expenses in the U.S. are for grown-up

administrations – an expected \$175 to \$196 billion every year, contrasted with \$61 to \$66 billion per year for kids. Overall, clinical consumptions for youngsters and youths with ASD were 4.1 to 6.2 occasions more noteworthy than for those without Autism. Section of 2014 Achieving a Better Life Experience (ABLE) Act permits charge favored bank accounts for individuals with incapacities, including chemical imbalance, to be set up by states. Section of chemical imbalance protection enactment on the whole 50 states is giving admittance to clinical treatment and treatments.

III. CONCLUSION

The WHO(World Health Organisation) and their partners knew the need to strengthen the country's growth and to promote the optimal health and well-being of all the person with ASD. They are focussing on efforts as they have contributed to enhancing the commitment of governments and international advocacy on autism and also by providing guidance on creating the policies and action plans for ASD children. WHO is in consultation with the experts and the parent's association, and the public organizations to develop their action towards ASD child and to develop their treating skills with ASD child.

The ASD-affected child in India is about 0.23 % when compared to the US rates it is very less, and the almost United States has a record of 1.47%. Even though when the comparison is low, the count and the case report are serious the amount is almost 1.2 billion of people population which is almost a large number, and gradually over the years, the ASD affected children are of a larger amount, many are trying to find a solution, and moreover the recent good news is that they have developed a machine to identify the autism in the child at the early start and that research was approved and telecasted in the news on 15th March 2021, so people are going ahead and developing our nation and the development of the nation in each and every field is very important, and that is our duty.

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