

A SHORT REVIEW ON UNDERSTANDING OF A GLOBAL PROBLEM AUTISM

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Abstract: Autism is a life-long neurodevelopmental condition, typically identified in early childhood, which interferes with the person's ability to communicate and relate to others. In the last decade, a substantial increase in public awareness of autism has occurred around the globe. Autism is very familiar word to most of the world population over the last decade. Autism at present also known as Autism Spectrum Disorder or ASD is a wide spectrum disorder that involves individuals from those who have super intelligence to those needing sheltered atmosphere for daily living. But still people are wondering, as of how to know that the person sitting next to him is by any means an Autistic individual, since it is in an invisible disability. According to Center for Diseases Control and Prevention, its prevalence is 1 in 68 births. ASD should be considered as a complex disorder. It has many etiologies involving genetic and environmental factors, and further evidence for the role of amygdala and Nucleus accumbens in the pathophysiology of ASD has been obtained from numerous studies. However, the key architecture of ASD development which could be a target for treatment is still an uncharted territory.

Keywords: Autism, Neurodevelopment, Disorder, Disability, Amygdala, Nucleus accumbens.

Introduction

Autism spectrum disorder (ASD) is a set of neurodevelopmental disorders characterized by a deficit in social behaviors and nonverbal interactions such as reduced eye contact, facial expression, and body gestures in the first 3 years of life. It is not a single disorder, and it is broadly considered to be a multi-factorial disorder resulting from genetic and non-genetic risk factors and their interaction. Autism is a developmental disorder where individuals have difficulty in mainly the following areas:

Impairment in Communication

The entire range of communicative skills are impaired. A major proportion of them never speak at all but can listen, understand and obey instructions. Even if they start developing speech and can talk, many among them with classical Autism fail to develop purposeful speech like may keep on repeating the same word or phrase or may develop echolalia (repeating what is heard). Some develop a kind of abnormal intonation of speech

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and may use stereotyped phrases which are conditioned with a situation. They also have tremendous difficulty in understanding language of other individuals in their surrounding and sometimes feel very much challenged to survive in regular academic or social settings.

Difficulty in Social Understanding

People with Autism have tremendous difficulty in making friends and understanding relationships. The usual methods of social communication such as eye-to-eye gaze, use of gesture and facial expressions are generally affected (Havdahl, 2015). Their body language and eye contact sometimes appear to be in appropriate and for that they are easily misunderstood by others, and at times avoided, ridiculed or even punished. Hence from a very young age they are unable to participate in play, social events, education and employment.

Impaired Thinking and Social Imagination

Abstract thinking is a big problem encountered by individuals with Autism. Children with ASD usually lack the ability of pretend play. In a company of regular non Autistic children they are mostly non-interactive and at a level of parallel play. Mostly people with Autism have rigid and repetitive behaviours (Wiggins et.al., 2015). On the contrary, people with Autism are strong visual and experiential learners. Standard teaching methods which are mostly lecture based henceforth fail to teach them.

Sensory Problems

Children and also adults with Autism usually have different sensory issues. They may be affected by certain noises, colours, lights, tastes or smell. They may be easily distressed by a certain stimuli which may not make any difference to any regular individual. The range in this situation can also vary from being hyposensitive to hypersensitive. A very common behaviour seen in Autistic individuals is to seek visual stimulation by staring at objects from unusual angles, spinning and flickering objects under a light. They may also seek tactile stimulation by spinning, flapping hands or rocking and may be very uncomfortable in certain fabrics or items of clothing to an extent that can evoke a socially unacceptable behaviour, for example, rocking, head banging, unusual restlessness etc.

Spectrum of Autism

The spectrum of Autism is huge and varied. It can manifest as:

- 1. Severe:** Marked speech impairment, unregulated behaviours, associated with mental retardation.

2. Moderate: Mostly uneven skills, speech difficulties, training required in a structured sheltered facility to develop self-help skills.

3. High Functioning / Asperger's Syndrome: Commonly known as Borderline Autism. They are capable of studying or working in a regular environment. They will need a support structure throughout life (Lisa et.al., 2015). Some of them may have very high intelligence who as known as Autistic Savants.

Early Signs of Autism

Signs of Autism appear as early as 18 months and the regression period is usually within this period of 18 months to three years. However, researchers are of the opinion that now a days screening can be done as early as six months. Flag signs to look for in a child to suspect Autism Spectrum Disorder (Hadahl et.al., 2015):

- Difficulty in interacting and playing with other children.
- Indicates needs by gestures or by leading adults by the hand.
- Echoes words and phrases spoken to the child.
- Enjoys spinning or rotating objects.
- Inappropriate laughing or giggling.
- Likes sameness in everyday routine, does not enjoy change.
- Lack of pretend play or unusual and repetitive pretend play.
- Does not respond when called, sometimes appears to be deaf.
- Not responsive to normal teaching methods.
- No understanding or fear of real dangers.
- Carrying tantrums, extreme distress for no apparent reason.
- Extreme restlessness, hyperactivity or extreme passivity.
- Unusual behaviours or body movements such as flapping hands or rocking and jumping.

In case of any of these signs or any other doubts regarding any developmental delay or significant speech delay, the child should be taken immediately to a paediatrician or psychiatrist from where the child will be referred for screening of Autism to an early intervention clinic or developmental clinic of any hospital or else to a professional educator who has qualification related to this field.

Cause

Genes and environment both may play strong roles in the process. It has been established that Autism affects higher centers of cerebral cortex, Amygdala, Basal ganglia, Hippocampus, Corpus callosum, Brainstem and Cerebellum. It has been proposed that there is a surplus of neurons due to lack of cerebral pruning. Less involvement of mirror neurons is another proposed theory but no concrete reason has till now been given as the cause of Autism (Gronberg et.al., 2013).

For the majority, it is likely caused by a combination of multiple genetic and environmental (non-genetic) factors (called multifactorial). Researchers have shown that about 20-40% of those with ASD will have an underlying genetic disorder, which means that they have a specific change in their genetic material that has contributed to their ASD. The remaining cases are likely due to a combination of factors. Examples of non-genetic risk factors include advanced parental age (when a man is 40 years old or older at the time of conception), short periods between pregnancies (less than 12-24 months), and pregnancy or delivery complications. In addition, the chances a child will have ASD increases if they have a family member with ASD.

For those who have an underlying genetic condition as the cause of their ASD, they may also have a chromosome abnormality or single gene disorder which can involve other health issues (such as PTEN Hamartoma Tumor syndrome). The likelihood of an underlying genetic condition may be impacted by whether a child has other features or health problems, such as distinctive physical features, birth defects, seizures, etc. This is often referred to as 'syndromic' or 'complex' ASD, and is more likely to have a genetic cause.

Magnitude of the Problem

1. According to the most recent statistical data obtained from Center of Disease Control and Prevention, 1 in 68 children are identified with Autism (Jon Baio, 2014).
2. Autism occurs in all population irrespective of race, religion, culture and ethnicity and 8 out of 10 children are boys, the occurrence being much lower in girls (Jon Baio, 2014).
3. Autism can co-exist with other conditions like cerebral palsy, Down's syndrome, hearing impairment, visual impairment and mental retardation (DiGuseppi et.al., 2013).
4. In India the problem is soaring high but not catered to properly. In most of the cases children with Autism at a young age, get ignored and are not given proper interventions due to lack of awareness of parents and the society around.

Awareness

Autism is a condition with which people are born with. The society has to come forward in understanding the issues of an autistic individual. Awareness in the society has to develop among all sections, all professions like Teachers, Students, Health Professionals, executives, Office personnel, Shopkeepers etc. to understand the quirky individual whose speech or body language might seem to be a little awkward but has the need and necessity of merging with the mainstream society. Acceptance has to come from the outer world. High Functioning Autistic individuals have not only achieved success in their lives but also advocated needs of their own. Dr. Temple Grandin, Professor of Animal Sciences and Psychology at University of Northern Colorado is a pioneer in the field. Dr. Vernon Smith, Professor in Economics, Nobel Laureate, 2002, Dr. Stephen Shore, Professor at Adelphi University and many more scientists, singers, mathematicians making the list very long. But, even those who have not been into the limelight have also been achievers in their own ways. The secret to these success stories started with the immense dedication and perseverance on the part of their parents and caregivers and of course by these Autistic individuals (Lai et.al., 2015).

Conclusion

As mentioned earlier, time is precious. Early intervention can sometimes bring about a magical transformation in lives of Autistic individuals who can live purposeful lives in future. According to their abilities, some might be able to do a job independently while some may work at a sheltered workshop. But, all of them deserve a quality life which needs to be ensured by the society.

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