



Autism and interventions for autistic children in “Autism Spectrum Disorder (ASD)”

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Abstract

Autism is a brain development disorder that impairs social interaction and communication and causes restricted and repetitive behaviour, all starting before a child is three years old. This paper highlights meaning, prevalence, causes, symptoms. Treatment by means of medical intervention techniques like GFCF methods, Candida Diet, HBOT, GCMAF and MB 12 injections and educational therapy methods.

Introduction

Autism was first identified in 1943 by Leo Kanner, an American psychologist. Kanner noticed distinctive, common characteristic within a subgroup of children in whom other mental disorders had been diagnosed originally.

Autism is a brain disorder that often makes it hard to communicate with and relate to others. With autism, the different areas of the brain fail to work together. The severity of symptoms varies greatly, but all people with autism have some core symptoms in the areas of social interactions, verbal and non-verbal communications, limited interests in activities or play and stereo-typed behaviors. These may include body rocking and hand flapping.

Chadha (2002) “Autism is a brain disorder that typically affects a child’s ability to communicate, form relationships with others and respond appropriately to the environment.”

WHAT IS ASD?

ASD stands for Autism Spectrum Disorder and can sometimes be referred to as Autistic Spectrum Disorder.

A person with ASD will typically also prefer to stick to a set of behaviors and will resist any major (and many minor) changes to daily activities.

Autism Spectrum Disorder is a complex neuro-developmental disorder that impairs a child's ability to communicate and interact with others. It also includes restricted repetitive behaviors, interests and activities. These conditions cause significant impairment in social, occupational and other areas of functioning of autistic children.

Autism Spectrum Disorder (ASD) is now defined by the American Psychiatric Association's Diagnosis and Statistical Manual of Mental Disorders (DSM-5) as a single disorder that includes disorders that were previously considered separate — autism, Asperger's syndrome, childhood disintegrative disorder and pervasive developmental disorder not otherwise specified. The term "spectrum" in autism spectrum disorder refers to the wide range of symptoms and severity.

It is one of the developmental disability which appears before age of three. Autism affects information processing in the brain by altering how nerve cells and their synapses connect and organize.

PREVALENCE

Autism is one of the most common developmental disabilities in the world, affecting approximately 1 out of every 166 children. Its prevalence rate makes it the second most common developmental disability—even more common than Down Syndrome. By conservative estimate, more than 400,000 people in the U.S. today have some form of autism. In North Carolina, between 25,000 and 30,000 individuals have been diagnosed with the condition.

SYMPTOMS OF AUTISM

As described by Nielsen (2009), autism has many varied symptoms and characteristics. Although not all people with autism manifest every characteristic, The following areas and specific behaviors are typical.

Social Interactions and Relationships

- Significant difficulty developing nonverbal communication skills
 - Eye-to-eye gazing
 - Facial expressions
 - Body posture

- Failure to establish friendships with children the same age
- Lack of interest in sharing enjoyment, interests, or achievement with other people
- Appearing to be unaware of others
- Lack of empathy
- Difficulty relating to people

Verbal and Nonverbal Communication

- Delay in or lack of learning to talk
- Problem taking steps to start and/or continue a conversation
- Nonspeech vocalizations
 - Grunting
 - Humming
- Stereotyped and repetitive use of language
 - Echolalia
 - Repeated what one has heard again and again
- Difficulty understanding listener's perspective
 - Does not understand humor
 - Takes conversation literally (communicates word for word)
 - Fails to catch implied meaning

Activities and Play

- An unusual focus on pieces (e.g., focus on the wheels on the toy car rather than on the entire car)
- Using toys and objects in an unconventional manner
- Preoccupation with certain topics
 - Fascination with train schedules
 - Weather patterns
 - Numbers
- A need for sameness and routines.
 - Insists that environment and routine remain unchanged
 - Insists on driving the same route to school everyday
- Stereotyped behaviors
 - Body rocking
 - Hand Happing
 - Self-stimulatory behavior
 - Self-injurious behavior (head banging)
 - Preoccupation with hands

Self-Screening Checklist for your Child :

At 6 month:

Respond to sounds around him?

Respond when his name is called?

- Smile back when you smile at him?
- Show an interest in watching people's faces?
- Makes babbling sounds?
- Try to communicate through sounds and gestures?
- Imitate familiar movements?

At 12 months:

- Respond to sounds around him?
- Respond when his name is called?
- Smile back when you smile at him?
- Show an interest in watching people's faces?
- Makes babbling sounds?
- Try to communicate through sounds and gestures?
- Try to imitate familiar movements?

At 18 months:

- Use simple gestures, such as shaking head for "no"?
- Enjoy exploring new things?
- Play appropriately with toy?
- Enjoy playing with other children?
- Say simple words like "mama"?

At 24 months:

- Use simple gestures such as shaking head for "no"?
- Demand your attention by means other than crying?
- Play appropriately with toys?
- Point to objects meaningfully?
- Enjoy exploring new objects or environments?
- Enjoy playing with other children?
- Use simple words like 'mama'?

CAUSES OF AUTISM SPECTRUM DISORDER

According to the Centers for Disease Control and Prevention (CDC), 1 in 88 kids has an autism spectrum disorder, but no one knows what causes them. Some kids might be more likely to get autism because it runs in their families. Other kids get it even if nobody in their family has these types of problems.

Because autism runs in families, most researchers think that certain combinations of genes may predispose a child to autism. But there are certain risk factors that increase the chance of having a child with autism like advanced

age of the mother or the father increases the chance of an autistic child. When a pregnant woman is exposed to certain drugs or chemicals, her child is more likely to be autistic. These risk factors include the use of alcohol, maternal metabolic conditions such as diabetes and obesity, and the use of antiseizure drugs during pregnancy. In some cases, autism has been linked to untreated phenylketonuria (called PKU, an inborn metabolic disorder caused by the absence of an enzyme and rubella (German measles)).

Exactly why autism happens isn't clear. Research suggests that it may arise from abnormalities in parts of the brain that interpret sensory input and process language.

Autism spectrum disorder has no single known cause. Given the complexity of the disorder, and the fact that symptoms and severity vary, there are probably many causes. Both genetics and environment may play a role.

- **Genetic problems.** Several different genes appear to be involved in autism spectrum disorder. For some children, autism spectrum disorder can be associated with a genetic disorder, such as Rett syndrome or fragile X syndrome. For others, genetic changes may make a child more susceptible to autism spectrum disorder or create environmental risk factors. Still other genes may affect brain development or the way that brain cells communicate, or they may determine the severity of symptoms. Some genetic problems seem to be inherited, while others happen spontaneously.
- **Environmental factors.** Researchers are currently exploring whether such factors as viral infections, complications during pregnancy or air pollutants play a role in triggering autism spectrum disorder.

TREATMENT

GFCF DIET

Foods and nutrients can impact the symptoms of autism. The foods and substances that children eat directly impact what happens in their brain. GFCF basics can help you get started with this important dietary approach. Foods containing gluten (found in wheat, barley and rye) and casein (found in milk and dairy products) are removed from the child's daily food intake.

The suggested link between gluten and casein and autism emerged in the 1970s. The theory— which remains unproven—was that children who have ASDs are unable to break down the dietary proteins in gluten and casein, causing the formation of opioid-like peptides (amino acids that are similar to proteins). The most popular rationale for this diet is the "opioid-excess theory", which states that excess opioid-peptides, caused by the incomplete breakdown of foods with gluten and casein, trigger autistic symptoms (Panksepp, 1979; Reichelt, Ekrem, & Scott, 1990; Shattock, Kennedy, Rowell, & Berney, 1980). Another popular theory is that children with autism have "leaky gut syndrome", which involves opioid-peptides crossing the intestinal and blood- brain barriers, and ultimately affecting the endogenous opiate and central nervous systems. Some assert this "leaky gut." may help

explain why many children with ASD have gastrointestinal (GI) symptoms such as diarrhea and constipation in addition to social and communication deficits (Horvath & Perman, 2002).

The largest trial was conducted by Whiteley et al. (2010) with 72 subjects, and results were positive; indeed, children demonstrated improvements in the following: language, attention, concentration, interaction, communication, hyperactivity, motor coordination, repetitive behavior patterns, social integration, and self-injurious behavior/altered pain perception.

CANDIDA DIET

The healthy gut contains both yeast and good bacteria, in balance with each other. In many Autism Spectrum Disorder (ASD) kids, however, one or the other can be out of balance. Bacteria can overgrow, or there can be a complete lack of bacteria. Also, bad bacteria can develop and take over, rather than good bacteria, causing major problems for the children. Bacteria live in the intestinal tract, sharing space with the yeast. Antibiotic use makes yeast worse, or can start off an unhealthy reaction causing yeast overgrowth. Antibiotics kill bacteria, both good and bad, but not yeast. When using antibiotics, the bad bacteria can take over the system and yeast can grow to fill in the space left by the removal of the bacteria. There are many strains of yeast that live in the digestive tract including Candida, which appears to be the most common (Holly Bortfeld, 2013). In Candida diet, sugar (Honey, Syrup, Chocolate) fresh fruit, grains, starchy vegetables, sweetened beverages etc. should be avoided.

HBOT

Hyperbaric Oxygen Therapy (HBOT) works as its name implies - hyper (more of) and baric (pressure) and in fact that is how it works. Hyperbaric oxygen therapy (HBOT) involves inhaling 100% oxygen at greater than one atmosphere absolute (ATA) in a pressurized chamber (soft or hard). The pressurized air (which contains more oxygen because of the increased pressure) or 100% pressurized oxygen act as signaling agents to as many as 8000 genes. Multiple independent single photon emission computed tomography (SPECT) and positron emission tomography (PET) research studies have demonstrated hypoperfusion (decreased blood flow through an organ) to several areas of the autistic brain. The cause of this decreased blood flow is not known but may be secondary to changes in cerebral arterial resistance. Under normal conditions, cerebral blood flow increases when local brain tissue metabolic rate and functioning increases. However, this response may be reversed in children with autism. Using HBOT in children with Autism and anecdotal reports indicate that HBOT has improved symptoms in autistic children including enhancements in sensory and cognitive awareness, socialization, language repetitive behaviours.

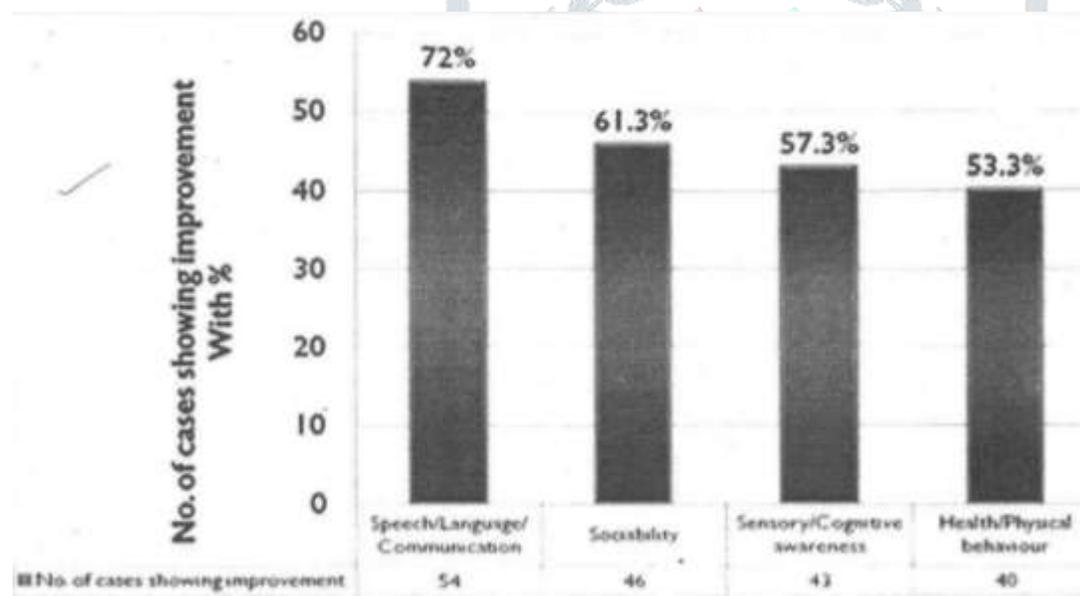
GCMFAF

It is a human protein. One week's GCMFAF looks like a small raindrop. Taking GCMFAF replaces the missing part of the immune system, and also acts as the body's own internal medicine. Dr Jeffrey Bradstreet has treated over

2,000 autistic children with GCMF and the results are well established. 85% respond, and 15% have their autism eradicated. In all 2,800 children have been treated with GCMF with similar result. Autism is usually a viral disease to a greater or lesser extent, with 'Viruses in the brain and the stomach. In 15% of children viruses are negligible, and GCMF probably will not help. In 85% viruses are involved, and they will respond to GCMF. In 15% of children autism is mainly a viral disease, and these children make full recoveries. Children can begin to respond inside 5 weeks. If nothing happens in 16 weeks, their autism may not be viral. If they respond, GCMF should be continued for typically 24 weeks, or 8 weeks after they appear to be recovered, to ensure the viruses does not return. GCMF simply rebuilds the immune system, which then attacks the viruses that cause autism. Improvements in the child are often seen as early as five weeks - about the same time it often takes to permanently eradicate.

MB-12 Injection

A follow up prospective study of 75 children on MB 12 injections in Autism Spectrum Disorder was presented in the 7th Congress of Asian Society for Child & Adolescent Psychiatry & Allied Professions (Gupta, D & Tandon, S (September 2013). Role of MB-12 Injections in Autism Spectrum Disorder)



All the 75 children showed no serious side effects on M-B 12 injection. Initially most parents reported an increase in hyperactivity and mouthing (increase sensory issues), however these issues settled down with time (1-3 months).

Of the total population, 46 children i.e. 61.3 % of the cases showed remarkable improvement, especially in sociability and eye contact. Also an increased social responsiveness, understanding, and alertness were reported. Although complete speech wasn't reported, in 54 children i.e. 72% of the cases, children showed an inclination towards being more verbal, like being able to use one or two words at a time.

Bed wetting, toilet training and sleep patterns also showed a positive change. The overall feedback from the parents, as shown on the ATEC scores over time, also proved to be in favour of M-B 12 injection in children with ASD.

EDUCATIONAL THERAPY METHODS

Therapists use a number of therapy methods to teach children with autism. These include:

1. Applied Behavior Analysis (ABA): First developed in the 1960s by psychologist Ivan Lovaas, at the University of California, Los Angeles (UCLA). ABA therapy for autism makes use of the idea that when people- autistic or otherwise- are rewarded for a behavior, they are likely to repeat that behavior. The ABA teacher observes the behavior of a person with autism and then provides instructions on any necessary missing skills. The teachers teach by providing a concise instruction and reward a correct response. The reward system encourages the positive behavior.

"Applied Behavior Analysis is the process of systematically applying interventions based upon the principles of learning theory to improve socially significant behavior to meaningful degree and demonstrate that interventions employed are responsible for improvement in behavior" (Baer, Wolf & Risley 1967).

ABAs AND AUTISM RESEARCH

Several thousand studies on ABA have been published in the last 30 years. These studies show that ABA is effective for variety of populations, teachers (parents, educators, therapists, caregivers) environment and behavior.

Year	Conducted By	Description of Study	Findings
1972	Hingtgen	More than 400 research articles concerning autism that were published between 1964 to 1970 were reviewed.	Research concluded that behavior intervention showed consistent results.
1981	Hingtgen& Jackson	Review of more than 1100 studies including both behavior therapies and other methods.	Intensive behavior programme yielded the best result for improving behavior of autistic children.
1996	Baglio, Benavidiz	251 studies published between 1980 to 1995 concerning behavior therapies for children with autism were reviewed.	Discovering that the research surrounding behavioral therapy for autistic has significantly improved and that ABA yield positive results.

2. **TEACCH (Treatment and Education of Autistic and related Communication handicapped Children):** TEACCH is a structured teaching method that provides an organized school environment with a strict schedule, visual teaching methods and short, clear instructions. TEACCH programs can easily be personalized. This approach is widely used within special schools and can be adapted for use within a mainstream setting. It focuses on altering the environment and using visual supports, such as timetable and schedules, to help provide structure, reduce stress and improve understanding. Children are given clear instructions for every stage of an activity, usually presented in a visual way.
3. **Sensory Integration Therapy:** Therapists use sensory integration therapy to help children with autism who have repetitive behavior or sensory issues. The therapy can help some children develop language skills.
4. **Developmental, Individual Difference Floortime (DIR):** Greenspan's DIR Floortime uses play to teach autistic children emotional engagement, how to connect ideas and focus attention as well as problem solving and self-expression.
5. **Daily life therapy:** Daily life therapy, a Japanese teaching method, adds a large amount of physical exercise to typical autism behavioral therapy routines. Students at both the Higashi School in Tokyo, Japan and the USA Higashi in Boston, Massachusetts have responded well to the teaching method.

METHODS AND TECHNIQUES OF TEACHING AND DEALING WITH AUTISTIC CHILDREN

The children with autism need education for adequate adjustment and progress in their life in similar ways as needed by non-autistic child. There are various approaches and strategies that teachers and support staff can use to help develop the behaviour, language and communication skills of children with autism. They include:

1. **Picture Exchange Communication System:** This System uses visual aids for communication. Students and teachers exchange pictures to communicate ideas and activities. Many children with autism find it easier to understand the world about them through visual aids. Teachers may use a visual timetable showing times and simple drawings of the activities, so that the pupil knows exactly what they will be doing and when. Many schools use computer software packages to write out stories, descriptions and instructions in both words and symbols simultaneously. Other visual supports include written lists, objects and calendars to help children understand sequence and predict what is happening. Teaching what "finished" means and helping the student to identify when something has finished and something different has started. Take a photo of what you want the finished product to look like and show the student. If you want the room cleaned up, take a picture of how you want it to look some time when it is clean. The students can use this for a reference.
2. **Comic Strip Conversations:** Comic Strip Conversations assist children with autism to develop greater social understanding, by providing visual representations of the different levels of communication that take place in a conversation, using symbols, stick figure drawings and colour. By seeing the different elements of a conversation visually presented, some of the abstract aspects of social communication (e.g. recognising the feelings and intentions of others) are made more concrete and are therefore easier for the child to understand.

3. **Social Stories:** Children with autism who can read may be taught how to cope with different situations using the technique of Social Stories. Stories are written for the individual child, explaining in words and pictures, step by step, what will happen in situations where they may feel anxious and how they should cope with situations they find difficult. For instance, a Social Story might be used to explain what a child should do on a bus journey or when they hear a fire alarm.
4. **Social skills:** Some children with autism respond well to drama and role play activities to help them learn social skills such as greetings, turn taking in conversation and watching for cues in social skills groups. A Circle of Friends or buddy system can also help a child with autism understand the social world of the classroom and the playground.
5. **Circle of Friends:** Circle of Friends encourages the development of a support network for a child in a structured setting, which can also extend to outside of this setting. It is not an approach to provide instant friendship, but over the course of meetings and evaluation of set targets, it is hoped that the child will be able to build closer and better relationships with other children. Six to eight children are recruited as volunteers to form the Circle of Friends. Through a series of meeting they help the focus child to express his or her feelings and decrease anxiety levels. This can lead to improved social integration and higher levels of peer contact.
6. **SPELL:** The SPELL framework has been developed by The National Autistic Society's schools and services to understand and respond to the needs of children and adults with autism. It recognises the unique needs of each child and emphasises that all planning and intervention should be organised on this basis. SPELL stands for Structure, Positive, Empathy, Low arousal, Links.
 - Structure makes the world a more predictable, accessible and safer place and can aid personal autonomy and independence.
 - Positive approaches and expectations seek to establish and reinforce self-confidence and self-esteem by building on natural strengths, interest and abilities.
 - Empathy is essential to underpin any approach designed to develop communication and reduce anxiety.
 - The approaches and environment need to be low arousal: calm and ordered in such a way as to reduce anxiety and aid concentration.
 - Strong links between the various components of the person's life or therapeutic programme will promote and sustain essential consistency.
7. **Inclusion:** Integration is an approach for teaching autistic children in mainstream classes with children without disabilities. Some children have responded better to inclusive teaching than special education classes.
8. **Facilitated Communication:** Facilitated communication refers to a teaching method where the teacher (facilitator) holds the autistic child's hand or arm, which encourages the child to make an effort to push the appropriate key on a portable computer as a means of communication. Detractors argue that it is difficult to determine if the child or teacher is communicating. However, the teaching method seems to have improved communication for some children with autism.

- 9. Sign language:** Some school systems teach sign language to children with autism who have not developed speech skills. Sign language works well for many children with autism because they respond more to hand motions than a person's face.
- 10. Task Analysis:** Teacher must use very specific tasks in sequential order. Give fewer choices. If a child is asked to pick a color, say red, only give him two to three choices to pick from. The more choices, the more confused an autistic child will become. Repeat instructions and check understanding. Use short sentences to ensure clarity of instructions.
- 11. Occupational Therapy:** The focus of utilizing occupational therapy as treatment for children with autism is to maintain, improve, or introduce skills that allow an individual to participate as independently as possible in meaningful life activities. Coping skills, fine motor skills, play skills, self-help skills, and socialization are all targeted areas that can be addressed in this setting.

Role of the teacher

- Attention span is poor with autistic children. Teacher should avoid long span of verbal instruction.
- Autistic children are visual thinker pictures are their first language to learn up down teacher should demonstrate them with actual performance.
- Many children with Autism are good at drawing art music. These talent should be encouraged by teacher.
- Number concepts should be taught by VAKT method.
- There is tendency of sameness among autistic children. They may stick on one object e.g. trains. The best way to deal with fixation to use their as a tool to teach language, maths, sst and science.
- Children with autism need to be protected from irritating stimulation like loud sounds. They may be desensitized by recording or by stuffing.
- Many autistic children have problem with motor control in hands. So computer used for train.
- Teacher should try to make eye contact.
- Some children respond better if words are sung to them.
- Speech practice.
- Picture cards with words on them.

Conclusion

Do not fear people with Autism, embrace them.

Do not spite people with Autism, unite them.

Do not deny people with Autism, accept them for their abilities

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