Original Article

Functional Assessment Of Challenging Behavior And Neurological & Cardio –Pulmonary Problem In Patients With Autism Syndrome: Diagnosis And Treatment

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Abstract

This article examines and functionally evaluates the challenging behavior and cardiopulmonary problems of patients with autism syndrome: Diagnosis and treatment. Autism spectrum disorder (ASD) is a broad term used to describe a group of neurodevelopmental disorders. These disorders are characterized by communication and social interaction problems. Individuals with ASD often exhibit restricted, repetitive, and stereotyped symptoms or behavior patterns. Autism is more common in boys than girls, with a ratio of 4 males to 1 female. There is evidence that the cases of ASD are increasing. Some attribute this increase to environmental factors. However, experts debate whether there is a real increase in cases or whether there are just more frequent diagnoses. Symptoms of autism are usually evident in early childhood, between 12 and 24 months of age. However, symptoms may appear sooner or later. Early symptoms may include significant delays in language or social development. Autism symptoms are divided into two categories: Communication and social interaction problems and limited or repetitive patterns of behavior or activities. Gluten protein is found in wheat, barley and other grains. These consultants believe that gluten causes inflammation and side effects in certain people with ASD. Research has shown that 11% of people with autism are hospitalized before reaching adulthood. Various diseases such as epilepsy, anxiety, digestive problems or sleep problems occur together with autism.

Keywords: Autism Spectrum Disorder, Diet, Inflammation, Neurodevelopmental Disorders.

Introduction:

The DSM (Diagnostic and Statistical Manual of Mental Disorders) is published by the American Psychiatric Association (APA) and is used by clinicians to diagnose a variety of psychiatric disorders [1-3]. The fifth and most recent edition of the DSM was published in 2013. DSM-5 currently recognizes five ASD subtypes or specific patterns, which are:

- With or without mental disorders;

- With or without language impairment;
- Associated with a known medical or genetic disease or an environmental factor;
- Along with other neurological, psychological or behavioral disorders [4-6].
- With catatonia (ecstatic freeze).

A person can have one or more of these diagnoses.

Prior to DSM-5, individuals on the autism spectrum were diagnosed with one of the following disorders

- Autism disorder;
- Asperger's syndrome;
- Pervasive Developmental Disorder Not Classified (PDD-NOS);
- Childhood dissociative disorder [7].

Communication and social interaction problems include the following

- Communication issues, including difficulty sharing feelings, sharing interests, or maintaining previous and subsequent conversations;
- Nonverbal communication problems, such as difficulty maintaining eye contact or reading body language;
- Difficulty in developing and maintaining relationships.

Restricted or repetitive patterns of behavior or activities include

- Repetitive movements, movements or speech patterns;
- Rigid adherence to certain routines or behaviors;
- Increasing or decreasing sensitivity to specific sensory information from your surroundings, such as a negative reaction to a specific sound;
- Persistent symptoms or concerns.

Individuals in each group are evaluated and the severity of their symptoms is noted. To receive a diagnosis of ASD, a person must exhibit all three symptoms in the first category and at least two symptoms in the second category [8-10].

What factors cause autism? The exact cause of ASD is unknown. The latest research shows that there is no single cause.

Some suspected risk factors for autism include

- Having a first-degree family member with autism;
- Genetic mutations;
- Fragile X syndrome and other genetic disorders;
- Having older parents;
- Low birth weight;
- Metabolic imbalance;
- Exposure to heavy metals and environmental toxins;
- History of viral infections;
- Exposure of the fetus to valproic acid (Depakene) or thalidomide (Thalidomide) drugs.

According to studies by the National Institute of Neurological Disorders and Stroke (NINDS), both genetic and environmental factors may determine whether a person develops autism or not. However, many sources, old and new, have come to the conclusion that this disorder is not caused by the vaccine (Figure 1). A controversial 1998 study suggested a link between autism and the measles, mumps, and rubella (MMR) vaccine [11-13].

What are the characteristics of autism? To diagnose this disorder, you must know exactly what the characteristics of autism are? Because this disease usually appears before the age of three and its symptoms can be very confusing. Because some children with autism apparently have normal development before the onset of the disease [14-16]. Although the severity of the symptoms is very diverse in different people. But there are invariable disorders in the social and communication skills of all affected people. For example, some children with autism never speak in their lifetime. Also, most children with autism show limited interests and repetitive behaviors. Parents may notice that their baby refuses or does not respond to eye contact, or that it is difficult for them to bond emotionally with them.

Children with autism have unusual responses to sensory experiences and may only be sensitive to certain sounds, textures, smells, or tastes. They may have impaired motor coordination and weak muscles. Children with autism may have many repetitive behaviors early in life, such as flapping their hands, shaking their bodies, or making noises. They may rearrange things repeatedly. Some children harm themselves with repeated movements such as biting their hands and hitting their heads. Also, many of these children do not know what autism is. They tend to the unchanging routines of life very early [17-19].

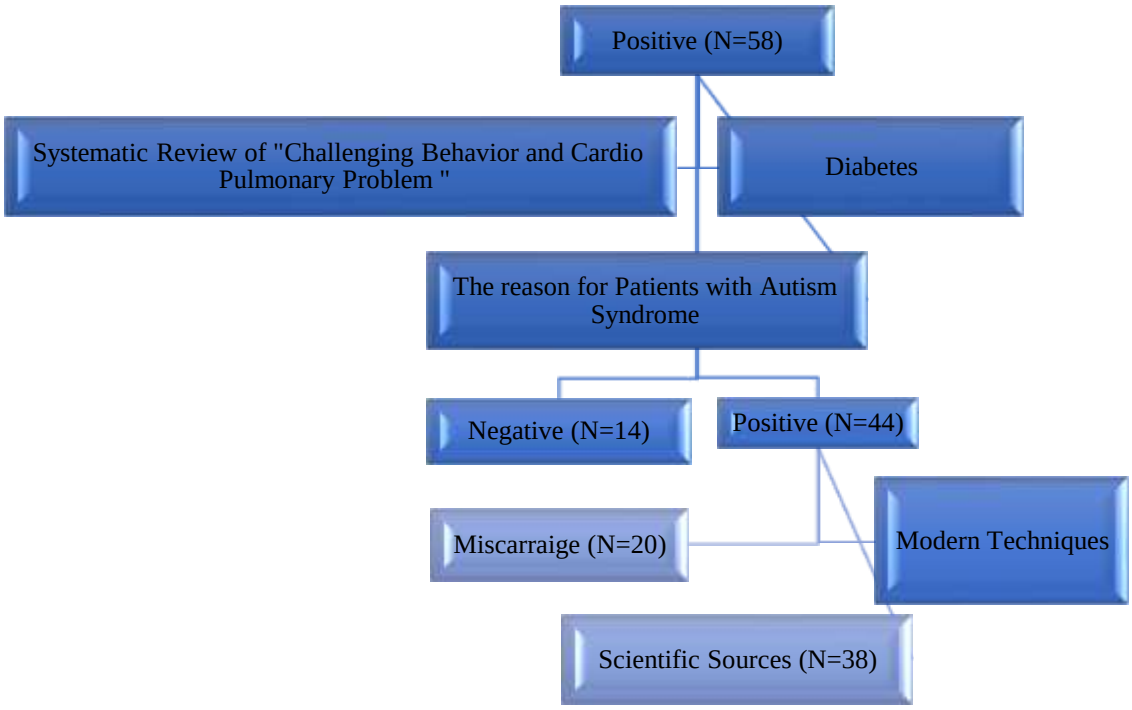

Figure 1. Flow chart of included subjects

How does it affect the male brain? Considering the biological and neurological differences between the brains and minds of men and women, a British psychologist named Simon Baron Cohen proposed the hypothesis that autism actually represents an extreme version of a male brain. Because men are generally more skilled in acting systematically and women are more skilled in empathizing [20]. Although there are many objections in this field. Both males and females on the autism spectrum disorder may show a tendency to act systematically. But usually they are excellent in visual-spatial manipulation and thinking limited to excellent rules, but they are not able to empathize and read minds. For this reason, Baron Cohen also calls autism mental blindness. Baron Cohen's work may also help explain why men are four times more likely to develop autism than women. However, these statistics may not be reliable. Because women with autism are usually misdiagnosed with other diseases [21-23]. ABA therapy works to modify and encourage certain behaviors, especially in autistic children. This method is not a cure for autism spectrum disorder, but it can help people improve and develop a set of skills. This form of therapy is rooted in behaviorist theories. This theory postulates that encouragement can increase or decrease the likelihood of a behavior occurring when a similar set of circumstances occurs again in the future. ABA makes more use of positive reinforcement (Figure 2), a reward system in which a child receives a reward or point that he or she enjoys when he or she exhibits a desired behavior. In the past decades, if the child's behavior was not desirable, he faced corporal punishment. However, this is less common now, and instead, if the child does not demonstrate the desired behavior or skill, he may be punished by not receiving a reward [24]. This theory assumes that the child exhibits a desirable behavior in order to receive the reward. The child and family can expect the following to occur while participating in ABA therapy:

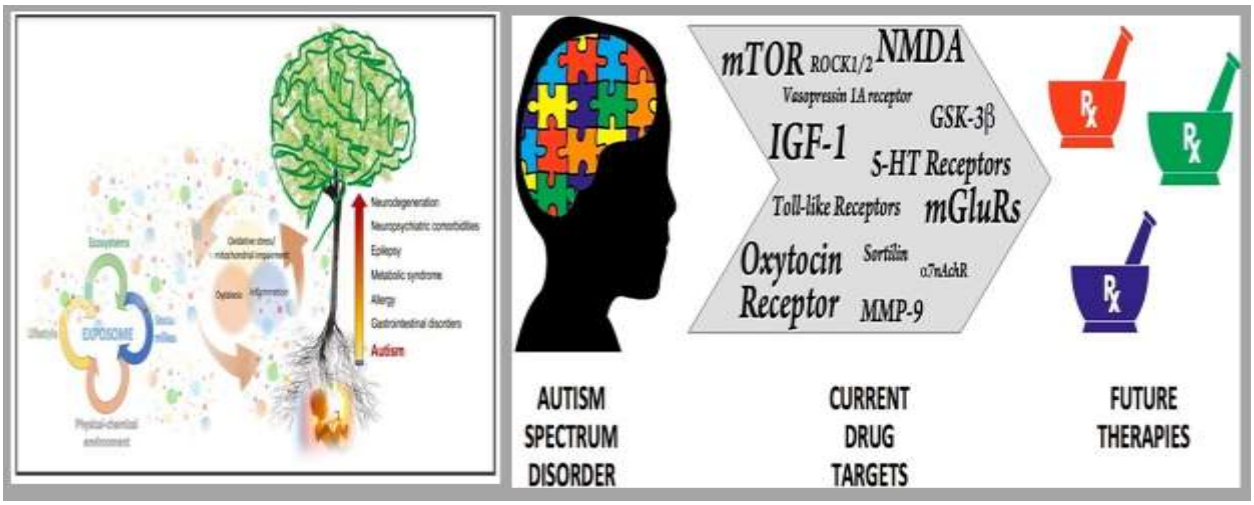

Figure 2. How does it affect the male brain?

Examination

The first step in ABA treatment is an examination. A child and his or her parent or caregiver will meet with a licensed behavior analyst (BCBA). The professional will assess the child's needs and goals through a series of questions and interactions. At the end of this session, he will set up a treatment plan for you [25].

Create a relationship

The first few sessions of ABA therapy will focus on building rapport between the therapist and the child. This can be through the specialist spending time directly with the child or talking to someone who works with the child. During this time, the therapist gets to know the child according to his likes and dislikes [26].

Work towards goals

Depending on the child's needs and goals, ABA sessions can last anywhere from one to several hours. The activities of each session will also vary depending on the child's treatment plan, but the practitioner will likely combine the following two techniques:

Discrete trial training

Discrete trial training (DTT) breaks down a skill and focuses on teaching it in a step-by-step process.

This method consists of three stages: Introduction, behavior and result.

- An introduction is a sign that leads to a behavior.
- Behavior, in this example, is the child's response to the cue.
- The outcome is what happens after the child answers.

If the child gives the desired answer, the specialist rewards him. However, if the child does not provide the correct answer, the expert corrects him and does not reward him.

Education in the natural environment

Once a child learns a skill through DTT, the next step is to teach that skill in a natural environment. For example, if during DTT the child has learned to identify foods through pictures, natural environment training involves going into the kitchen and asking the child's expert, parent, or caregiver about the ingredients used in a particular food. This process also uses an antecedent, behavior and outcome approach [27-29].

Engage the caregiver

The specialist also educates and assists the child's parents or caregivers. This is so that they have the skills to maintain the child's new positive behaviors and manage any challenging behavior issues [30].

Target

ABA design and research initially focused on autistic children. However, since then, it has become a useful method of treatment for other diseases, such as:

- Eating disorders;
- Attention deficit hyperactivity disorder;
- Post-traumatic stress disorder;
- Fear disorder;
- Anger problems;
- Obsessive-compulsive disorder.

Research shows that autistic children who receive ABA over a long period of high-intensity treatment are more likely to achieve their personal treatment goals. Although this research is promising, it is important to note that, as with other types of therapy, ABA therapy may work for some people but not for others [31].

Advantages

Some research on the benefits of ABA therapy has shown positive results. For example, an older study examining ABA therapy found that it improved the following in autistic children

- Intellectual function;
- Language development;
- Acquisition of daily life skills.

However, there is not enough research on whether the benefits of ABA treatment in childhood will last throughout a person's life, but the short-term results are said to be promising [32].

Dangers

There are different levels of ASD. A 2019 scientific paper suggests that autistic children who are non-verbal or require significant support may not benefit from ABA therapy and may do more harm than good. Another study that examined why parents discontinued their children's ABA treatment found that many discontinued after the intervention began because of signs of psychological harm [33].

Neurocognitive diversity and autism society

Neurodiversity actually considers and respects the differences between people with autism and other unusual functional variations that encompass their thinking and behavior. Those who support the neurodiversity movement claim that there is no normal brain against which other brains can be measured. Therefore, autism should be widely accepted and recognized as a natural variation in the human neurological condition [34-36]. Advocates of this movement emphasize the valuable skills and benefits of different types of minds and the value of diversity. However, some researchers and medical experts believe that neurocognitive diversity only applies to people with high-functioning autism. Many people with autism try to improve their social skills and change their behavior to coexist more effectively with other neurologically normal people [37].

Other sufferers, especially those who show fewer symptoms and need less support, have found a powerful and valuable identity in their unusual way of looking at the world and are less inclined to conform. Despite the organization and communication challenges faced by people with autism, he is delighted (Figure 3). Many of them are intelligent and capable of learning new skills and abstract thinking. Neurocognitive diversity also supports equality and justice in the education and employment of people with autism [38].

Figure 3. Neurocognitive diversity and autism society

What are the three levels of autism? Each person with autism has a unique experience. But doctors generally divide people with autism into three levels depending on the severity of social defects and inhibiting behaviors. People who are at the end of the spectrum and in its mild part, have little difficulties in social interactions and completing special tasks. While people in the middle of the spectrum struggle with many interpersonal challenges and have a lot of difficulty in making changes [39-41]. People with more severe forms of autism may also have intellectual disabilities. These people may also be unable to speak or be extremely uncomfortable with particular lights, sounds, and textures. They are also at risk of wandering off from their caregivers. Severe autism can lead to aggressive, violent and repetitive behaviors such as banging one's head against a wall or attacking others. Being in very dangerous situations can also lead to hospitalization [42].

Growth screening

The American Academy of Pediatrics (AAP) recommends that all children be screened for ASD between the ages of 18 and 24 months. Screening can help identify children who may have ASD early. These children may benefit from early diagnosis and therapeutic intervention. The Modified Checklist for Autism in Toddlers (M-CHAT) is a common screening tool used in many pediatric practices [43]. The survey has 23 questions that are filled by parents. Pediatricians can use the answers provided to identify children who are likely to develop ASD. It is important to note that screening is not diagnostic. Children who screen positive for ASD do not necessarily have the disorder. In addition, screenings sometimes do not identify a child with ASD [44-46].

How is autism treated? There is no cure for autism, but psychologists and psychiatrists believe that treatment methods and other treatment considerations can help people feel better or help reduce their symptoms. Many treatment approaches include treatments such as the following

- Behavior therapy;
- Play therapy;
- Occupational therapy;
- Physiotherapy;
- Speech therapy.

Massage, heavy blankets and clothing, and meditation techniques may also produce relaxing effects. However, treatment results will vary. Some people on the spectrum may respond well to certain treatment approaches, while others may not.

Alternative therapies

Alternative therapies for autism management can include

- High dose vitamins;
- Chelation therapy, which involves removing metals from the body;
- Treatment with high pressure oxygen;
- Melatonin to solve sleep problems.

Research on alternative therapies is complex, and some of these therapies can be dangerous. Before investing in any of these methods, parents and caregivers should weigh the research and financial costs against any potential benefits [47].

Can diet affect autism? There is no specific diet designed for people with ASD. However, some autism counselors are exploring dietary changes as a way to help minimize behavioral issues and increase overall quality of life. The cornerstone of an autism diet is avoiding artificial additives. These include preservatives, colors and sweeteners. Instead, an autism diet may emphasize whole foods, such as:

- Fresh fruits and vegetables;
- Skinless chicken;
- Fish;
- Unsaturated fat;
- A lot of water [48].

However, scientific research on the relationship between autism, gluten and another protein known as casein has remained inconclusive. Some studies provide evidence that diet can help improve symptoms of attention deficit hyperactivity disorder (ADHD), a condition similar to autism [49].

How does autism affect children? Children with autism may not reach the same developmental milestones as their peers or may show deficits in previously developed social or language skills. For example, a 2-year-old without autism may show an interest in make-believe games. A 4-year-old without autism may enjoy activities with other children. A child with autism may have difficulty interacting with others or may dislike it altogether. Also, children with autism

may engage in repetitive behaviors, have trouble sleeping, or compulsively eat non-food (worthless) foods. They may find it difficult to thrive without an organized environment or a consistent routine.

Autism and sports

Children with autism may find that certain sports can help reduce frustrations and promote overall well-being. Any type of exercise that your child enjoys can be beneficial. Walking and playing on the playground are both ideal. Swimming and being in water can be both exercise and a sensory play activity. Sensory play activities can help people with autism who have trouble processing signals from their senses. Sometimes contact sports can be difficult for children with autism. Instead, you can encourage other forms of challenging but strengthening exercise. With these tips, you can start arm swings, star jumps, and other autism exercises for kids [50].

How does autism affect girls? Because of its gender-specific prevalence, autism is often stereotyped as a disease of boys. According to the CDC, ASD is 4 times more common in boys than in girls. However, this does not mean that autism does not occur in girls. In fact, the CDC estimates that 0.66 percent, or about 1 in 152 girls, have autism. Autism may even be different in women. Compared to recent decades, autism is now being tested earlier and more frequently. This leads to an increase in reported cases in both boys and girls [51].

How does autism affect adults? Families with loved ones with ASD may worry about what life with autism might look like for an adult. Few adults with ASD may live or work independently. However, many adults with ASD require ongoing assistance or intervention throughout their lives. Introducing therapeutic methods and other treatments early in life can lead to greater independence and a better quality of life [52].

Why is autism awareness important? April is World Autism Month. However, many advocates have called for ASD awareness to be raised throughout the year and not just during a certain 30 days. Autism awareness also requires empathy and understanding that ASD is different for everyone. Some treatments and therapies can be effective for some people but not for others. Parents and caregivers can also have different opinions about the best way to support a child with autism [53].

What is the difference between autism and ADHD? Autism and ADHD are sometimes confused with each other. Children with ADHD consistently have problems with restlessness, concentration, and maintaining eye contact with others. These symptoms are also observed in some people on the autism spectrum. Despite some similarities, ADHD is not a spectrum disorder. The main difference between the two is that people with ADHD do not tend to cut off social and communication skills. If you think your child has symptoms of hyperactivity, talk to your doctor about possible ADHD testing. A correct diagnosis is essential to ensure that your child receives the correct treatment. A person with autism may also have ADHD. There is no cure for ASD. The most effective treatments include early and intensive behavioral interventions [54].

The sooner the child enrolls in these programs, the better their prospects will be. Remember that autism is complex and that it will take time for a person with ASD to find a program that works for them. Autism spectrum is a lifelong developmental disorder characterized by communication, social and behavioral problems. Autism symptoms vary from person to person.

Symptoms include challenges or differences in motor skills and intellectual and social abilities. The way people with autism learn, act, think, communicate and interact is different from others. Autism is considered a spectrum disorder because there is great variation in the type and severity of its symptoms. According to the Centers for Disease Control and Prevention (CDC), one in every 54 eight-year-old children has an autism spectrum disorder. Autism spectrum disorder is four times more common in boys than in girls [55].

The statistics of the prevalence of this disease also show that there are more cases of autism now than in the past. Also, the number of sufferers is increasing and has grown between 10 and 17 percent over the past few years. Autism is a complex disease that can cause different degrees of impairment and affect a person's life in different areas. Early

intervention is important, and there are many types of treatment and resources to help. Finding the right treatment helps sufferers lead an independent and fulfilling life.

Although symptoms are often highly variable, they usually appear before the age of three. Parents observe symptoms related to the way the child interacts socially, his response to stimuli and his ability to communicate. Symptoms of autism include repetitive behaviors, restricted interests, and difficulties with interaction. Autism, or autism spectrum disorder (ADS), is a broad spectrum of conditions characterized by challenges in social skills, repetitive behaviors, verbal and non-verbal communication. Using this broad term, a group of neurodevelopmental disorders can be described. Autism does not have a specific type and we are faced with subgroups that are more influenced by a combination of genetic and environmental factors. Autism spectrum disorder is a neurological and developmental disorder that affects a person's ability to communicate, interact and behave. It is a lifelong condition that can cause significant challenges in social interaction, communication, and behavior. ASD is a spectrum disorder, meaning that the symptoms and severity of the disease can vary greatly from person to person. ASD is a complex condition characterized by difficulty in social interactions, communication, and behavior. People with ASD often have difficulty with social interactions such as making eye contact, understanding body language, and engaging in conversation. They may also have difficulty communicating, such as using language to express themselves or understanding what others are saying [56].

Life of autistic children

Autism is not commonly recognized as a fatal or disabling disease. This condition is not life-threatening, but some conditions can potentially affect the life of these people. Research conducted in Sweden shows that people with autism die 16 years earlier than their peers. Suicide is one of the main causes of premature death of affected people. According to this research, the suicide rate is higher in girls with ASD and people who have a mild form of this disease, because this group is more aware of their condition and its possible problems. A 2016 study found that adults with autism spectrum disorder were twice as likely to die prematurely. Suicide and epilepsy are major causes of premature death of autistic people. Between 20 and 40% of people with this disease also have epilepsy, and this disease is often diagnosed in the teenage years. In a 2017 study, researchers concluded that the probability of death in young children and adolescents with this disease is 40 times higher than other children. Researchers say that people with autism spectrum disorder, who face challenges in social and communication skills, die at the age of about 63, compared to 72 for the general population [57-59].

Autism spectrum disorder in adults

Families with loved ones with autism may worry about his or her life as an adult. A minority of adults with ASD can continue to live or work independently. However, many adults with this condition will need ongoing help throughout their lives. Some treatment methods in the early years of life can help to increase the independence and better quality of life of these people [60].

The best specialist for treating autism

ASD symptoms vary greatly from person to person, but common symptoms include problems with social interactions, communication, and behavior. ASD is usually diagnosed by a team of specialists, such as a pediatrician, psychologist, or neurologist. ASD treatment usually includes a combination of therapies such as speech therapy, occupational therapy, and behavioral therapy. Certain medications may also be used to manage specific symptoms associated with the disease.

Autism spectrum disorder and epilepsy (seizure disorder)

Seizures and epilepsy are one of the most common medical conditions that are associated with autism spectrum disorder. Statistics and research show that unlike non-autistic people who have 1 to 2 percent of epilepsy, the prevalence of epilepsy in people with autism spectrum disorder is estimated to be 5 to 38 percent. And even other sources declare that this statistic can be higher than the variable numbers of 10 to 30 percent. Seizures can start at any

time in the life of a person with autism spectrum disorder. A study shows that most seizure activity in children with autism spectrum disorder occurs between the ages of 3 and 13 years. The investigation of the occurrence of this disorder is still being studied, but hypotheses have been proposed, including that seizures or epilepsy are more common in children who have shown regression in language skills before the age of 3.

The largest seizure-prone group among children with autism spectrum disorder appears to be children who also have intellectual and cognitive disabilities. In terms of treatment, some antipsychotic drugs are used to treat seizures among children with autism spectrum disorder. Another treatment option that is still under review is the ketogenic diet, which doctors use to significantly reduce or even eliminate seizures. This diet includes increasing the consumption of fats to four times more than carbohydrates and proteins. Although the history of this treatment goes back to 100 years ago, the mechanism of this treatment is still not known properly and research is being done on laboratory mice [61-63]. The Epilepsy Foundation of America states that up to two-thirds of patients have successfully recovered with the ketogenic diet. By increasing the level of certain bacteria in the intestine, this treatment method affects some neurotransmitters and reduces convulsive attacks. For more information on epilepsy and autism disorder, it is recommended to read the article epilepsy and autism disorder and their genetic origin. Among the things that can be mentioned in epilepsy and that parents with autism should be aware of and that can indicate seizures in these children are as follows:

- Unexplainable staring;
- Involuntary movements;
- Abnormal confusion and confusion;
- Severe headaches [64].

Less common symptoms such as

- Drowsiness;
- Sleep disorder;
- Unexplained changes in abilities and emotions.

One of the measures that can be taken for children with autism spectrum disorder and epilepsy is to prepare an awareness bracelet with the theme that the person has epilepsy and what drugs he uses, name and contact number. Parents should be aware of the measures taken after a child's seizure, what position to put their child in, what to do to make him less injured, what is the frequency of these seizures during 24 hours and how long they last. What factors are associated with it? For more information on epilepsy and autism disorder, it is recommended to read the article on Londoklefner's disorder and autism disorder [5].

Autism spectrum disorder and sleep disorder

Sleep disorder in children with autism spectrum disorder is significantly high and scientific reports show that up to 80% of children and people with autism spectrum disorder have sleep disorder. More than half of children with autism aged 4 to 5 years have one or more chronic sleep problems, and in the same way, this problem is also observed in adults with autism spectrum disorder if not treated. Two common problems in the sleep of children with autism can be summarized as 1- Falling asleep and 2- Waking up. It seems that some children with autism spectrum disorder wake up earlier, regardless of when they fell asleep [6].

Many cases and causes can affect the sleep of a child with autism spectrum disorder, but the common causes that are observed among children with autism spectrum disorder compared to other children are anxiety and depression. These problems cause the child with autism spectrum disorder to stay awake or to be unable to prepare himself for sleep. If your child has digestive problems in addition to autism spectrum disorder, this problem can be effective during night sleep. Among other factors that can be mentioned is the effect of drugs used by children with autism spectrum disorders on the insomnia of these children. Sleep disorder can affect the whole family and bring a family to the brink of crisis. On the other hand, this disorder also affects the child and causes behavioral problems. Parents can use therapeutic and improving methods to improve their child's sleep disorder, such as the following:

- Keep the bedroom dark and cool.

- Specify a fixed sleep and wake schedule for the child, even on holiday nights and weekends.
- Limit eating foods that are stimulating such as cocoa and chocolate or contain caffeine.
- Do not change the positive sleep routines you have established.
- Do not use movies or cartoons or games to tire your child and make him fall asleep.
- Make sure your child gets enough movement throughout the day.
- Increase the time between eating dinner and going to sleep.
- Use light foods for dinner [39].
- Avoid drinking plenty of fluids an hour before going to bed. For more information on autism disorder, it is recommended to read the article sleep disorder and autism disorder.

Autism spectrum disorder and gastrointestinal disorders

Another common disease among children with autism spectrum disorder is gastrointestinal disorder, which can include diarrhea or constipation. According to estimates, 46 to 85 percent of children with autism suffer from digestive problems. Some other sources also state that the disorder in the digestive system is almost 8 times more in people with autism spectrum disorder than in other children. The common symptoms of this disorder in children with autism include vomiting, constipation, abdominal pain, reflux and diarrhea. When your child with autism spectrum disorder experiences these problems, his behavioral problems increase, his learning becomes less and limited, and his sleep disorder also increases [20].

Regarding this disorder, researchers have definitely not been able to determine why children with autism spectrum disorders are exposed to digestive disorders, but some studies show that food allergies may play a major role in some cases. Some parents report that by eliminating gluten and casein their children have better digestive conditions. Some studies also say that eliminating processed foods and artificial colors can have an effect on the occurrence of digestive problems in children with autism spectrum disorder. Also, adding probiotics to the diet can be effective in compensating for digestive problems.

For more information about autism disorder, it is recommended to read the article on the relationship between autism and intelligence, genius and special talents. Some studies point to the connection between immune system problems and digestive disorders in children with autism spectrum disorder. The important thing here is that some children with autism spectrum disorder who suffer from digestive disorders cannot report this disorder or do not show its symptoms, and their parents also do not realize that their child is involved in digestive disorders (unless when the child has severe diarrhea or constipation) [31].

Some of the behaviors that can indicate digestive problems in children with autism spectrum disorder are as follows:

- Excessive cough (caused by burning throat due to reflux);
- Burning and pain in the throat;
- Refusal to swallow food or other problems in swallowing food;
- Hitting your face and jaw while eating or after eating;
- Excessive chewing of food and holding the bite in the mouth;
- Chewing clothes such as collars or corners of clothes;
- Sleep problems such as frequent waking up or crying when waking up in the middle of the night;
- Unexplained changes in behavior;
- Overeating in these children [22].

In a study conducted by researchers at Columbia University, they found that early treatment of digestive disorder symptoms can lead to a reduction in behavioral problems in these children. For more information on digestive disorders and autism disorder, it is recommended to read the article Digestive Disorders and Autism Disorder.

Autism spectrum disorder and headache (migraine)

One of the symptoms that is seen to a lesser extent in these children is headache. A study in 2014 suggested that it is very likely that children who are involved with hypersensitivity experience migraines more. It was also found that children who have a higher level of anxiety suffer from migraines or cluster headaches more than others. Children

with autism spectrum disorder who have headaches may have more head banging and they do this to reduce the pain signals that are in their head. Inflammation caused by digestive disorders can also cause headaches in your child. Changes in diet and behavioral therapy and reducing anxiety can play an important role in reducing the symptoms of this condition [13].

Autism spectrum disorder and food allergy

90 percent of food allergies increased, including for children with autism. Food allergies in disorders such as autism spectrum disorder can have a fundamental relationship with the immune system. In most cases, food allergies for children with autism spectrum disorder are not a life-threatening factor, but this factor can worsen the symptoms of autism spectrum disorder. Inflammation caused by the reaction to some food substances can cause the brain of a person with autism spectrum disorder to be stimulated more than usual, and also these food toxins can cause more passiveness in other people with autism spectrum disorder, including those with lower brain function become the brain [54].

Autism spectrum disorder and asthma

It is not yet known what the relationship between autism spectrum disorder and asthma, which is a respiratory disorder, can be. However, there is an increasing possibility of a connection between the two because some research shows a correlation between the two. Asthma is a disorder that is manifested by the immune system and involves the lungs, and on the other hand, people with autism also have imbalances in immune and inflammatory processes [45].

Autism spectrum disorder and eczema and other skin problems

Children with autism spectrum disorder have skin diseases such as eczema 6.1 times more than other children. As mentioned, studies show that there is a direct relationship between autism spectrum disorder and autoimmune diseases. More research is needed, but one study has shown that parents with autoimmune disorders are more likely to have children with autism spectrum disorder. When autism spectrum disorder is associated with a skin disease, this may be the result of an autoimmune disorder caused by a food allergy, which can cause dry skin, rashes, or other skin problems [56].

Autism spectrum disorder and immune disorders

Because of the connection between the immune system and autism spectrum disorder as described in other conditions, autism spectrum disorder is often associated with an immune disorder. Current research also points to a family history of immune disorders when autism is present. Other research shows that mothers who suffer from infection and inflammation during pregnancy are likely to have brain developmental disorders such as autism spectrum disorder, which again points to the issue of the connection between the body's immune system and its link with autism spectrum disorder. For more information about autism disorder, it is recommended to read the article about the effect of antibiotics on autism disorder [57].

Autism spectrum disorder and tuberous sclerosis

Tuberous sclerosis is defined as a rare genetic disease that causes the growth of non-cancerous tumors throughout the body. It is estimated that about 25-50% of children with tuberous sclerosis have autism spectrum disorder. This relationship shows that TSC symptoms precede ASD symptoms. Basically, autism spectrum disorder is not diagnosed until the child with TSC is older because there are overlaps in developmental disorders between autism spectrum disorder and TSC that make diagnosis difficult.

Autism spectrum disorder and eating disorders

Children with sensory problems due to autism spectrum disorder may be at risk for feeding disorders, including difficulty eating or swallowing foods due to smell, texture, or color. These children often do not want to eat and even when they are asked to eat certain food, they refuse. Up to 70% of children with autism spectrum disorder may show

signs of eating disorders. One of the factors that because refusal is that these children may feel a bad experience due to an allergy to a certain type of food and they refuse to eat this food. For example, if a child gets severe heartache and inflammation after eating milk and is allergic to it, there is a high possibility that he will refuse to eat milk from now on. For more information on the treatment of autism disorder, it is recommended to read the article drug treatment of autism disorder.

Autism spectrum disorder and eating problems

Feeding and eating problems are seen in about 7 to 10% of children with autism spectrum disorder and can include restrictions in eating habits and refusal or desire for certain textures and tastes. For this reason, adults with autism spectrum disorder also have the same limitations in their interests and choosing specific food patterns. This condition, like the one above, can be due to sensitivity or a strong need for uniformity. Severe overeating leading to obesity is one of the other cases observed in children with autism spectrum disorders and can be caused by the inability to understand the feeling of being full or eating as a sedative. Another eating disorder in people with autism spectrum disorder is pica or binge eating disorder, which is often seen in children with autism spectrum disorder and seems to be more common in people with severe autism spectrum disorder.

Autism spectrum disorder and attention deficit hyperactivity disorder (ADHD)

ADHD is observed in more than 30-60% of children with autism spectrum disorder, but in non-autistic people, this figure is 6-7%. Due to the overlaps that autism spectrum disorder and hyperactivity have with each other, it is very difficult to distinguish between these two things, and perhaps this separation can be done using specialized tests such as ADIR. Of course, this diagnosis can be made based on observation and separation of symptoms, based on experience and based on autism criteria in DSM5. Attention deficit hyperactivity disorder includes persistent patterns of inattention, difficulty remembering, difficulty managing time, difficulty organizing tasks, hyperactivity, and impulsivity that interfere with learning and daily life.

Autism spectrum disorder and anxiety

Anxiety disorder is observed in 42% of people with autism spectrum disorder, while approximately 3-15% of the non-autistic population may suffer from anxiety. Social anxiety or severe fear of groups or social situations is common among people with autism spectrum disorder. On the other hand, many people with autism have problems controlling impulses caused by anxiety. You can use cognitive, behavioral and drug therapy methods to treat autism spectrum disorder.

Autism spectrum disorder and depression

Depression affects about 7% of children and 26% of adults with autism spectrum disorder. While this disease affects about 2% of children and 7% of non-autistic adults. The rate of depression for people with autism spectrum disorder increases with age and mental defects. The symptoms of this disorder in people with autism spectrum disorder include loss of interest in things that used to be the routine of a person's life, failure to take care of health status, feeling tired and lethargic, severe sadness and frequent crying. Extreme cases, adults may also have frequent thoughts about death or suicide. The treatment of this disorder in people with autism spectrum disorder includes cognitive therapy and antidepressants [58].

Autism spectrum disorder and obsessive-compulsive disorder (OCD)

Research shows that obsession is much more common among adolescents and adults with autism spectrum disorder than other people (Figure 4). But the diagnosis and differentiation of these two disorders is very, very difficult due to a lot of overlap and requires advanced tests and experts in diagnosis.

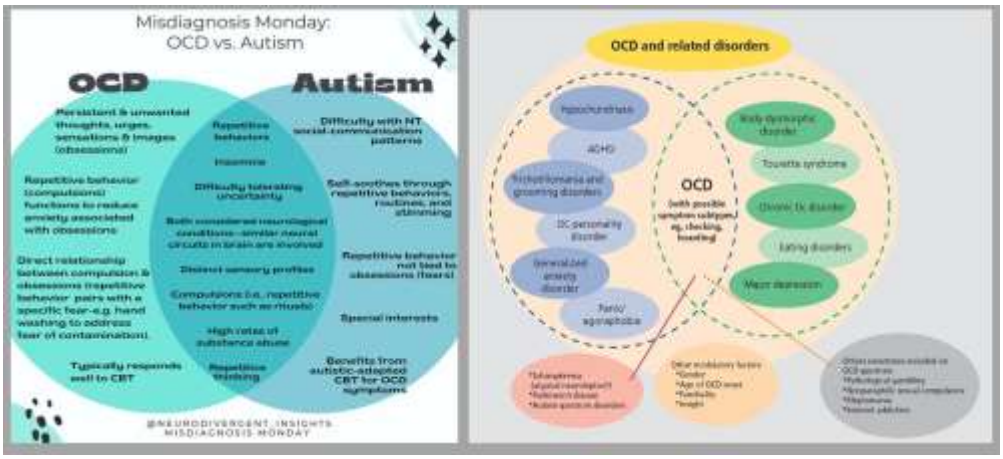

Figure 4. Autism spectrum disorder and obsessive-compulsive disorder (OCD)

Autism spectrum disorder and schizophrenia

People with autism spectrum disorder and schizophrenia both have challenges with processing language and understanding the thoughts and feelings of others. The obvious difference between these two disorders is psychosis in schizophrenic people, whose symptoms are delusions. In addition to these symptoms of autism spectrum disorder is observed between 1 and 3 years old, if the symptoms of schizophrenia appear in early adulthood. To treat this disorder, only drug therapy and antipsychotic drugs can be used.

Autism spectrum disorder and bipolar disorder

People with bipolar disorder oscillate between two states of mania and depression and show one of these symptoms in periods of time. Knowing the symptoms of bipolar disorder from autism spectrum disorder can only be recognized by checking when these symptoms appeared and how long they lasted. For example, a child with autism spectrum disorder may be full of energy and socially impaired, and may not want to talk to other people or make inappropriate and unusual comments, which is considered a part of a person's autism, not a result of it. For more information on mood disorders and autism disorder, it is recommended to read the article on bipolar disorder and autism disorder [59].

Autism spectrum disorder and dyslexia: Dyslexia is a lifelong learning disorder in language development and language skills. This disorder affects processing, storing and retrieving information, processing speed, time perception, organization and sequence understanding.

Autism spectrum disorder and Fragile X syndrome

People with fragile X syndrome can have mild to severe learning disabilities. Speech and language development may be delayed in them and they may experience anxiety in social situations. Behaviors related to fragile X syndrome can include short attention span, irritability, excessive mobility, lack of eye contact, difficulty communicating with others. Others need routines and routine life, echolalia and repetitive hand movements or hand biting. Most of these mentioned cases are similar to the problems seen in people with autism spectrum disorder. However, autism spectrum disorder and fragile X syndrome are two separate disorders that can be seen together in some people.

Autism spectrum disorder and hyper lexia

These people are fascinated by numbers and letters and have the ability to read far beyond their age. But on the other hand, people with hyper lexia may have problems in understanding language and interacting and socializing with others.

Autism spectrum disorder, and echolalia

This disorder can be seen in the majority of children with autism, so that some consider this disorder as one of the characteristics of autism disorder. Echolalia disorder is more common in children with autism at a young age, and as people age, the intensity and frequency of this repetition decreases to a small extent. Behavior therapy and speech therapy can be used to treat this disorder. For more information on echolalia, it is recommended to read the article on echolalia and autism disorder [60].

Autism spectrum disorder and mental disabilities

For more than fifty years, the term mental retardation was used for a range of children, and from 2013, in DSM5, this term was removed and the term intellectual disability (or mental and intellectual disability) was used instead. Autism and mental disability account for 1% of the entire society. In DSM5, three characteristics and criteria for mental disability are defined:

- Defects in intellectual performance that have been determined by a specialist and through standard tests and can lead to the inability to solve problems, plan, think abstractly, etc.
- Significant defects in life skills and adaptive skills in life that lead to the inability to meet the standards of personal independence and social responsibilities and...
- Observing mental disability and defects in adaptive skills during the developmental period in social and practical conceptual fields.

Many people with autism who show signs of developmental disorder have symptoms that overlap with intellectual disability. But it should be checked whether these observed symptoms are due to intellectual disabilities or whether social, communication and behavioral defects have affected it. It is possible to separate these two disorders from each other if the communication and social interactions of a person with autism are lower than the level of his non-verbal skills, in other words, in a person with mental disability, there is an obvious difference between the level of social and communication skills and other mental skills. It does not exist, but in a person with autism, the person may have a higher level of mental skills compared to their communication skills (this criterion is relative and is seen most of the time). Finally, autism spectrum disorder and intellectual disability are two completely separate disorders [50]. According to the article "Types of Autism Spectrum Disorder" published on this website, according to Autism Speak and quoted by the CDC, 31% of people with Autism Spectrum Disorder in the United States have mental disabilities, that is, they have an IQ lower than 70, which can be considered to be placed in this category at level 3. About 25% are in the borderline range, intelligence between 71 and 85, which can be placed in level 2, and about 44% of these children have average to above average intelligence scores, i.e. above 85, which this category can be placed at level 1.

Sensory processing disorder and autism

Following the article on sensory strategies for people with autism and to complete your information, dear colleague or family, it was necessary to mention some things about the symptoms and types of sensory processing disorders. The available statistics about sensory processing disorder in America is one child out of every 20 children, of course, this statistic is still being evaluated, but in our country, unfortunately, there are no accurate statistics of this disorder. This disorder is mostly seen as a disorder with autism spectrum (autism), ADHD, language disorders, learning disorder, fragile X and post-traumatic stress disorder. The cause of this disorder is not yet known precisely, but studies show that genetic causes that cause disorders such as autism can be one of the causes of this disorder, and of course, it can be pointed out that this disorder is more common in boys, which may indicate another reason for this disorder are genetics.

Symptoms of sensory processing disorder

The symptoms of this disorder vary greatly from child to child and can include the following

- Avoid being touched;
- Showing behavioral problems such as self-biting;
- Difficulties in calming down after being aroused, for example, stereotyped movements;
- Avoid eating foods with specific textures, for example boiled meat, noodles;
- Hypersensitivity to a particular fabric;
- Wearing clothes that have soft texture and fibers;
- Avoid getting hands or body dirty;
- Lack of desire for creative games (tendency to play repetitive and everyday games);
- Sensitivity to sounds, especially to the sound of hair dryers, washing machines, or sirens;
- Sensitivity to smells (strong or mild);
- Challenging some movements such as swinging, sliding and going down the stairs;
- Paying attention or hearing background noises that others do not hear or do not pay attention to;
- They may accidentally hurt others;
- Performing risky behaviors [61].

Music therapy and speech therapy in children with autism

Music therapy has the ability to perform diverse and broad functions in medical, behavioral and educational fields with exceptional children, teenagers and adults. Music is effective because it is a non-verbal form of communication, a natural reinforce, "Immediately available" in time, and provides stimulation for non-musical skills. The most important thing is that it is a successful medium because almost everyone responds positively to at least some types of music. The training of a music therapist requires a comprehensive curriculum including a full program of music classes along with psychology, special education and anatomy courses and dedicated music therapy courses and experience in this field. Finally, a written test will be taken. Music therapists will take refresher courses to update their knowledge [62].

Genetic factors in the development of Asperger's

Among the factors related to Asperger's (AS) pathogenesis, genetic contribution is widely accepted. Genome sequence data means there are hundreds of genes associated with autism and Asperger's. However, no specific genetic mutation specific to Asperger's syndrome has been identified. It is estimated that 400 to 1,000 genes are likely to cause Asperger's. Genes contributing to autism and Asperger's syndrome are involved in various biological functions related to brain development and function. For example, people with Asperger's are likely to have specific changes in a gene (GABRB3) that has previously been implicated in individual differences in empathy. Gene variants (CNVs) that are deleted or duplicated in DNA change the function of genes. This has been found in approximately 9 out of 10 people with Asperger's syndrome in clinical samples. There is significant genetic overlap between autism (ASD) and Asperger's with other neurological and psychiatric conditions such as epilepsy, mental retardation, and schizophrenia. Our understanding is that these genetic factors disrupt brain development by disrupting important biological pathways, leading to disease development.

Environmental factors in the development of Asperger's syndrome

Identifying modifiable risk factors associated with Asperger's is especially important to reduce exposure of children and pregnant women to known neurotoxins. Environmental factors may act as an independent risk factor or influence genetic factors present in individuals with a genetic background. These include parental age, events during pregnancy and childbirth, maternal factors, fetal environment, and exposure to toxins and teratogens. There is strong evidence that higher parental age is associated with the risk of having a child with Asperger syndrome. Pregnancy factors such as premature delivery, low birth weight, intrapartum hypoxia, intrauterine exposure to valproic acid and thalidomide, and neonatal encephalopathy are also associated with an increased risk of autism and Asperger's syndrome. Other

prenatal conditions that may be associated with an increased risk of Asperger syndrome include short gestational age, multiple pregnancies, maternal obesity, gestational diabetes, and prenatal infections such as rubella and cytomegalovirus. It is important to note that, based on systematic reviews of several large epidemiological studies, there is no evidence of an association between Asperger's syndrome and immunosuppression as an environmental risk factor. Therefore, children with autism and Asperger's syndrome should be vaccinated according to the usual recommended schedule. Asperger's syndrome usually presents with communication problems [63].

Diagnosis of Asperger syndrome (AS)

Currently, there is no specific test that can diagnose Asperger syndrome in adults. There are also no current diagnostic criteria for Asperger syndrome in adults. Autism spectrum disorders are usually diagnosed in early childhood. If you have signs or symptoms of Asperger's, it is very unlikely that you will be undiagnosed as an adult. However, it is not impossible.

Criteria your healthcare provider may consider

- **Social observations.** Your healthcare provider may ask about your social life. They want to assess your social skills and your interactions with others. These can help them see how much your symptoms are affecting this area of your life.
- **Physical issues.** Your healthcare provider will want to rule out possible underlying conditions that could be causing your symptoms.
- **Other conditions.** People with Asperger often experience anxiety, depression and hyperactivity. In fact, Asperger's syndrome may be misdiagnosed as one of these. When a trained professional can examine you, they are more likely to correctly diagnose your autistic disorders.

Discuss:

In patients with autism spectrum disorder, neuroanatomical and neuro physical studies show cellular regulatory disorders in several brain regions including frontal and cerebral lobes and cerebellum. Enlargement of the amygdala and hippocampus is more common in childhood. There are significantly more neurons in selective subdivisions of the frontal cortex in autopsy specimens of some children with autism compared to those without autism. MRI imaging studies have shown evidence for neuroanatomical and connectivity differences in individuals with autism compared to normal groups. Specifically, these studies have found reduced or abnormal connectivity in the frontal magnetic field as well as thinning of the corpus callosum in children and adults with autism and related disorders (Figure 5). In magnetic brain scans of children with autism spectrum disorder, more myelins are seen in the bilateral frontal cortex and less myelins in the left temporoparietal connections. Similarly, regional differences in the density of gray matter, which includes neuronal cell bodies, dendrites, axons, and non-glialized cells, are also found in the brains of individuals with autism [64].

Metabolic abnormalities:

In animal studies, dysfunction of serotonin and neuropeptides, oxytocin and vasopressin are associated with disorders in dependent behaviors. Neurophysiological disorders including 1 or more of these substances may be present in people with autism spectrum disorder. Elevated blood serotonin levels occur in approximately one-third of people with autism and are also reported in parents and siblings of patients. Functional abnormalities in other neurotransmitters (such as acetylcholine, glutamate) have also been identified in some individuals with autism spectrum disorder. In some people with autism spectrum disorder, serum biotinides' is reduced. This enzyme is required for the utilization and recycling of B vitamin biotin. Biotin deficiency is associated with behavioral disorders [15].

Figure 5. Forest plot showed Functional Assessment of Challenging Behavior in Patients with Autism Syndrome: Diagnosis and Treatment

Regular visits to the doctor

Pediatricians are at the first stage of diagnosis of autism spectrum disorder. Every child between the ages of 18 and 24 months, even if he looks completely healthy, should be checked and evaluated. During these visits, the doctor talks to the child, observes his behavioral symptoms, and learns about his family history, the child's growth and upbringing.

The key points that the doctor pays attention to include the following

- Does the child smile at six months?
- Does he imitate people's voices and facial expressions at 9 months?
- Does the child produce unintelligible sounds and words at 12 months?
- Does the child show repetitive and abnormal behavior?
- Does he have trouble making eye contact?
- Does the child interact with others and share experiences with them?
- Does he react when someone tries to get his attention?
- Is the tone of his voice even and calm?
- Does the child notice the behavior of others?
- Is it sensitive to light, temperature and sound?
- Does the child have sleep or digestion problems?
- Does the child get easily offended and angry?

Correct and accurate answers to these questions are very important. If the answers to the questions are checked and there are no problems (Figure 6), the problem is solved. Otherwise, the pediatrician will refer the child to the relevant specialist doctor [66].

Treatment:

In order to achieve a favorable result, the patient must start treatment immediately after the diagnosis of autism spectrum disorder. Although the debate centers on the appropriate form of special education, some evidence suggests that the educational program should be delivered by a special education teacher who is familiar with autism spectrum disorders and related conditions. Because language and communication impairments are often the main obstacle to progress in education, work, and personal life, patients often use specialized communication and training aids. People who specialize in the treatment needs of people with severe communication disabilities (e.g., speech and language specialists) may help the patient maximize communication skills. Although psychoanalytic methods were common for the treatment of children with autism in the middle of the 20th century, these approaches were not effective and are no longer used. Drug therapy is ineffective in treating the main deficits of autism spectrum disorder, but may be effective in treating behavioral problems and co-occurring disorders. The potential benefits of drug therapy must be weighed against the potential side effects on a case-by-case basis.

Figure 6. Forest plot showed Functional Assessment of Cardio Pulmonary Problem in Patients with Autism Syndrome: Diagnosis and Treatment

Tips that people with autism and their caregivers should know about the Covid-19 vaccine!

People with autism spectrum disorder (ASD) have had unique burdens during the epidemic. "Covid-19 has been devastating for the autism community as well as the larger intellectual and developmental disabilities community," said Christopher Banks, president of the Autism Society of America. Autism spectrum disorder is a developmental disability associated with social, communication and behavioral challenges. According to a report published on March 21, 2021 in NEJM Catalyst: Innovations in Care Delivery. In fact, people with developmental disabilities such as autism are more than three times more likely to die following a diagnosis of Covid-19 than others. The study described examined nearly 65 million patient records in the United States in 2020. The researchers also found that people with intellectual disabilities were 2.75 times more likely to die than people without intellectual disabilities. According to the Centers for Disease Control and Prevention (CDC), approximately one-third of people with ASD have an intellectual disability. "It's important that people with disabilities get vaccinated as soon as possible because vaccines can prevent death," says Dr. Alicia Halladay, chief scientific officer of the Autism Science Foundation in Scardale, New York. 1.85% (1 in 54) of 8-year-old children in the United States were diagnosed with autism spectrum disorder in 2016. Boys were four times more likely to develop ASD than both black and white children. Hispanic children were 1.2 times more likely to have the disease.

1. Why are people with autism at risk of contracting Covid-19?

The higher risk of Covid-19 that researchers found in people with autism is not because of the developmental or intellectual disabilities themselves, but rather because people with them live more often in a group environment and cannot communicate about symptoms or have trouble understanding or following safety precautions, according to the CDC. "Sometimes it's difficult for people with ASD to wear masks and maintain social distancing [and they] put themselves and others at increased risk of spreading or contracting Covid-19," says Robert Hendren, psychiatrist and director of the center. Early symptoms may be missed because people with ASD may not be able to articulate their discomfort, such as a sore throat. Dr. Hendren explains that if someone with ASD develops Covid-19, they may have a very difficult time in the hospital and receiving treatments that are unfamiliar, uncomfortable, and potentially scary. Additionally, as the authors of the NEJM Catalyst report they pointed out that people with intellectual disabilities are more likely to have other health problems that put them at risk of infection and disease from Covid-19, such as heart disease, obesity.

2. What Covid-19 vaccines are available for people with autism?

Currently, three vaccines are available for all adults and some children in the United States, approved by the US Food and Drug Administration (FDA) under emergency use authorization. According to the CDC, they are all safe and effective against infection and disease caused by the SARS-CoV-2 coronavirus that causes Covid-19. Two of them rely on mRNA technology, which instructs immune cells to make a piece of protein that triggers the immune system's response to disease when infected with a virus, the CDC says. The two mRNA vaccines are:

Pfizer-BioNTech vaccine approved for people over 12 years of age. It is delivered in a regimen of two shots three weeks apart.

The Moderna vaccine is approved for ages 18 and older. It is delivered in two-shot regimen four weeks apart. Both are at least 90 percent effective in preventing symptomatic infection by the virus that causes Covid-19, according to the CDC. In any case, two weeks after the second shot you are fully protected.

The third vaccine is the Johnson and Johnson vaccine. A "One-and-done" inoculation that consists of one shot followed by a two-week waiting period to achieve full vaccination. It uses viral vector technology with an adenovirus, which belongs to a family of viruses that can cause cold or flu-like symptoms. A modified version of the adenovirus, which is non-infectious, enters cells and instructs them to make a piece of protein that triggers an immune response if a person is exposed to the SARS-CoV-2 virus, the CDC explains.

3. Are Covid-19 vaccines safe for people with autism?

According to experts interviewed for this article, vaccines are just as safe for people with ASD as they are for others. People with disabilities, including autism, were included in clinical trials of vaccines. According to a fact sheet

published by Autism Speaks, those clinical trials showed the vaccines to be safe and effective for everyone. People who should not be vaccinated with mRNA vaccines (Pfizer or Moderna) include people who have had a severe allergic reaction, severe enough to be hospitalized or treated with epinephrine or an EpiPen, to one of the ingredients in the vaccines, such as poly have had ethylene CDC says glycol. Those who had a severe or immediate reaction to the first injection should also avoid it. Similar guidance is provided for the J&J vaccine for those with a history of allergy to poly sorbate or other ingredients in it. In all cases, these adverse reactions are rare. Under no circumstances can J&J, Pfizer, or Moderna vaccines infect you with the virus that causes Covid-19, change your DNA, affect your fertility, or affect the DNA of a child born to a vaccinated mother. While they are very safe, there are rare cases of adverse reactions to vaccines. Administration of the J&J vaccine resumed in the United States after a brief pause in April 2021 to evaluate its safety. The FDA and CDC advise that women under the age of 50, in particular, be aware of the rare risk of blood clots with low platelets in response to the vaccine [17].

"The most common side effect after the vaccine, whether it's the first or the second dose, is arm pain," Halladay adds. Most people who receive the vaccine can continue with their daily activities, but a small percentage say they were too tired to work or do their daily activities for about a day. On the other hand, a Covid-19 infection can lead to hospitalization. "Longer hospital stays are associated with a higher risk of death," he says. All societies around the world are preventing the spread of Covid-19 by observing social distancing. As a result, as mentioned, many schools and businesses have been closed. Many adults and children are working and learning at home at the same time. But adapting to new conditions will definitely bring unique challenges for people with autism and their families. Many children who struggle with autism need special care from behavioral and health professionals in their communities. Children receiving intensive early behavioral intervention rely on small group and individual interactions. Schools and teachers also provide another essential support network for children with autism. However, school closures mean that children have very limited access to educational services. Children with autism disorder may not understand the reason for changing their daily activities, and this leads to stress, frustration or anxiety, and each of these emotional stimuli aggravates the complications of this disorder and leads to severe behavioral and communication problems. But the real problem appears when the parents of these children struggle to balance their career and home responsibilities while taking care of their children these days [68]. So, on the one hand, the domestic affairs of the house, on the one hand, and if they are employed, it will definitely interfere with the responsibilities inside the house and supporting their children, on the other hand, it will become a concern. But perhaps by following and applying simple tips and passing it on to parents, a burden, even if insignificant, can be removed from their shoulders.

Conclusion:

ABA is a widely used therapy to help autistic children develop skills and improve certain behaviors. Although some research suggests it can work, others say it may do more harm than good. Ultimately, it's up to the child's parent or caregiver to decide whether or not they want their child to try this type of treatment. However, this form of therapy may not work for every autistic child. Therefore, it is very important to listen to the needs and feelings of the child. Autism spectrum disorder (ASD) is a complex condition that affects a person's ability to interact and interpret the world around them. It is a lifelong condition that can cause significant challenges in communication, social interaction, and behavior. While there is no single cause for ASD, there are various factors that can increase a person's risk of developing the disease. No medication is prescribed specifically for Asperger's syndrome. Some people with Asperger's disease or related conditions can function well in their lives without taking any medication. Whether or not your doctor prescribes medication depends on your or your child's symptoms. Focusing on treating problematic symptoms can also help reduce the number of medications you or your child take.

Certain types of medications can help manage severe symptoms of Asperger's or related illnesses. These drugs include

- Antidepressants or serotonin reuptake inhibitors.
- Antipsychotic.
- Medicines for attention deficit disorder.

These and other medications have potentially serious side effects. So talk to your doctor about whether these medications are right for you or your child. Fortunately, advanced medical science has made it possible to start using medical services as soon as possible by referring to medical clinics, maybe it is the first step of definitive diagnosis. Therefore, you should not be satisfied only with the advice of friends and acquaintances, but also seek help from qualified scientific authorities for diagnosis and treatment. The results of various studies on autistic patients show that young people and adults get better with age. But adults with autism who have mental retardation may worsen over time. Worse or better condition is to take care and start specialized treatment for these patients. Specialists in this field have very high experience and can improve the conditions of autistic patients. The way to improve them is to diagnose the disease in time. Mild autism is a level of this disease where people with it have high functioning in managing their behavior. This type of autism is called level one. In autism, an affected person has the symptoms of the disease, but does not need the support of others for his personal tasks. Adults who think they have the symptoms of autism but want to be sure about it, in addition to visiting clinics in person, can use the online adult autism test. In this way, by referring to the site, he answers questions designed by a specialist doctor. These questions are designed according to the behaviors of autistic people and the screenings done, which may be diagnosed by answering 30 questions. Of course, this test can't be very accurate, that's why in case of suspicion, you will be contacted by the clinic to perform a detailed examination and, if you are infected, to start counseling and treatment.

Is autism genetic or hereditary?

The causes of autism can be genetic. The results of various studies related to autism show that this disease has a very strong genetic basis, although considering the complexity of this disorder, it is not yet clear whether the disease is caused by rare genetic mutations or multigene interactions cause it. It comes into existence.

Can all autistic people have a normal life?

The life of autistic children can vary depending on the spectrum of the disease they are suffering from, if the child is suffering from a severe form of autism, they may not even be able to communicate with their eyes or never regain their speech. This child's condition may worsen over time. But teenagers and adults usually get better with time and can live a normal life.

Reasons for fetal autism during pregnancy

The factors that cause autism in the fetus are related to pregnancy and before the birth of the baby. The birth of a baby with autism depends on various factors, including these factors:

- Birth of a baby from elderly parents, both or one of whom may be elderly.
- Autistic babies may be born to mothers with diabetes.
- The use of psychiatric drugs during pregnancy causes the birth of an autistic baby.
- Autism is one of the congenital defects during the first eight weeks after conception.

Prevention of autism

Considering that various studies show that environmental factors can cause autism in people. Therefore, not being exposed to these factors is one of the ways to prevent autism. Avoiding exposure to agricultural and other toxins, using healthy nutrients and maintaining health and immune system help prevent autism. Due to the spread of autism disease, many treatments are available for it, which can be helpful and useful in improving the patient's condition. These treatments include teaching social skills and being in the community, doing physical therapy to improve the physical condition, using occupational therapy methods to help the patient move correctly, integrated sensory and communication treatments, as well as treatment Hai pointed in the direction of analyzing the behavior of autistic patients.

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