

Foundations in Autism Spectrum Disorders and Related Neurodevelopmental Disorders: Possible Causes, Characteristics, Diagnosis, and Treatment.

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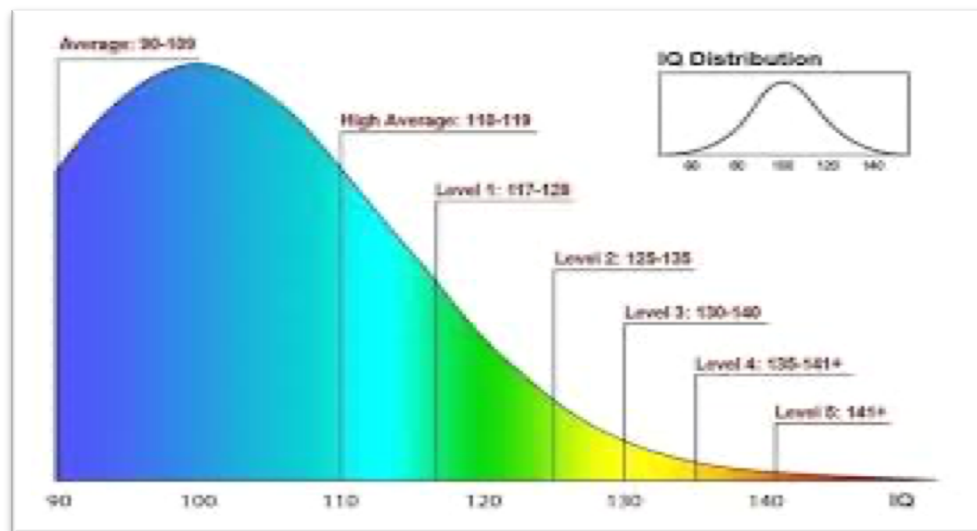
ABSTRACT

Autism Spectrum Disorders (ASD) is a long life formative dysfunction characterized by symptomatic criteria that begins early in infants and continues throughout life. ASD is a condition that influences a child's sensory system that includes touch, smell, taste, hearing, and visual abilities. Typical forms of ASD in the pre-2013 DSM-5 manual also include Asperger's Syndrome; and Pervasive Developmental Disorder. The characteristics of these disorders are similar but may differ significantly. Children with ASD show difficulties or delays with social communication and necessary daily activities. Still, on the other hand, some may present themselves with the average ability to communicate both verbally and non-verbally. These disorders affect social interaction, behavior, interests, and other norms in life. Understanding the method of early intervention may include therapy and mediation that will assist in connecting natural and pharmacological approaches to deal with the treatment of ASD and distinguish standard or fundamental dynamic elements for advancing positive outcomes.

Keywords: Autism Spectrum Disorder (ASD), Asperger's Syndrome, Pervasive Developmental Disorder, Developmental disorders.

INTRODUCTION

According to Hazlett, children with autism usually repeat themselves and provide unrelated answers to questions. They face difficulty in understanding non-verbal cues like gestures and body language, along with the tone of a person's voice (Hazlett et al., 2017). Attention Deficit Hyperactivity Disorder (ADHD) is a neurobehavioural disorder in children and continues into adulthood. ADHD is mostly hyperactive behavior that can cause significant problems such as underachievement at schools, weak interaction with others, and emotional turmoil. The intellectual disability shows a sub-average mental functioning that takes place before the age of 12, and it impairs a variety of life skills such as communication and self-care. Cerebral Palsy (CP) is a disorder that has a negative effect on cognitive skills along with body movement. It gives rise to abnormal reflexes and rigidity of the limbs that cause a great deal of inconvenience for a person with Cerebral Palsy.



Source: (Ninds.nih.gov., 2020)

Autism spectrum disorder (ASD) is a behavioral and cognitive condition that begins soon after birth and continues into adulthood. It influences the way an individual behaves, connects, communicates, learns, and interacts with others. A growing infant with ASD might have a distinct behavior pattern and intensity level and are characterized—low functioning to high functioning. Autism is classified as a "spectrum" condition because the form and frequency of symptoms encountered by individuals can vary widely. Although scientists do not know the precise mechanisms that affect and control ASD, evidence shows that genes may work in tandem with environmental factors to impact growth in ways that contribute to autism. This study aimed to evaluate the fundamental aspects of ASD. It also examines diagnostic plans, practical measures, interventions, and possible strategies to manage the condition (HelpGuide.org, 2020). ASD involves a range of disorders characterized by impairment of social behavior, language, communication, and activities unique to an individual that are often expressed repetitively. Children affected by autism usually begin to express symptoms during the first five years of life, which can include the co-occurrence of multiple conditions, such as depression, anxiety, epilepsy, and attention deficit hyperactivity disorder (ADHD). Internationally, and particularly in the United States, it is estimated that 1 in 59 children have been diagnosed with ASD (CDC, 2016). Specific prevalence figures have not been established, though, based on epidemiological studies undertaken in the past 50 years has shown high and increasing prevalence on a global scale. In Japan, the prevalence has been estimated to be between 0.4 and 0.05% (Carruthers et al., 2018). Scientific studies have shown that many factors may lead to the development of ASD, including aspects such as environmental and genetic factors. Current epidemiological suggest there is no evidence of a causal association between ASD and diseases such as measles, mumps, rubella, and autism (McPartland & Volkmar, 2012). In this review, an assessment of disorders related to the autism spectrum is discussed in greater detail.

DISORDERS ADHD

ADHD is among the common disorders affecting the neurodevelopmental behavior of children. Children with this behavioral disorder usually have difficulty paying attention, exhibit frequent impulsive behavior, and are often overly active. Symptoms include activities, such as daydreaming, forgetfulness, constant moving, continuously talking, and having difficulty getting along with others.

Causes of this condition have not been established, but scientists have hypothesized that there is a likely role played by genetics in those individuals with ADHD. Other causes and risk factors entail environmental exposure, brain injury, alcohol, preterm delivery, and low birth weight (Sayal, et al., 2018). In Japan, guidelines have been formulated to manage ADHD; strategies have been fronted to improve parenting and confidence in implementing interventions among affected children (Shimabukuro et al., 2020).

Asperger's Syndrome

Asperger's syndrome is a developmental disorder characterized by changes and difficulties in social interaction, lack of verbal communication, and repetitive behavior. Signs and symptoms are usually noticed before the age of two and can continue throughout their life. Pediatric specialists in neurology do not fully understand the cause of this condition; however, it has been reported that it is possibly linked to genetic factors. Environmental factors are also known to play a role in the overall development. Currently, there is no known cure; however, treatment is geared towards reducing obsessive behavior and helping individuals cope with symptoms and difficulties (Simpson, 2018)

Brain & Nervous System

The brain and nervous system present common neurological disorders such as multiple sclerosis (MS), Alzheimer's disease, epilepsy, stroke, and Parkinson's disease. Regarding autism, there is a lack of clear unifying and defining mechanisms that link behaviors that possibly have multiple pathophysiologies. It is still not clear whether a few disorders cause mutations in a common molecular pathway or several disorders with a diverse mechanism.

Developmental Disorders

Developmental disorders are a group of mental health issues that include children with developmental problems such as motor skills, language, cognitive skills, and social interaction. Management of developmental disabilities will consist of speech therapy, psychopharmacologic treatment, family psychoeducational therapy, and other approaches to aid children with their developmental needs. The principal goal of treatment involves supporting the child to achieve and maximize abilities while reducing the occurrence of additional problems. Accurate and early diagnosis is crucial for managing developmental disorders among children. Diagnosis entails ongoing visits and evaluations by health care practitioners focusing on the developmental milestones and comparing them with typically developing (TD) children of the same age group. In Japan, approved medication involves the usage of the pimozone drug that has been used as a medical treatment together with other psychotropic drugs (Satoh et al., 2016).

Epilepsy

Epilepsy is a neurological disorder that affects brain activity, loss of consciousness, convulsions, and temporary confusion. Symptoms will vary depending on the type of seizure, but common symptoms may also include staring spells, anxiety, fear, and uncontrolled behavior. Seizures are categorized as either focal or generalized (Tatum, 2019). In contrast, some individuals may show minimal symptoms, but the most common type of seizures are convulsive. Causes of Epilepsy include genetics, brain conditions, prenatal injury, tumors, infections, and developmental disorders.

CHILDHOOD DISINTEGRATIVE DISORDER

Childhood disintegrative disorder (CDD) or Heller's syndrome is a rare disorder that is characterized by the onset of developmental delays and sudden reversals in social function, language, and motor skills. Studies have not explicitly established the actual cause of this disorder; however, similarities have been linked to autism and are referred to as a low functioning form of this disorder. It has been fused with a single diagnostic term referred to as "autism spectrum disorder" under the DSM-5 manual, 2013. A child with this disorder will gradually develop changes in their social behavior, communication skills, learning skills, sensory skills, and comprehension skills. On the other hand, some skills, such as expressive skills, receptive language skills, social skills, play skills, and motor skills, may gradually or abruptly diminish and regress over time. Further impairment also occurs in either social, communication, or repetitive behavior patterns. Management of this disorder involves behavior therapy application, environmental therapy, and medications (Kurita, 2011).

Pervasive Developmental Disorder-(PDD- NOS)

Pervasive Developmental Disorder-(PDD- NOS) refers to a group of disorders that are associated with impaired development of social interaction, verbal and nonverbal communication, limited interests, and imaginative activity, which are repetitive. Common features of this state involve poor social skills, language communication, slow sensory processing, low environmental adaptations, and cognitive challenges (Köse et al., 2017). In a case incidence analysis report during 1995 and 2001, it was outlined that 76.2 patients out of 10,000 births experienced this form of autism disorder in Japan. This was accompanied by other complications such as prenatal abnormalities, epilepsies, mental retardation, and Acquired Brain Injury (ABI) cases (Nomura et al., 2019). Early signs and symptoms are apparent in the first formative time frame; common shortfalls and standards of conduct probably will not be perceived as indications of ASD until a child or individual cannot meet basic living necessities. Useful constraints fluctuate among individuals with ASD and might develop during their early life. The global awareness of mental imbalance has expanded rapidly since it led to the most punctual epidemiologic investigations in the late 1960s and mid-1970s. During that period, recognition from European studies was around 2,500 individuals in the populace, and by the year 2000, pervasiveness measured from enormous overviews was around 1%-2% (Siegel et al. 2012). Although unknown explanations behind the noticeable changes are complicated to gauge accurately, select examinations propose that a significant part of the ongoing pervasiveness increment is likely owing to the advancement of diagnostic tools and highly improved education for all stakeholders. Recently, there has been a considerable demand for the number of children and families seeking help for autism and other related neurodevelopmental disorders.

In the psychiatric field, autism has become more noticeable, as reflected in the new DSM-5 manual. What had been viewed as many unmistakable conditions portrayed as an inescapable formative issue — developmental disorders, Asperger's, Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS), Childhood Disintegrative Disorder (CDD) — is currently viewed as one issue that presents along with a range of symptoms and practices of fluctuating medical conditions. It introduces children with autism range issues by a mix of unconventional methods: shortages in correspondence, social abilities, and confined or tedious behavior. These manifestations may shift enormously in time and become more manageable.

Children with mental imbalance can easily be aggravated with the slightest change in an everyday routine. In younger children, indications of autism incorporate requesting toys as opposed to playing with them. In older children, the redundant conduct can show as a devouring enthusiasm for a subject or object. Indications of these social shortages may be seen in many individuals with autism, and each person will display their unique behavior pattern depending on their assigning level. In infants, the inability to respond to their name is a possible warning sign, as is a lack of engagement in giving, sharing, or showing objects of interest. In more seasoned children, there are cautioning signs to incorporate verbal communication issues, absence of eye-to-eye contact, and difficulty using and perusing non-verbal communication. These individuals may experience problems perceiving others' feelings, reacting suitably to various social circumstances, and understand the importance of interpersonal communication. The new DSM-5 conduct criteria incorporate what is repeatedly called tactile handling issues. Many children with autism are curiously sensitive to sound, bright light, touch, taste, or smell. Some children might be overpowered by an abundance of sensory information or be agitated and feel discomfort because of an absence of tactile information related to their disorder.

Gender prevalence has been reported that “together with anecdotal evidence, suggest that the ratio of autistic males to females ranges from 2:1 to 16:1. The most-up-to-date estimate is 3:1.” (National Autistic Society, 2019). Although current studies have shown that there is no connection between vaccinations and Autism Spectrum Disorders, for analysis of mental imbalance range issues, a child must show symptoms in two key areas: interpersonal skills, social interaction, repetitive behavior, interests, and activities. The symptoms must impede and should be available in the early formative time frame—they are regularly perceived in a child's subsequent year—yet it may not show until a child is more mature. Social requests often surpass their capacities. Medical professionals believe it is difficult to diagnose autism before 24 months, but in some cases, symptoms can appear between 12 ~ 18 months (Autism Help Guide, 2019).

Developmental red flags

ASD symptoms warrant an immediate evaluation by a psychologist, a child psychiatrist, a developmental pediatrician, or a child neurologist:

At six months: No big smiles or other warm, joyful expressions

At nine months: No back-and-forth sharing of sounds, smiles, or other facial expressions

At twelve months: Lack of response to name

At twelve months: No babbling or “baby talk.”

At twelve months: No back-and-forth gestures, such as pointing, showing, reaching, or waving

At twelve months: No spoken words

At twenty-four months: No meaningful two-word phrases that do not involve imitating or repeating

(Source: Autism Help Guide, 2019)

CAUSES OF ASD

Researchers and doctors believe genetic mutations, metabolic imbalances, parents having children at a late age, fragile X syndrome, environmental factors, low birthrate, and food intake are contributing factors to Autism Spectrum Disorders. Among the community, parents, teachers, and related care workers have a better understanding of ASD and how to manage it. Previously, autism prevalence was 62 cases per 10,000 people. Today, 1 in 59 children in the U.S.A are identified with

ASD (CDC, 2016), and it has been reported that 1 in 37 boys and 1 in 151 girls as having autism according to the Autism and Developmental Disabilities Monitoring Network (ADDM). Imaging investigations of individuals with ASD have discovered contrasts in the advancement of studies of the cerebrum. Studies suggested that ASD could be an aftereffect of interruptions in typical cerebrum development from the beginning of a child's birth. These interruptions might be the consequence of imperfections in qualities that control mental health and direct how synapses work with one another. A mental imbalance is progressively regular in children conceived without careful consideration. Common elements may likewise assume a job in quality capacity and improvement, yet no ecological causes have yet been identified. The hypothesis that parental practices are answerable for ASD has, for some time, been discredited. Many examinations have shown that immunization to forestall irresistible child illness does not build the risk of mental imbalance in the general population.

COMMUNICATION DIFFICULTIES AND SOCIAL IMPAIRMENT

Children with ASD significantly feel interpersonal communication and social interaction a challenging part of life. Autistic individuals may find it difficult to share information, discuss emotions, give feedback, understand others' feelings, and make new friends. Social impairment may cause delays in verbal communication and the inability to read or understand non-verbal communication cues. Some children may show a lack of response to their name, no direct eye contact with others, and only communicate with people to accomplish explicit objectives. Children living with ASD find it difficult to blend in or play with other kids and may want to be independent of others. These autistic individuals may think it's challenging to comprehend others' sentiments or discussions while taking into consideration their own emotions. Autistic children may have deferred discourse and language aptitudes; they may repeat expressions and offer disconnected responses to questions. In some cases, non-verbal communication can be a way of building a relationship with children who suffer from neurodevelopmental disorders, and this can be a platform for language development.

CHARACTERISTIC AND REPETITIVE BEHAVIORS

Individuals with ASD may display development or irregular practices, for example, hand-flapping, shaking from side to side, spinning, obsessive interests, and repetitive movement with objects. They may become engrossed with toys, and spend hours doing the same activity. Some children may likewise turn out to be fanatically inspired by a specific point, for example, detailed information regarding time, travel, TV, YouTube, or other points of interest. These children appear to flourish such a considerable amount of information on a schedule that changes day by day — like an abrupt detour from school to home — or visiting an amusement attraction. Additionally, some children become agitated quickly or distressed, especially when doing an excessively troublesome task such as homework or simple daily activities.

DISORDERS ASSOCIATED WITH ASD

Certain realized hereditary issues are related to an expanded risk of autism, including Fragile X Syndrome (FXS), which is an inherited genetic disease of around 50% (FRAXA,2020), and Tuberous sclerosis complex (TSC) that is associated with ASD and causes tumors to develop in the brain and other vital organs (Jeste, 2013). As of late, scientists have discovered related hereditary transformations in children, which are possible mechanisms for Autism Spectrum Disorders. While every one of these abnormalities is uncommon, they may represent 20 percent or a higher amount

of all mental imbalance disorders. Children with ASD may have a more severe than usual risk of epilepsy. Children whose language abilities relapse from the get-go throughout everyday life — before age 3 — are possibly at risk of epilepsy or uncontrolled electrical disturbances such as seizures. It has been reported, around 20 to 30 percent of children with ASD develop epilepsy before adulthood (NIH,2020). Furthermore, individuals with both ASD and Neurodevelopmental disorders are at a higher risk of having seizures, compared to typically developing (TD) children.

MORTALITY ASSOCIATED WITH ASD

Over the years, the number of children with ASD has increased recently. Today, healthcare workers have access to improved diagnostic tools and advanced screening methods, so more ASD cases are coming to light. Both clinical and patient-based investigations have announced poor long-haul outcomes concerning instruction, work, independent living, and interactive communication. An unfortunate long-haul result has been reported in the workplace, and workers with ASD face many tough challenges that include effective communication, interacting with other employees, comprehension, competence, and sensory issues. On a brighter note, it has also been reported that there have been positive results with autistic employees showing strong skills in research and high levels of concentration on their work. Mental comorbidity is common in people with ASD, particularly Low-functioning autism (LFA), which may contribute to the hereditary disorder ('syndromic' autism, for example, Delicate X Disorder, Down Syndrome, or Tuberous Sclerosis. It has accounted for the risk of premature mortality among people with ASD. According to (Healthline.com 2016), the mortality for people living with ASD is 2.5 percent, and the average life expectancy is around 70 years.

HERITABILITY OF ASD

Studies have discovered that Autism Spectrum Disorder (ASD) in families and twin examinations gauge the extent of the phenotype fluctuation because of hereditary variables (heritability) to be between 36 and 95%. In previous reports, ASD heritability was assessed to be 0.50 and shared familial ecological effects to be 0.04. In families with the firstborn child with ASD, the risk of having a second child with autism also increases to around 15%, (Raising children with ASD, 2017). Over the years, scientists have identified a significant number of gene variations that are believed to affect brain development in ways that can increase the risk of autism. From time to time, parents, and distinctive relatives of an adolescent with ASD show delicate inabilities in human capacities or take an interest in mundane practices. Confirmation moreover recommends that energetic issues, for instance, bipolar disarray and schizophrenia, occasionally occur typically in individuals with ASD. Despite inherited assortments that are obtained and are accessible to human genetic cells, recent research has moreover demonstrated that again or unconstrained, and quality changes can affect the risk of each child. These changes may affect single characteristics or changes called copy number assortments, in which stretches of DNA containing various regions are deleted or duplicated. Continuous examinations have demonstrated that people with gene changes that relate to ASD will, in most cases, inherit an increased risk of developing the condition, rather than the disorder itself. Scientific research has all shown us it can be passed on according to the inheritance of that syndrome. A great deal of research is still required to understand the outcome of ASD fully and how genes may cause changes in the brain that lead to developmental disorders.

GENERAL ANALYSIS

Children with a high level of autism are more than likely to visit hospitals and clinics to receive therapy and counseling (Croen et al. 2006). Up to 11% of children with ASD are hospitalized by the age of 21 (Mandell 2008). The cost of hospitalizing a child with ASD is twice the average compared to a healthy child (Croen et al. 2006). Psychopathology, for example, uneasiness and despair, are overrepresented in children with ASD (Simonoff et al. 2008) and contrasted with neurotypical children. Children with ASD may develop symptoms that shift from those seen in typically developing children to unusual behavior and require specialists' doctors, nurses, and trained care workers, besides parents and other related stakeholders. Because of constrained access to specific units, children with a higher level of autism are sometimes admitted to general pediatric psychiatry units. Select units comprise multidisciplinary therapy meetings, incorporating Applied Behavior Analysis (ABA), which include talk time, speech and language pathology, word related treatment, nursing, and social work. Specific units use a bio-direct method that applies to both psychopharmacology and ABA therapy for ASD individuals (Siegel et al. 2012).

Mental hospitalization is disproportionately high among adolescents with ASD, and individuals with this disorder spend more time receiving treatment compared to healthy children (Croen et al. 2006). Epidemiological data suggest that the Practical Assessment of Clinical Examination Skills (PACES) for ASD is increasing (Elsabbagh et al. 2012), while allowed in specific inpatient psychiatry units, and is widely used for trainee doctors. Differentiating clinical outcomes by specific and general treatment models is relied upon to initiate future methods concerning resource assignment for the psychological treatment of children with ASD who show high-level autism.

Changes to demonstrative criteria in the Diagnostic and Statistical Manual of Mental Disorders, the fifth release included taking out a few sub-indicative classifications (for example, Asperger disorder, a less severe form of autism, compared to more advanced types of autism: High-functioning autism (HFA). The prerequisites for this determination likewise diminished from level-3 criteria (social correspondence, informative purpose, limited and redundant practices in DSM IV-TR) to level 2 standards (social correspondence/cooperation and confined and tedious practices in DSM-5). Individuals must meet all the social correspondence/collaboration criteria, which include issues responding to social or passionate participation, interaction issues, and nonverbal correspondence cues. Children should likewise meet two of the four confined practice criteria, which include: stereotyped or tedious discourse, motor developments or utilization of items; exorbitant adherence to schedules, ritualized conduct, or over the top protection from change; minimal interests, irregular in power or center; and hyper or hyperreactivity to sensory information or surprising enthusiasm for substantial parts of the condition. These indications must reason utilitarian debilitation for a finding to be made. Related manifestations might be seen with autism range issues, including, yet not constrained to, peevishness, hyperactivity, forceful practices, uneasiness, state of mind indications, and sleep deprivation. The absence of early biomarkers for recognizing the neurodevelopmental or neurobehavioral issue, for example, autism range issues ("ASDs"), is still a progressing clinical goal.

The pervasiveness of ASDs in children is assessed to be ~1%, with roughly multiple times a more significant number of males than females being influenced by these Autism Spectrum Disorders. Family and twin examinations show that ASDs are exceptionally heritable, and genetic elements can clarify 36% and 95. % of the phenotypic fluctuation (Autism Speaks, 2020). Despite this impressive

heritability, the ID and replication of hereditary factors for ASDs has been challenging, as their genetic engineering is unpredictable and exceptionally heterogeneous. In 2013, a study of autistic-like traits was published by the Genome-Wide Association (GWASs) of ASDs. Interesting facts were published and shown to support that protein kinase C enzymes play an essential, "role in signal transduction, regulation of gene expression, and control of cell division and differentiation" (NCBI, Jones, 2013).

Populace based twin examinations have demonstrated that, as ASDs, such medically introverted characteristics are heritable, with heritability rates ranging from 36 to 95%. To gauge medically introverted qualities in people, various polls have been created. Of those, the Social and Communication Disorders Checklist (SCDC) and the Autism Spectrum Quotient (AQ) are generally utilized in hereditary examinations. The AQ is a 50 question self-report survey of mentally unbalanced qualities in adults, and the SCDC is a parent-appraised poll estimating social communication disability in children.

Reliably, typically behavior-based strategies are best in advancing correspondence, social collaboration, consistent and mindful conduct, and in evidence-based practices (Klintwall, Eldevik, & Eikeseth, 2015; Rogers & Vismara, 2008; Vismara & Rogers, 2010). Progressively "formative" or "naturalistic" intercessions have gradually incorporated with social projects to utilize materials and benefits explicit to the child's needs, and reward-based systems when appropriate (Schreibman et al., 2015; Reichow, 2012). Necessary medications are progressively successful when administered accordingly, and as required under the circumstances. Prior experience of concentrated conduct programs is related to being mainstreamed (Harris & Handleman, 2000), and more noteworthy verbal addition and subtraction problems (Vivanti, Dissanayake, & Victorian ASELCC Team, 2016). Similar but differing results were held with younger children (MacDonald et al., 2014): Children who began their escalated social program before the age of 2, 3, or 4 acknowledged gains. Still, younger infants who participated in the 'Early Start Denver Model' showed symptoms related to autism (Rogers et al., 2014).

People coordinated for age and IQ yet, at the same time meeting criteria for ASD, found that the ideal result group had received more mediation hours, especially from ages 2 to 2.5 and from 2.5 to 3 years (Orinstein et al., 2014). With these studies, roughly 10% of the mentally unbalanced examples, followed tentatively from the ages of 2 to 19, showed positive results compared to those in other related studies (Anderson et al., 2014). The research suggests early intervention is essential for improving IQ, language ability, social interaction, and physical skills. Children who have no access to behavior-based interventions are more than likely to suffer in the long run (Liptak et al., 2008), especially younger children. The families of the latter are of lower SES-Social-Economic Status (Daniels & Mandell, 2014).

The average time of screening and diagnosis of ASD in the United States is around four years, but this can differ from minority or low-SES families (Mandell, Novak, & Zubritsky, 2005). Less fortunate children are usually diagnosed later in life when the condition of ASD has progressed, which becomes more complicated to treat (Johnson & Van Hecke, 2015). Recognizing compelling treatment for ASD and taking action quickly is beneficial, which brings up the issue of how to distinguish mental imbalance as early as expected under the circumstances. The American Academy of Pediatrics (AAP) suggests progressing formative reconnaissance, expansive developmental

screening from Nine months, Eighteen months, and between Twenty-four months and Thirty months. Mental imbalance explicit screening should be carried from Eighteen months to Two years of age (Johnson and Myers, 2007).

Formative screening devices can likewise uncover parental concerns and help concerned parties better understand neurodevelopmental disorders. Albeit only 17% of pediatricians and respondents followed AAP suggestions, and 41% underwent a mental imbalance screening (Self, Parham, & Rajagopalan, 2015). Multiple barriers exist with screening, diagnosis, treatment, and education for young autistic children. All medical specialists, care-workers, and including parents, need to be updated with the latest diagnostic tools, medicines, and screening methods. (Barton, Dumont-Mathieu, & Fein, 2012; Dosreis et al., 2006; Miller et al., 2011). Essential consideration practices can arrive at screening PACES of over 70% with fitting instruction and support (Earls & Hay, 2006). Also, screening for a mental imbalance at 18 months or two years is advisable (Chlebowski et al., 2013; Robins et al., 2014). "The Modified Checklist for Autism in Toddlers-Revised with follow-up questions" (Robins et al., 2014) has a decent record of foreseeing ASD and reasonable affectability (Khowaja, Hazzard, & Robins, 2015). A more complicated issue is False Positives (a test result which wrongly shows that a child has autism), which causes anxiety and confusion in most parents. False positives for mental imbalance are overwhelmingly liable to be genuine positives for other formative conditions that need distinguishing evidence and treatment (Robins et al., 2014). Although children from groups of minority or low-SES foundation, "have a higher screen positive rate on the Modified Checklist for Autism/Revised" (Robins et al., 2014), this is rectified when follow-up questions are carried out, and findings do not show segment variety; along these lines, comprehensive screening can diminish inconsistencies in determination and early access to treatment and support (Khowaja et al., 2015).

Parents and providers should work closely with medical professionals to discuss alternative plans, goals, treatment, and ongoing support for their child. Advancement of health care, welfare, and medical insurance will probably benefit patients with neurodevelopmental disorders, and bring about positive changes, for example, better diagnostics tools, parent and stakeholder education, more ongoing support both inside and outside the home environment, pharmacologic and non-pharmacologic intercession for testing practices, and utilization of corresponding and elective clinical medicines.

Improvement of clinical consideration is likewise prone to affect habilitative advancement and personal satisfaction positively. Remedies have not been shown to address the inside deficiencies of ASDs and are not the primary treatment. Related maladaptive practices or mental comorbidities may interfere with informational headway, socialization, prosperity or security, and individual fulfillment. These practices may be pleasant to psychopharmacologic mediation or, from time to time, treatment of essential disorders that are causing or strengthening the practices. The clinical organization may allow a child with an ASD to benefit even more in a perfect world from educational mediations.

The DSM-5 Manual states that there are three levels of autism:

- **Level 1:** Requiring support. Share on Pinterest A person with level 1 autism may have difficulties in social situations.

- **Level 2:** Requiring substantial support
- **Level 3:** Requiring significant support.

(Source: DSM-5 Manual June 2013)

CURRENT INFORMATION

Diagnosis, therapies, and tools for ASD

Autism Spectrum Disorders are challenging to diagnose because there is no medical test; for example, a simple blood or urine test. Medical experts will base their diagnosis on the child's developmental history and behavior. ASD can occur in children as young as 18 months. Unfortunately, many children may not receive a final diagnosis until a later stage in their life. Diagnosis requires a team of specialists that include a developmental pediatrician, child psychiatrist or psychologist, a pathologist in speech and language, and an occupational therapist. Sometimes, it may be essential to conduct a brain examination, such as a Computer-Assisted Axial Tomography (CAT), or an Electroencephalogram (EEG) to identify distinct changes in the child's brain that could lead to ASD (Sharma, Gonda & Tarazi, 2018).

Tools for evaluation

There are specific diagnostic tools that can be used in the assessment of ASD and other types of neurodevelopmental disorders. Comprehensive diagnostic evaluation can be applied for diagnosing autism through five basic human senses that encompass sight, hearing, taste, touch, and smell. Clinical evaluation and autism self-evaluation can also be used. Early assessment is essential for quick diagnosis and future care. Developmental screening can help understand developmental delays that can assist in understanding the child's condition (Ninds.nih.gov., 2020). Clinicians use a variety of clinical diagnostic tools for collecting information concerning ADHD. There is no single test that can be used for the evaluation of this disorder as there are many problems, such as depression, sleep disorders, anxiety, and so forth (Mandal, Yang & Fan, 2019). For Children and Adolescent Intellectual Disability, a Screening Questionnaire can be used to evaluate the current state of a child that is suffering from the severity of intellectual disability. Medical Research Council Scale (MRCS) can prove useful in muscle testing, and it is the clinical evaluation tool that is used for grading muscle strength of the child with cerebral palsy. Future methods for evaluation can include a sensory profile as a biomarker for ASD, which is currently being researched at Osaka University, Japan.

Psycho-Social Therapies

A full scope of psychosocial mediations has been implemented, concentrating on both the neurodevelopmental disorders and related signs of ASD. Applied Behavior Analysis (ABA) is a treatment subject to theories of learning, hygiene, fine-motor skills, grooming, social interaction, improving behaviors, and work-related competence. It fuses unequivocal intercession targets, joined with empowering input (verbal praise, rewards, or attractive incentives), with the repetition of learning essential core skills. Early ABA intervention is highly recommended for faster outcomes and improvement for Autistic Patients.

A unique number of past assessments required methodological approaches, and replication with randomized controlled fundamentals was relied upon to support such cases. One early proposed ABA treatment model is the Early Start Denver Model, which demonstrated necessary scholarly and flexible lead increments through the range of 2 years in a randomized, controlled primer of 48

preschool-developed children. A meta-examination reviewing the feasibility of ABA mediations for individuals with compound awkwardness showed medium to high results on academic abilities, language improvement, natural living aptitudes, social working, and a more significant effect on language-related outcomes.

Restrictions to this mediation incorporate the time allotment required to see enhancements, faulty generalizability of scholarly aptitudes, and absence of inspiration from these subjects' abilities. Additional restrictions to ABA mediations incorporate the expense of acute treatments, which are costly, given the concentrated time of therapy (twenty-plus hours over seven days). Another treatment that helps in treating center side effects of ASD is Pivotal Response Treatment (PRT) and incorporates an increasingly naturalistic conduct technique that targets pre-school to middle school students with ASD, and is highly effective (Applied Behavior Analysis Programs, 2020)

One randomized controlled trial analyzed the expansion of a supplemental social and educational program for treatment. Both ABA and PRT therapies were used in the survey to test the effectiveness of additional educational programs and improvements. The study for the supplemental educational plan indicated a twofold increment socially and educationally. However, the other two results demonstrated comparable gains in both treatment gatherings. Other psychosocial intercessions incorporate parent-interceded early mediations and social aptitudes mediations.

Social aptitudes mediations have additionally been used as alternative therapies and are more widespread in people with medium to higher psychological working levels. They are frequently conducted in small groups. Social abilities intercessions incorporate companion related intervention, social communication, and class discussion video. Objectives include passionate guidelines, fundamental discussion aptitudes, nonverbal relational skills, point of view taking, starting, reacting, and keeping up social interactions. Surveys on communicative abilities and mediations demonstrated positive results. Intellectual conduct treatment (CBT) or Cognitive-Behavioral Therapy is a talking therapy for ASD people who want to improve the way they think and behave. Randomized controlled preliminaries have demonstrated CBT to be a successful therapy for stress and anxiety. CBT is a cognitive- behavioral therapy that teaches learning techniques for deep breathing, building confidence, and competence.

Developmental Models

Formative models depend on the utilization of developmental hypotheses to evaluate theories concerning the comorbid conditions of Autism Spectrum Disorders and configuring ways to address these shortfalls. The Early Start Denver Model (ESDM) is one such model that supports children and individuals with ASD. The key features of the model focus on parent interaction, language communication, childhood developmental goals, and naturalistic strategies are drawn from Applied Behavioral Analysis (ABA) theories. This program has moved from a middle-based treatment unit to support conveyance in homes and inclusive school settings. A few examinations have exhibited enhancements in motor-skills, learned behavior, interaction with others, and social abilities.

Relationship-concentrated early intercession models incorporate Greenspan and Wieder's formative, singular distinction, Developmental, Individual Difference, Relationship-Based (DIR) method, Gutstein, and Sheely's relationship-improvement mediation (RDI), and the Responsive-

Training (RT) educational curriculum created by Gerald Mahoney (Mahoney et al. 2006). The DIR approach centers on "floor-time" play meetings, and different activities that are incorporated to build positive interaction, mental development, language development, tactile balance, and visual-spatial handling. Some skeptics believe more time and evidence is needed to prove the effectiveness of the DIR model, as no real data can be replicated across a range of children with autism. Relationship Developmental Intervention (RDI) is a family-based, parent-child relationship intervention that focuses on building social and emotional skills. RDI offers support for families and children with ASD or other related neurodevelopmental disorders. A few supporters have commended the legitimacy of this model, which focuses on the center debilitation in social correspondence.

Further research is required to prove the validity and benefits of RDI, but for now, most participating parents and careworkers are happy with the current outcomes.

There are six objectives of RDI:

1. **Emotional Referencing:** The ability to learn from the emotional and subjective experiences of others
2. **Social Coordination:** the ability to observe and control behavior to participate in social relationships successfully
3. **Declarative language:** the ability to use language and non-verbal communication to express curiosity, invite others to interact, share perceptions and feelings and coordinate your actions with others
4. **Flexible Thinking:** the ability to adapt and alter plans as circumstances change
5. **Relational Information Processing:** the ability to put things into context and solve problems that lack clear cut solutions and have no "right and wrong" solutions
6. **Foresight and Hindsight:** the ability to think about past experiences and anticipate future possibilities based on past experiences

(Source: Autism Speaks, February 2020)

One investigation announced the advantageous impacts of RT on small children with ASDs or other formative inabilities. Parents and guardians were educated to use RT methodologies to urge their children to receive and use significant formative practices (consideration, steadiness, intrigue, inception, participation, joint examination, and influence). Children in both studies improved substantially on non-traditional play-based proportions of perception and correspondence.

Sensory Integration Therapy and Occupational Therapy

Communication problems and other related symptoms characterize most children with ASD, and their inability to interact with others and limited interests or play skills. Occupational therapy (OT) might be useful in assisting autistic children in developing communication and interaction skills necessary for school and daily life. In the treatment of ASD, the importance of OT is to study how individuals interact with the environment through their daily activities. Occupational therapists are professionals in the social, psychological, and emotional effects of an injury or illness. Therefore, their knowledge helps to ensure that they promote skills development in autistic children who want to live a normal life (Webb et al., 2011). The effectiveness of occupational therapy lies in the collaboration between parents or guardians, teachers, and health professionals. All parties help in setting specific goals while ensuring that children are involved in decision making as much as

possible. The goals sets are focused on social interaction, communication, behavioral changes, and academic performance.

According to Webb, Dawson, Bernier & Panagiotis, (2006), some children with ASD suffer from Sensory Processing Disorder (SPD). However, this does not imply that all children with SPD are autistic, as SPD is commonly misunderstood and misdiagnosed. In attending to their day-to-day functions, autistic children face the challenge of using senses such as body awareness, self-regulation, academic skills, and motor skills. Sensory processing disorder (SPD) is a neurological disorder that affects the nervous system, and SPD children seem to have more problems with touch. In contrast, children with ASD struggle more with sound, taste, and smell.

Therefore, SPD occurs when the brain is unable to process normal sensory messages that originate from an individual's body and the surrounding area. Hence, Sensory Integration Therapy (SIT) may help in treating SPD that is present in autistic children. The treatment helps in calming children even though this is not a cure. Autistic children are over-responsive, and sensory integration therapy helps in resetting such behaviors. Possible benefits of SIT may include improved function at school and home, self-regulation, social participation, improved motor skills, and control of the sensory system (Beaumont, 2020).

Sensory integration therapy is carried out by an occupational therapy based on their experience and knowledge in the field. A pediatric OT conducts evaluations and assessments, and this, in return, enables them to understand how the sensory system has been affected. After evaluation, this will allow therapy to begin, which incorporates exciting activities to encourage the participation of autistic children and equip them with the skills on how to process their different sensory stimuli effectively. In addition, OT therapists design a Sensory diet, which is a group of activities specific to the child's needs, which is used in the home and school environments (Sensorysmarts, 2020). In other cases, taking part in a sensory gym activity allows children to participate in a sensory program successfully.

CLINICAL MANAGEMENT

Children with ASD have similar medical needs as healthy children and benefit in equal measures from the use of vaccines. However, based on their limited learning, socializing, and communication skills, they might require extensive therapeutic care. There is no one clinical intervention that is a perfect fit for all autistic children, given that their needs vary based on the severity of the disorder. Therefore, a thorough health assessment must be carried out on the child to identify his or her specific symptoms and needs. Thus, a practical evaluation begins by observing the behavioral and responsive characteristics of a child, including past medical history. The assessment must additionally incorporate a physical and psychological evaluation. The approach helps in determining the treatment choices available for each child. Most clinical management programs for children with ASD are focused on addressing social, language, and behavioral problems associated with the disorder. Some programs are focused on minimizing problematic behaviors and allowing children to gain new skills. Also, these programs seek to teach autistic children how to behave within a social setting and communicate effectively with others (Tager-Flusberg, Paul & Lord, 2005). Therefore, clinical management of ASD begins by making a significant observation of the behaviors and skills that are displayed by each patient.

Operational practice methods are essential in dealing with children and young individuals with ASD. There is a universal agreement that it is only qualified professionals using effective practice methods within a sanctioned approach that achieves optimal therapy and performance outcomes among ASD children (Self, Parham & Rajagopalan, 2015). Based on the complexity of the needs that ASD children present across the social, communication, and academic fields, these professionals must carry out thorough research to determine suitable intervention methods for each child. The observational practice is necessary for deciding how each patient is affected by ASD.

Adequacy of Educational Interventions in Children

Autistic children respond positively to well-developed educational programs. Successful educational programs typically incorporate professional educators with vast experience to enable autistic children to enhance their social skills, communication skills, and behavioral skills. The aim is to ensure that new skills learned help ASD individuals fit into the academic, social, and professional fields. Applied behavior analysis (ABA) is a program that can help children develop new skills and knowledge in a variety of scenarios following a reward-based system of motivation (Earls & Hay, 2006).

To ensure that children learn and can apply the acquired skills, the engagement of parents and family is essential. Members of the family are required to learn how they should interact and play with their autistic child in a manner that promotes the development of social interaction, behavioral control, responsiveness, and teach them about the activities of daily life. However, it has widely been noted that the educational transition challenges for autistic children are complicated. Most of the educational programs are limited since they are carried out by professional occupational therapists. Autistic children might also experience difficulties understanding significant changes, and in this context, social changes can make their lives miserable, and this can affect their tolerance levels (Reichow, 2012). Behavioral issues might intensify during this period; therefore, all stakeholders are responsible for the outcome of the child's future.

Speech and Language Therapy

For most autistic children, intellectual and language impairment are common challenges that they face. Speech and language therapy, therefore, helps in addressing these issues by equipping autistic children with communication and language skills. Therapy can be essential in assisting individuals with ASD to help improve their overall verbal, non-verbal, and social communication capabilities (Self, Parham & Rajagopalan, 2015). The principal objective of speech and language therapy is to help autistic individuals communicate effectively and coherently. However, while speech and language therapy aims to improve communication, the practice will vary from one individual to the other based on the extent to which an individual's communication has been affected.

Therefore, speech therapy helps them to overcome such challenges based on their limited communication skills. Speech-language therapy starts with an assessment of an individual's communication weaknesses and strengths. The evaluation is carried out by a Speech-language Pathologist (SLP) who also develops individualized goals for the patients to achieve within a set time (Self, Parham & Rajagopalan, 2015). Some of the most common goals might incorporate improving the patient's spoken language skills, non-verbal skills such as gestures and signs, and learning how to communicate using alternative strategies through modern technology or visuals.

For some autistic children, the use of visuals or modern technology to communicate works well. The approach is called Alternative Augmentative Communication (AAC). The strategy involves the use of iPads, smartphones, TV, speech devices, and a communication system that relies on exchanging pictures and the use of sign language (MacDonald, Parry-Cruwys, Dupere & Ahearn, 2014). In addition, speech-language therapy can be beneficial in helping individuals work on developing their social communication skills. Sometimes, speech therapists offer social-based treatment besides one-on-one therapy. The intervention allows professionals to coach children about the use of different forms of communication and their applicability within social settings.

Pharmacological Treatment

Today, there is no medication with the efficacy to cure individuals with ASD, but certain drugs are used to control symptoms. For instance, some medications might be prescribed for a child characterized by hyperactivity, while antidepressants might help deal with anxiety. Therefore, healthcare professionals must be well-informed about the medical history of a child, given that the interaction between certain medications might have adverse side effects. Autistic children will suffer from a range of medical issues such as sleep depravity, epilepsy, loss of appetite, headaches, allergies, immune disorders, and stomach issues. Autistic children may also suffer from mental disorders such as depression and anxiety due to their inability to understand the changes occurring in their physical appearance and behavior.

Although there is no consensus regarding the psychopharmacologic treatment of people with autism range issues (Filipek et al. 2006), the administration of medicines for the autistic individuals has transformed in recent years. Aman and others (2005) noted that there was an extensive growth in using antidepressants in controlling symptoms exhibited by autistic persons between 1993 and 2001. Using antipsychotics and psychostimulants has increased in the treatment of people with mental imbalance. The class of medications demonstrating the most significant increment was antidepressants. These drugs are used in the treatment of most mental disorders ranging from depression to anxiety and given that autistic people tend to suffer from these issues explains the rise in the use of the medicines (Aman et al. 2005). Langworthy-Lam and others (2002) found that a large portion of the subjects with autism (50.2%) whose guardians were reviewed in 2001 was taking psychotropic or anticonvulsant drugs during the study. As indicated by a 1999 overview of guardians of individuals with autism, Aman, and others (2003) revealed that 51.6 percent of the sample population reported using either antiepileptic drugs or psychotropic medications. The most habitually recommended anticonvulsants were divalproex sodium, gabapentin, lamotrigine, topiramate, and carbamazepine.

In dealing with mental health, professionals recommend autistic patients to take antidepressants to help control their behavioral and emotional disorders. Antidepressants are the most commonly prescribed medicines among children and youth with autism. The drugs help them not only live an independent life but also improve their academic performance and attend to their day-to-day activities more comfortably. According to Martin et al. (1999), the outcome was moderate, with 32.1% of participants taking "stimulants" during hourly intervals. Langworthy-lam et al. (2002), however, established that the use of antidepressants is lower, given that it is only high among individuals suffering from mental instability. For children and youth with ASD, they experience mild-to-moderate symptoms and, therefore, do not require the intake of antidepressants. Energizers were the second most basic prescriptions, used by a little over one-fourth of the sample

population. Martin et al. (1999) additionally established that as a healthy alternative and held that despite their importance in helping control ASD symptoms, the prevalence of their use is marginally lower at about 20.2 percent.

Aman et al. (2003) and Langworthy-Lam et al. (2002) revealed even more moderate paces of energizer use of 11.3% and 13.8% for each study, respectively. Close to one-fourth of the current sample population used in the studies reported having been on the antipsychotic drug as a treatment for over one year an extent that would be higher than the rates announced in "current use" study contemplates, for example, about 16%. Since none of the most widely recognized prescriptions is intended to address the central manifestations of autism, the medications that are used are mainly focused on achieving emotional stability and promoting social well-being for the intended persons. There is, therefore, a necessity to ensure that a comprehensive assessment is carried out before administering medicines. It is essential to understand that symptoms associated with autism can be controlled through therapy, not medication. However, a combination of drugs and therapy is more effective in improving the overall well-being of these patients. The medicine should be recommended based on personalized treatment, which helps in addressing interaction and communication issues that autistic people face on a day-to-day basis.

DISCUSSION

Unarguably, autistic individuals suffer from language and communication issues, which severely affect their ability to interact and learn socially. Therefore, to achieve a positive outcome, a professional occupational therapist must rely on approved and suitable approaches to help these autistic people. Applied Behavior Analysis (ABA) is one of the leading therapies guided by the science of behavioral study and learning. The behavioral analysis helps in understanding the functions of behavior in real-life situations (Tager-Flusberg, Paul, & Lord, 2005). The aim is to boost behaviors that are meaningful while decreasing those that are harmful and that have adverse effects on learning. ABA therapy programs are essential for ASD children and teens because they can lead to speech and language skills improvement, improved attentiveness, memory management, enhanced academic performance, and reduce problematic behaviors.

ABA has been assessed and used in practice for decades since the 1960s and helps autistic children acquire different skills such as healthier living styles to learning a new language. The approach is highly recommended because one of its main strategies is positive reinforcement, which helps autistic children in gaining the necessary skills. In this context, children are rewarded for every positive behavioral change. With a reward, there is a likelihood that the child will repeat the behavior to receive recognition for achievement (Trent, Artiles & Englert, 1998). With time, the approach usually encourages positive behavioral changes. The therapy begins typically by a therapist identifying and setting behavioral goals. Every time an individual uses the skill or behavior successfully, he or she is rewarded, and this serves as motivation for the child. Both intrinsic and extrinsic rewards are beneficial in motivating behavioral change in ASD individuals. An individual should not always be given something of monetary value. Still, praise through other means such as a video to watch, toys to play with, a book to read, or allow them to take part in physical activities as motivation and repetitive behavior is beneficial. Eventually, after the children have repeated the action, it becomes a routine and improves the child's outlook in life. Positive rewards typically encourage autistic children to develop, which leads to significant behavioral changes.

Besides, ABA therapy helps autistic children to learn about behavioral change and their respective outcomes. An individual will learn, for instance, by being aggressive, that this might hurt another person or themselves and therefore avoid aggressive behavior. The approach is also guided by positive reinforcement, which helps in achieving the desired outcomes. Unfortunately, it has been noted that there is no one ABA therapy program that is suitable for all autistic children. In this case, it should be treated as a group of drills, and every application is developed to meet the specific needs of autistic children due to their learning issues (Oswald & Sonenklar, 2007). The objective of the ABA programs is to assist autistic children in learning how to apply the acquired skills to become more independent and fit into society.

Although using a reward system for positive outcomes as a way of teaching behaviors has been in use for many years. The approach helps in achieving specific goals to encourage behavioral change. Most individuals advocate for the ABA therapy approach since it is successful in attaining set outcomes, especially among autistic children, because they find it difficult to control their emotions and feelings. However, some critics believe that the approach is less useful, especially when the reward system is no longer in use, therefore leaving the individual less motivated and confused (Earls & Hay, 2006). It is worth noting that the positive reward system has its highs and lows. Still, the expected outcome is for autistic children to learn about behavioral change and fit into society. Inherently, autistic individuals lack emotional connection such as empathy and remorse, and therefore the approach is vital in equipping them with the essential skills.

The effectiveness of the ABA therapy program depends mainly on the Discrete Trials Teaching (DTT) procedure. However, this is just one of the many strategies used inside the domain of ABA. DTT strategies help set up learning goals by seeking to understand learning challenges and strengths. Nonetheless, DTT has been reprimanded because of issues with speculation of professional practices to unconstrained use in natural habitats and because the exceptionally organized training condition is not illustrative of the normal cooperative behavior in autistic children. Conventional ABA methods have been altered to address these issues (Tager-Flusberg, Paul, & Lord, 2005). Naturalistic social mediations, for example, coincidental instructing and standard language worldview or crucial reaction preparation, may upgrade speculation of aptitudes.

Specific materials of DTT are grounded on the assessment of every autistic child, their needs, and their abilities. In this context, this implies to a child with the ability who can sort familiar shapes, will, therefore, not be required to sort items on the grounds of shapes to receive a reward. The approach is mainly focused on different and more challenging behavioral and social tasks. Young children might receive an advanced method of ABA, which primarily relates to playing therapy techniques rather than random trials. While mastering their behaviors, professional therapists take autistic children into the real world where they can develop the skills and practices they have acquired and incorporate them into their social experiments.

Moreover, ABA can also be used in different forms for both children and adults based on how seriously they are affected by ASD (Earls & Hay, 2006). ABA therapy is free and is particularly useful in helping children with autism on how to control their feelings. The behavioral changes can be vital in making a meaningful difference in the life of a child in both learning and connecting. However,

not every autistic child responds positively to the ABA approach, so other alternatives and specialists must be considered.

The aim of any therapy for children or individuals with autism is to help them live independent and fulfilling lives. The intervention is focused on enhancing the communication and interactive skills of these individuals, given that they suffer from limited competences in terms of social interaction and communication. The occupational therapist must first conduct a thorough examination of every child to determine their strengths and weaknesses. The evaluation helps in determining the intervention that is best suited for every child. Using individualized therapy and treatment is recommended since the needs of autistic children differ from one child to the other (Tager-Flusberg, Paul, & Lord, 2005). Therapy might be useful in the treatment of some individuals. Still, for others who have severe autism, the combination of therapy and medication, especially for those with mental instability, is essential.

Several studies have proven that young children with ASD show atypical neural reactions, especially facial reactions when subjected to objects (Dawson et al., 2002; Dawson et al., 2004; Webb et al., 2006; Webb et al., 2011). Sensory development happens with visual experience when children are naturally maturing (McPartland et al., 2004). This atypical example of cerebrum action was performed to standard after early intercession that begun when infants were under two-and-a-half years old. In particular, it was discovered that support in ESDM was related to standardized examples of brain response as measured by Event-Related Cerebrum Possibilities (ERPs) considering social and non-social activities (Dawson et al., 2012). However, those children who did not take part in the ESDM demonstrated shorter inactivity, ERP, and more prominent cortical enactment when playing with objects. More prominent cortical actuation while seeing appearances corresponded with improved social conduct in the ESDM therapy.

The participation between professionals, parents, and teachers is a significant factor in shaping the success of these programs. By participating, parents and guardians learn how different approaches can engage their children in playing activities. Also, by learning about the strengths of their children, they can, therefore, use the knowledge to help them improve in their academic and social performance. All stakeholders must ensure that they assess the options that exist and their expertise to the child.

Medication may not cure the symptoms, but it may help in assisting and easing the symptoms. According to Frazier et al. (2011), medicine is a helpful remedial mediation to oversee damaging social and psychological well-being side effects in the medically introverted populace; notwithstanding, there are at present no training rules. In a survey by Broadstock et al. (2007), a study reasoned that even though there is no standard drug for treating ASD, individuals are endorsed by an assortment of psychotropic prescriptions. Some people have proposed that children with ASD experience diminished adequacy and progressively unfavorable side effects from the use of these pharmacological drugs. According to Mandell et al. (2008), the use of psychotropic medication use has risen from 56% to 73% in six years.

In summary, we know little about the efficacy of antipsychotics and polypharmacy, particularly in the treatment of autistic patients, and those with high-level mental illness. The situation raises concerns about the welfare of autistic individuals, especially those who are severely affected by this

condition (Esbensen et al. 2009). Although the prevalence of autism has intensified in recent years across the globe, little has been achieved concerning the pharmacological treatment of children with autism and other related neurodevelopmental conditions. There is, therefore, a need for future researchers to investigate the drugs that work best in combination with therapy for children and young individuals with autism.

The aim is to explore new strategies and act accordingly. It is not only the child who needs help, but the parents and therapist also need to understand the objectives, the care plan, and the primary goal to implement an effective intervention that can improve the lifestyle of ASD individuals (Autism Speaks, 2020).

CONCLUSION

Management and assessment of childhood development are critical towards the promotion of optimal advancement, especially among individuals with autism spectrum disorders. It is evident, healthcare for these autistic individuals is complex and calls for a range of integrated services to offer adequate support. Interaction needs to be broader, entailing a physical, social, and positive environment for inclusive and supportive care processes. World Health Organization (WHO) understands the urgency for collaboration with countries and offering support for optimal health and well-being for people with ASD. Efforts have been geared towards international advocacy, provision of guidance, the contribution of development evidence, and strategies to offer assessment and treatment of ASD.

Autism Spectrum Disorders are incessant conditions that influence almost 1 in 59 children in the USA who require continuous clinical and nonmedical intercessions. There is a developing amount of evidence that bolsters the viability of specific mediations that improve children and adults with challenging behaviors. Health professionals understand the difficulty of diagnosis in ASD because of many non-autism specific factors and interactions that occur between development and ASD symptoms. According to the Center for Disease and Control (CDC), diagnosing ASD can be a challenge because there is no simple test, for example, a blood test or biomarker (CDC, 2020). A child's history of behavioral patterns is one way to make a diagnosis, but each child will display several behavioral patterns and sometimes misdiagnosed or a false positive.

Neuro-aggravation and neuro-invulnerable variations from the norm have now been developed in ASD advancement and upkeep. These changes can be considered as pathophysiological forms of ASD and not just comorbidities. Likewise, a few ASD-related side effects (i.e., seizures, rest unsettling influences, and gastrointestinal issues) could be impacted by changed invulnerable capacities. Many research discoveries bolster general well-being arrangements that focus on extensive screening of children for ASD. These indicative frameworks distinguish the most significant extent of those children as right on time as expected under the circumstances and prompt execution of escalated, typically based mediation.

The tools to achieve screening and determination are promptly accessible; what is currently required is predictable backing to safeguard that they are more broadly used and that they are available to autistic patients and their related networks. Understanding the importance of early intervention will assist with connecting the most appropriate ways to deal with treatment for individuals with ASD and distinguish standard or fundamental dynamic elements for advancing

ideal results. As research pushes ahead, extensive multi-site randomized controlled preliminaries are expected to increase a superior comprehension of intercession adequacy, singular reactions, dosing effects, and natural elements for ideal advancement. The future research of autism must emphasize factors that are constraining autism treatment. All stakeholders must concentrate on the study of the individual differences within the framework of the ASD population that can help in providing a better account for phenotypic heterogeneity. The future work would have to emphasize the mechanical process along with longitudinal developmental trajectories instead of the outcomes or endpoints.

The present scenario stated that one out of fifty-nine children has autism. The treatment of autism is not like the treatment of other common diseases (Autism Speaks, 2020). Early screening for children is essential for the future outcome. Therapy includes testing, medicines, and assistance by personal educators and trainers. Interacting with an ASD child may be difficult and sometimes stressful. Nevertheless, this is one of the most critical elements to help a child develop and build confidence. The prevention methods of autism are still not known, but children can lead a healthy life by the application of effective interventions.

FUTURE WORKS

Most medicines have shown adverse side effects such as irritability, aggression, anxiety, among others. There is a need for future work practices to focus on the development of novel drugs and treatments, which offer fewer problems to children and adults with autism-related disorders. In the long run, this will be effective in improving drug therapy adherence. Furthermore, according to the World Health Organization (WHO, 2019), there is still room for the development of evidence-based practice and guidelines development for effective and scalable strategies geared towards the assessment and management of ASD and other related developmental disorders. Lack of clear policies and frameworks has hindered actionable plans to address Autism Spectrum Disorders across the globe.

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