



INTERNATIONAL JOURNAL OF RESEARCH IN PHARMACEUTICAL SCIENCES

Published by JK Welfare & Pharmascope Foundation

Journal Home Page: <https://ijrps.com>

Management of Autism Spectrum Disorder in Children and Treatment

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Article History:

Received on: 24 Jul 2020
 Revised on: 23 Aug 2020
 Accepted on: 25 Aug 2020

Keywords:

Autism spectrum disorder,
 Treatment,
 Management,
 PRT,
 Sign language,
 Occupational Therapy,
 Speech therapy

ABSTRACT

Autism spectrum disorder is mainly characterized by impaired social function and disruptions of communication in a variety of Neurodevelopmental disorders. Symptoms involve conflict, loss of comprehension, intense emphasis on one task. Discussing the indications, Influenced youngsters to experience the absence of social correspondence and communication practices, for example, making conflicting eye contacts, not having the option to tune in and comprehend individuals around them, Rarely sharing happiness regarding items or exercises by pointing or demonstrating things to other people, Being delayed in reacting to their names or some other verbal endeavours to pick up consideration; Having outward appearances, developments and signals that don't coordinate with the circumstance; Having a surprising manner of speaking. It can have different etiological causes such as anatomy, maternal and perinatal influences, neuroanatomic anomalies, and environmental factors. As we examined the intricacy in the etiology and indications of the confusion, we may comprehend the trouble in the board intercessions and treatment ways to deal with the disorder. However, different specialists throughout the world had worked enthusiastically in building numerous intercession models that help in lessening the indications and in improving the social-relational abilities of the influenced. The review addresses various clinical, scientific, psychological, family-based and recovery strategies.



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ISSN: 0975-7538

DOI: <https://doi.org/10.26452/ijrps.v11iSPL3.2933>

Production and Hosted by

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INTRODUCTION

Autism spectrum disorder is a continuum of neurodevelopmental related mental disorders (Shreya

and Brundha, 2017). They are dominated by hindered social working and correspondence unsettling influences (Brundha and Nallaswamy, 2019). As indicated by the quot Symptomatic and Statistical Manual of Mental issue (DSM-5) a guide that has been made by the American Psychiatric Affiliation, Autism range issue is described by Difficulty with correspondence and communication with others; Restricted interests and dull practices; Symptoms that hurt the individual's capacity to work well in School, Work and different everyday issues (Swetha and Brundha, 2017). The term "Range" alludes to a wide variety in the sorts and force or seriousness of the manifestations that the individuals experience. Discussing the indications in detail, the influenced youngsters experience the absence of social correspondence and communication practices, for

example, making conflicting eye contacts, not having the option to tune in and comprehend individuals around them, Rarely sharing happiness regarding items or exercises by pointing or demonstrating things to other people, Being delayed in reacting to their names or some other verbal endeavours to pick up consideration; Having outward appearances, developments and signals that don't coordinate with the circumstance; Having a surprising manner of speaking (Kumar and Brundha, 2016). Their prohibitive or tedious practices incorporate redundancy of words or expressions frequently, Having enduring interests just in specific themes or exercises, having just focussed interests, Easily getting annoyed with a little change in the daily practice; Being all the less delicate (Brundha *et al.*, 2019). They may likewise encounter Deficits in Language understanding, Preoccupation with explicit points, Self-damaging practices, rest unsettling influences, social withdrawal and issues with two-way conversation (Brundha and Saivignesh, 2019). This wide range of indications they experience makes the administration and treatment moves toward all the more testing. Chemical imbalance range issue can be brought about by a wide scope of etiological factors, for example, Genetics, Prenatal and perinatal components, neuroanatomical variations from the norm and Environmental variables (Timothy *et al.*, 2019). An examination study recommends that quality that expansion vulnerability to the turmoil is ones that control protein amalgamation in neuronal cells because of the cell needs, movement and bond of neuronal cells, neurotransmitter development and renovating and excitatory to inhibitory synapse balance (Brundha and Haritha, 2019). A huge number of various qualities have been thought to add to the confusion, every one of them inevitably influencing the typical neuronal turn of events and availability between various utilitarian territories of the mind (Brundha, 2015). A few examinations have revealed that The mental imbalance issue might be caused because of strange broadening and decrease of mind development in certain zones (Prashaanthi and Brundha, 2018). The anomalous improvement of Brain has prompted the arrangement of an excessive number of neurons in a single territory and not very many in different regions (Brundha and Visha, 2019).

Youngsters enduring with Autism range issue must be treated with uncommon consideration and consideration. In Spite of their social in cooperation and correspondence issues, People must attempt to speak with them as they speak with others. They should not be left confined or should not be caused to feel forlorn (Preethikaa and Brundha, 2018). As

we examined the intricacy in the etiology and indications of the confusion, we may comprehend the trouble in the board intercessions and treatment ways to deal with the disorder. As of now, there are no meds accessible to treat turmoil (Kalaiselvi and Brundha, 2016). However, different specialists everywhere throughout the world had worked enthusiastically in building numerous intercession models that help in lessening the indications and in improving the social-relational abilities of the influenced. The present examination clarifies the Behavioral, Developmental, Combinational, Family-based, Therapy based, Medical and Alternative mediations in detail.

This article reviews more than 50 articles on Autism's spectrum disorder and treatment management approaches. The articles were collected using search engines like Google Scholar, Pubmed, Biorxiv, Chemrxiv, etc. Since it is a review article, ethical approvals were not required for publication.

Behavioural Interventions

In general, treatments include doing something, taking steps or using an approach to care to change a particular illness or problem (Rajkumar *et al.*, 2020) Behavioral scientific methods concentrate on teaching new habits to children using different strategies (Rajkumar *et al.*, 2020). Both strategies are considered best in improving excellent skills and encouraging positive behaviour. As the best, they are the most widely used strategies. Here we discuss some in detail.

Discrete Trial Training [DTT]

Discrete trial training method uses simplified, structured teaching steps (Hannah *et al.*, 2019). Here the whole teaching process is broken down into the most basic parts and gradually taught to children (Hannah *et al.*, 2019). It can be applied in teaching 2.6-year-olds. Discrete trial training uses repetition, giving children plenty of learning opportunities. Rewarding children after a separate study training session has improved the training module's positive outcomes. Using DTT to develop the writing skills, living skills, communication skills and language skills of a child. DTT training models have the drawback of being costly because they take a lot of time.

Douglass Developmental Disabilities Center Program

The Douglass developmental disability centre program was developed at Rutgers University in 1972. The program uses intensive, individualized instructions to improve academic and cognitive skills of the child. It's a preschool formal early intervention pro-

gram. The concept behind the program is to systematically teach every ability. They use different settings like preschool, home, school and community to inculcate the children's cognitive skills. As part of its curriculum, it also uses discrete trial training.

Incidental Teaching Method

This training method resembles discrete trial training. Unlike discrete trial training, Incidental teaching method occurs in a natural environment and indicates the child's interest in a particular activity or object, thus giving the child learning opportunities. It normally involves five steps-Wait, Asks, Express, Prompt and Reward. The trainer will wait until a child is interested in the practice. Then the child must have a question. Can give prompt when necessary. He/she must reward the child. McGee and Daly conducted an Incidental age-appropriate social phrases for children with Autism (McGee *et al.*, 1999). They taught socially-appropriate phrases like "Okay" and "You know what?" Incidental teaching and research subjects 2 with standard traditional teaching. Subjects taught incidental communication techniques made greater use of specific phrases in social contexts than group 2 subjects (McGee *et al.*, 1999).

Lovaas Program

Lovaas is a method of behavioural evaluation developed in the 1930s by Ole Ivar Lovaas. It is a program for early intervention (Muckian, 2007). When the child is only two years old, the program will begin. The technique includes breaking skills in quick, constructive reinforcement and generalization of skills learned in the natural environment (Muckian, 2007). Lovaas enhances, the linguistic abilities of the child, decreases self-incentives, raises the intelligence quota of the child, reduces child support in classrooms and also raises children's and parent's emotional connection. They train younger children to learn more complex skills, verbal communication, interactive play, cooperation, reading and writing when they are older. Lovaas is costly as it requires the efforts of different practitioners, different research and a lot of time.

Pivotal Response Treatment

Pivotal response therapy uses a variety of teaching approaches in the daily world of children. This focuses on four primary or core areas in the development of children. This is how it is. They contribute to the development of more complex abilities and behaviours, including verbal contact (Liao *et al.*, 2020). The four key elements include motivation, self-initiation, Autonomy (Liao *et al.*, 2020). They include establishing goals specific to a child; using

the interest of a child in an activity; and rewarding the child whenever he or she is working (Simpson *et al.*, 2019). The overall training program develops verbal communication, social competences, playing skills and behaviour. Simpson noted that PRT is an autism treatment science-based approach (Simpson *et al.*, 2019).

Positive Behaviour Support

Positive behaviour support is a behaviour management program used to explain the motivating actions of the person. Functional behaviour evaluation examines and explains distinctly specific behaviours, defines conditions that predict how and when behaviour, and identifies behavioural effects. This module focuses on three main fields: Communication skills, Social skills and Autonomy. It also reduces the child's negative behaviour. They modify their surroundings or routines, offer sensory breaks, change children's expectations and demands. They reinforce and empower the child's good actions.

Developmental Interventions

Developmental interventions are designed to support children's relationships in positive, real and significant ways. These interventions are often referred to as controlled interventions. Let us speak in-depth here about some of them.

Developmental Social Pragmatic Model

Developmental social pragmatic model is a developmental intervention and communication the spontaneity that is focused on child attention and motivation. They focus on spontaneous social, social, emotional and social communication (Shenoy and Brundha, 2016). The key idea behind the program is that cares can improve their social communication when they interact with their children in a way that reacts with them (Baron-Cohen, 1988). Unlike other methods of training, this method of training involves parental involvement.

Dir / Floortime Model

The model DIR/floortime is used in supporting ASD children in their social, spiritual and emotional development (Davis *et al.*, 2014). This model promotes the motivation of a child, such as tying shoelaces, improves communication, especially in two ways, and supports the sensory, emotional and cognitive development of the child (Davis *et al.*, 2014). It is an early intervention program. Stalug-Grennsan developed this intervention in 1980. All these targets, usually on the floor (Davis *et al.*, 2014), are accomplished by a playtime of only 2 to 5 hours a day.

Relationship Development Interventions

Relationship developmental interventions program, is a trademark proprietary treatment program for autism spectrum disorder. It is based on the declaration that dynamic intelligence development is the key to improving the quality of life. They gradually and systematically expose children to authentic emotional relations. They enhance emotional reference, social communication, the use of both verbal and non-verbal language of declarative interactions, versatility and adaptability to different environments, relational information processing which places things in context, forecasting of future probabilities from past experiences.

Responsive Teaching

This teaching method is for parents, not for children. Responsive education is a program in which parents are taught how to promote the development of communication with their children and how they interact more responsively with their children ([Baranek et al., 2015](#)). This is targeted at children under the age of 6 who have emotional, behavioural and social difficulties. It enhances receptive child-parent relationships.

Combined Interventions

Combined interventions are combinations of behavioural and developmental interventions. It is the most efficient of all. It is a program of family intervention.

Early Start Denver Models

Early Start Denver is an approach to children with autism-based spectrum disorder that leads to the development of academic, social, communication and daily life skills. The treatment is available for preschool students whose symptoms are early ASD. It focuses primarily on the communication and interaction skills of children who already have and using play strategies to intensively, structurally and in a fun way, build on these skills. It's a much cheaper style of preparation.

Scerts Model

The SCERTS model is a provision of services. They use a variety of approaches to build individualized strategies for autism children ([Ehrenreich, 2004](#)). They help families, professors and therapists to work together to improve the development of the child. This refers to children aged preschool and primary school ([Ehrenreich, 2004](#)). They are more focused on social contact, emotional control and child care. The combination of PRT, DIR/floortime, Relationship Development Intervention is used. In some early year programs in Australia, SCERTS is delivered as part of autism-specific curricula ([Ehrenreich, 2004](#)).

Family Based Interventions

These interventions emphasize Family involvement in providing specific developmental needs and provide guidance to the family members for child care.

More Than Words (R) Model

This model is a family-centred group-based curriculum, designed to help children interact verbally. It is designed specifically to enhance the child's communication skills. It was developed in 1975 by the Hanen Center. They have three main goals. They are aimed at improving social communication, improving play skills and initiation skills. The individualized training sessions are conducted in 8 small parts. It provides children with life strategies ([Muharib et al., 2019](#)).

Therapy Based Interventions

Therapeutic interventions focus on specific problems such as speech therapy and occupational therapy. Let's look at some of them in detail.

Functional Communication Training

Functional communications instruction is a program aimed at replacing harsh behavioural forms with more effective and comparable interactions. It is frequently used together with other behavioural interventions. This involves the decision-making or design of adequate ways, ignore difficult paths, encourage, strengthen and teach systematically ([Carr, 1979](#)).

Sign Language System

This refers to children with communication and language difficulties. This model is based on Australia and was instructed on behalf of Makaton ([Al-Batayneh et al., 2020](#)). Some researchers have demonstrated positive results, but more quality studies are necessary.

Picture Exchange Communication System

Like sign language, Children use cards, images, icons, photos like a sign language that represent those events, tasks or communication artefacts ([Myles, 2013](#)). Established in the early 1980s ([Myles, 2013](#)), It works based on Applied Behavioral Science.

Medical Interventions

There are currently no drugs available to treat autism spectrum disorders. But the symptoms of ASD, such as sleep disorders, self-harm and compulsive behaviour, and anxiety, are treated by medications. This can be done with antipsychotics and stimulants.

Alternative Interventions

There are no studies to support alternative interventions. Considerable evidence shows no consequences for some. However, others are discussed here still: Vitamin supplements and probiotics, acupuncture, chelation therapy for the removal of mercury and heavy metals from the body, oxygen therapy for breathing inside a pressurized environment (Stornelli, 2016).

CONCLUSION

The article has discussed various intervention methods and strategies for improving the lifestyle of children with Autism spectrum disorder. Various researchers are working tirelessly to bring a solution to this problem. Let us pray for their success.

ACKNOWLEDGEMENT

The authors are thankful to the Department of Pharmacology, Saveetha Dental College, for providing a platform in expressing their knowledge.

Funding Support

The authors received no financial support for the research, authorship, and/or publication of this article.

Conflicts of Interest

The authors declare that there are no conflicts of interest for this study.

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