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MANAGEMENT OF AUTISM SPECTRUM DISORDERS: IMPLICATION FOR FURTHER MANAGEMENT "REVIEW STUDY"

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Keywords Autism spectrum disorders", Management Evidence-based recommendation.
Applied behavioral analysis therapy, teach for autism, stem cell therapy

Abstract

Background: -Autistic disorders distinguished by means of abnormal prototype of the development in areas of social reciprocity, communication, and behavior which happens in the early time of existence. Symptoms of autism can be presented in a variety of expression and its control presents a particular challenge for clinicians. **Aim:**This review was done to show andinvestigatethe efficiency of different strategies and programs proposed in managing autism spectrum disorders. **Methods: -.** Review of literature was done up to 2020 by searching Google Scholar, CINAHL and Midline. The search terms used were Autism spectrum disorders", Management Evidence-based recommendations, applied behavioral analysis therapy, teach for

autism, stem cell therapy .The sum of 100 studies were recognized. Those who meet desired stander was 35 articles. Finding indicating that there are many different strategies proposed for management; numerous preliminary designs revealed strong upkeep for enhancement in child and parent behavior like TEACCH program, and ABA. However, further work is needed to broaden the horizons on the understanding of Autistic disorders management. The implication for further management was discussed .

1. Introduction

Autism was defined as a persistent developmental disorder described by the deficit in mutual social exchange reciprocal interaction, the repetitive, odd restricted prototype of behavior, restricted preferences and behavior. Speaking about management & supports, it must be known that effective management for one child may not work for another. Thus, the individualized management Strategy must follow a full assessment evaluation of weakness as well as strong point to know exact opportunity for each case. (2000, -British Columbia. Ministry of Education https://www2.gov.bc.ca/assets/gov/education)

Autistic children may need multi-disciplinary care team management according to their condition. In addition; parents may receive training on how to work with their children at home. (http:// www.autismspeaks.org)

1.1 The aim

The objective of this review was to examine the effectiveness of the various strategies and programs proposed to manage autism spectrum disorders.

2. Methods

2.1 Search Strategy

Guidelines for preferred reporting items for systematic review were utilized. The following databases were searched: Google Scholar, CINAHL and Midline. Review was done up to 2020. The search terms used were Autism spectrum disorders", Management Evidence-based recommendations, applied behavioral analysis therapy, teach for autism, stem cell therapy

The sum of 100 studies were recognized. Those who meet desired stander was 35 articles.

2.2. Criteria for Inclusion

The following inclusion criteria have been established:

1. Autism disorders must be the main condition of review.
2. The time period from the year 2000 to October 2020.
3. Focused on empirical study or systematic review.
4. Focused on evidence-based intervention management.
5. Focused on the recommendation of authenticating source.

3. Literature review & Main Results

3.1 Autism disorder overview

Autism disorder is disorders distinguished by an unusual prototype of the development in areas of shared reciprocity, communication problems, and behavior skills which arise in the early years of existence. Previously, according to the fourth statistical evidence, the age required for the diagnosis was the first three years of age, but in the 5Th diagnostic statistical manual, it expanded to include the age until eight years. Autism disorder usually associated with intellectual disability, this condition is unique in ways of its stages, burden, and treatment modalities. Moreover, symptoms of autism can be presented in a variety of expression and its control presents a particular challenge for clinicians. (Lock, J et al., 2015).

People with autism share some common features but there is an individual difference however, no two children are the same. Thoughtful view in frequent character helps us to recognize what is behind their behavior (Lock, J et al., 2015)

Psycho-educational profile of Autistic children includes: an inability to pay attention to important stimuli, distracted by irrelevant stimulus; impairments in receptive and expressive language; deficits in abstract thinking; impairment in shared involvement including deficits in the capability to contribute to interests and feeling with others, and to comprehend emotions of others, impairment related to executive function as planning, reasoning, and problem solving.

Autistic individuals may be hyper or hypo response to surrounding environment stimulus including self. This will be obvious in having disagreeable or unpleasant sensory perception, which may prime to the display of certain improper behaviors by autistic children. For example, children with severe sensory processing problems may completely shut down to avoid aversive stimuli or over-stimulation or acting temper tantrum to get away from over- stimulating situation. Also, it can be expressed by throwing self onto the ground, biting them self or others. Self-exciting behaviors may help in stability when spur become destructive, by generating a self-controlled, recurring stimulus. (Algebra M; 2014,Osório AMJet.al ;2021)

Based on repetition and visual-spatial tasks a number of children with autism have stronger potentials in the areas of rote memory than they have in other areas they may actually outclass at spatial visualization activities, for example, put shape together and corresponding activities. Some can retain simple data but pose trouble remembering more complicated ones. (2000, - British Columbia. Ministry of Education https://www2.gov.bc.ca/assets/gov/education)

4. Different strategies proposed for management

Ministry of Education, British Columbia, 2000 state special guidelines sheet that can be used by schools for teaching students with Autism; This guide put into consideration pattern of strengths and weakness of those children. For instance, deficits in attention and concentration, delay or lack in communication development, lack of ideas construction, and obscurity with memory for multifaceted knowledge. This feature plus personal character shape to how much visual aid is needed to direct this group and to compensate for their limitation, for this reason, specialists propose that visual aids should be built-in when educating individuals with autism. (2000, - British Columbia. Ministry of Education https://www2.gov.bc.ca/assets/gov/education)

The caregivers must be conscious of the unpleasant or aversive sensory experiences, the caregivers must be conscious of the dissimilar internal experience of self-including five senses, excitation, and incorporation as a value matter in addressing behaviors of children with autism and setting up a plan for them. Specialties and families can employ simultaneously to evaluate perceptual reaction and utilize plan for augmenting them when the children low- responsive, and to let him relax in the state of over-responsive. (2000, -British Columbia. Ministry of Education https://www2.gov.bc.ca/assets/gov/education)

Level of evidence as finding of autism management was reported as the following: the first one well-known evidence, include new version Lovass edition which now is named Applied Behavior Analysis Intervention, Intervention Applied for Difficult Behavior. Also known as Intensive Behavioral Intervention, program focusing on the potential of children in a visual field like Picture Exchange Communication System (PECS). Medical drugs as Haloperidol or Haldol for psychotic symptoms and controlling aggression–Also Ritalin is effective for aggression management, Methylphenidate, Risperidone, Risperidol, is effective for hyperactivity, effective for controlling provocation, lack of social reciprocity, restlessness and repetitive movement. (Goldstein, S., &Naglieri, J. ,2014)

The second evidence is named hopeful evidence; involves teaching adjustment living skill by using ABA, and Voice Output Communication Aid (VOCA). To relieve anxiety cognitive technique was used. The third one is preliminary evidence which contains Applied Behavior Analysis for school achievement problems number identification, reading coaching, syntactical formats spelling; ABA for occupational skills, symbol spoken speech ; Developmental, Social-Pragmatic Models - miscellaneous model, and Vitamin – Mildly effective in releasing sensorimotor symptoms ,Drugs Approaches including Strattera /Atomoxetine, for controlling hyperactivity and attention problem , Anafranil /Clomipramine for controlling repetitive , compulsive behavior, and social behavior, Catapres /Clonidine for restlessness and excitement, bad temper, unsuitable speech, stereotypy, and oppositional behavior, CBT for rage control , Touch Therapy/Massage, and Hyperbaric Oxygen Treatment . (2000, -British Columbia. Ministry of Education https://www2.gov.bc.ca/assets/gov/education)

The fourth one is known as inadequate evidence which includes Applied Behavior Analysis for scholastic part– supportive learning groups, - dietary restriction free of Casein , supplement diets include Omega-three Fatty Acid , Magnesium addition & Vitamin B6, DIR/ Floortime RDI SCERTS Solomon‟splay model , Tenex /Guanfacine ,Intravenous Immunoglobin Revia (SSRIs: Celexa/Citalopram, Prozac/ Fluoxetine,Valproic Acid, Depakote, Training in auditory integration Training in sensory integration, social skills training in social narrative therapy,TEACCH program .last one is named evidence of harm including Augmentative Chelation Using Edetate Disodium. (2000, -British Columbia. Ministry of Education https://www2.gov.bc.ca/assets/gov/education

The following recommendation was stated by Lock, J., & Via, M. C. La, 2015 they reported the following recommendation based on searching evidence base for practice bound with ASD. Recommendation No 1: Review of all child cases should regularly include a query about autism spectrum disorder sign and symptoms. So the assessment of young children should be considered as a routine task.

Recommendation No 2: If the primary screening measures revealed considerable autism spectrum disorder sign and symptoms, a valid and reliable test should be done to formulate the diagnosis. Recommendation No 3: Physicians should be considered multi-disciplinary views about the affected child. Recommendation No 4: The specialists should help the family reach appropriate evidence-based and tailored educational and behavioral techniques for children with Autism. Recommendation No 6: Drug therapy provided to children only to manage specific symptoms or if there is an existence of the co-morbid condition. Specialties should embrace an initiative responsibility to plan a long-term management approach for the cases, Moreover, take a role in preparing and supporting caregiver and their children during the management plan process. Recommendation No 7: Specialties should be knowledgeable enough about the current application of alternative/complementary medicine and be ready to recognize their risk and advantage. Taking into consideration that recommendation number one had been mentioned by many authors. (Thompson, D. G., &Tielsch-Goddard, A. (2014). ,Bodenhorn, K., & Disabilities, D. (2012). Autism Spectrum Disorders: Guide to Evidence-based management. Missouri Autism Guidelines Initiative)

The self-management recording sheet was used for self-management. It contains a checklist show place of an 'activity in the right time period if the pupil passes in the indented talent at any stage of their development. Subsequent the inspection, proof the whole numeral of the time period that the pupil will be more involved in the performance. Personal organization involvement can be used to decrease improper and obstruct acts (upsetting acts, none carrying out academic tasks independently and competently, etc.) and to enhance communication, adjustment, and linguistic skills. Particular targets that were the focus of management in approved evidence studies include expressing respects to others, react to them, exchange, increasing ongoing-task activities, begin communications, limiting the occurrence of intrusive behaviors, increasing abilities in performing daily living skills, increasing engage in recreation skills and play, and social communication with others. . (Checklist, I., & Summary, E. B. (n.d.). 2010 , Kieft, R. A., de Brouwer, B. B. J. M., Francke, A. L., &Delnoij, D. M. J. 2014)

Veereman, G et.al, 2014 divided care into two dimensions of person-centered care first one (vertical axis) and the second one is horizontal axis (access to care) vertical axis includes 1. Participation in choice and respect for favorite 2. The patent, reasonable knowledge and maintain for independent care 3. Affective sharing and concern, understanding and respect 4. A quick way to trustworthy health services 5. Successful management is given by reliable staff personnel 6. Get consideration into surrounding atmosphere needs 7. Participation of, and support for, parent and careers 8. Continue to be concerned and flexible change. Horizontal axis include; 1-Access for needed knowledge and care; 2-Assessment and transfer in disaster; Child and adolescent mental health services ; 4- Transition; 5-The public services (e.g. leisure programmers); 6-Therapeutic intervention; 7- Coniums of care include primary and secondary levels ; 8-Community concern; 9- Housing care: short breaks; 10-Residential care: long term; 11-Instructive setting: mainstream; 12- Academic setting: specialist 13- Academic setting: home education 14- Themes that will be applied for all point of care.

Furthermore, there are many programmers based on different principles and techniques used with Autism. For example, Applied Behavioral Analysis is a sound scientific program that focuses on the study or analysis of behavior, design, applying, and appraisal of other environmental and social factors that need modification to produce a significant change in

human behavior. ABA employs straight observation, quantity, and purposeful addressing of the dynamic interaction of both stimulus and the occurrence of a certain action. ABA uses alteration in ecological stimulus, including cause and effect relationship. (Behavior Analyst Certification Board Inc. ("BACB"), 2014)

Applied Behavioral Analysis use the following steps: The first step aimed to identify stimuli the cause of that action. This is referred to as the "antecedent" Also the final presentation of the action is taking in hand this step, that is to say. What takes place instantly after the behavior? Based on result analysis, we can reach to the cause of the behavior occurrence. A simple way to determine these patterns is to use an "ABC Chart" (1- Antecedent, 2-Behavior, 3- Consequences or outcome). (Addabbo, L., Bulhak, D., & Autism, C, 2011)

Maintenance documentation for a certain period ranging from hours or weeks should recognize a prototype of the events that are a foundation for the action to happen. By means of an incentive system, which includes extremely preferred goals, the child gets a high level of motivation to learn the novel skill and use it accordingly. Incentive must take place when the individual has tried to use the substitute, have been doing well in using the substitutive behavior and in the non-appearance of the undesirable behavior. So the first step is to know what the aim of this behavior is and try to fulfill it with more acceptable or substitute behavior. For example, if an unwanted action is to get self-stimulated experience by throwing oneself on the ground then a substitute action can be chosen to provide the same input for the child but be a more acceptable way. (Addabbo, L., Bulhak, D., & Autism, C, 2011 ,British Columbia. Ministry of Education. Special Programs Branch, 2000)

A widespread illustration given is the biting behavior produced by the child in the supermarket which makes him more fearful due to the overpowering sensory input (prior to biting behavior). So the caregiver will get out of the supermarket as much as possible (outcomes). So this actually strengthens the hand biting behavior because the child has learned that if he bites his hand you will take him away from the felonious setting. (Behavior Analyst Certification Board Inc. ("BACB") 2014., Palmer E, Callanen A. Description, I. M. 2015)

5. Empirical and systematic review studies about Autism

Welterlin, a et.al (2012) perform study to assess the usefulness a family training on TEACCH intervention aimed at children with autism, TEACCH module is a broad prearranged teaching approach intended for persons with autism and communication incapacities and their families. This program was developed by Eric Schopler in the 1970s and started in 1972 and is directed through the University of North Carolina at Chapel. (-Rose, I., Dunlap, G., Huber, H., & Kincaid, D,2003, Mesibov, G. B., & Shea, V. ,2010, Ichikawa, K., Takahashi, Y., Ando, M., Anme, T., Ishizaki, T., Yamaguchi, H., & Nakayama, T. ,2013) All children have potentials and preferences that can be applied in their education, ongoing assessment: i.e., every child has a capability to develop and learn, support in indulgent: i.e., Kids with autism are not fully thought about the meaning of their existence and experience. Parent collaboration: i.e., Parents and family are significant to the instructive plan. And lastly individualization: i.e., individual plan of care is the main constituent of TEACCH educational model. (Welterlin, A., Turner-Brown, L. M., Harris, S., Mesibov, G., &Delmolino, L. 2012, Lal, R., &Shahane, A. 2006)

Kusmierski, S., &Henckel, K. (2002) conducted a study to investigate the efficiency of the TEACCH model in decreasing unsuitable actions and augment self-determination in practical tasks, four children, existing in age's clusters from eight to thirteen years were included in this study. Baseline information was gathered 1 month after that just about 1 month. TEACCH programming was started for two of the four subjects. Results point to that the use of the TEACCH schedule reduced inappropriate behaviors for one of the subject receiving TEACCH. The results also found that for one of the subjects, using the TEACCH model improved the potential for independently complete practical tasks.

As reported by (Lal R and Shahane., 2006). numerous researches were done on diverse states have recognized the model's effectiveness for children with severe developmental disabilities and children with autism. E.g., Tsang et al (2007) used a long term research l study to evaluate the utility of the TEACCH model on thirty-four children proceeding to school in Hong Kong.

Los Angeles et.al (2010) mirrors in her dealing with students with numerous Disabilities and impairment of vision (MDVI) in a unique high school in England for learners with serious learning difficulties, the first author adjusted element of the TEACCH structured teaching approach – established for practice with students with autism. The studies, together with the limitations and problems encountered, recognize the influence on the pupils and the teaching of the first author to use this approach over the past three years. The article has been published entirely from the perspective of the first author. Despite these caveats, it was useful to adapt TEACCH to the case study author reported that he will continue to use aspects of TEACCH in his own practice and context and will need to learn more about the experiences of the party involved

Fornasari et.al (2012) conducted a longitudinal research In Italy to assess The efficacy of our therapy and the best age for starting low-intensive management focused TEACCH. 28 children with autism participated in two weekly sessions following the brilliant strategies of TEACCH intervention. Developmental skills were rated with the scale of Psychoeducational Profile-Revised (PEP-R) at the starting point & later six and 12 months. Implicitly enhanced developmental skills over the first six months with increasing improvement over the one-year follow-up period, primarily for children under the age of 40 months. It was precisely in patients who started the program before 60 months of age that perception, motor skills and cognition improved. This research shows that timely low-intensive.

The same was previously reported by Tsang SK M (2007) who conducted a prospective study on thirty four children with autism to assess the usefulness of the Treatment and Education of Autistic and Related Communication of Handicapped Children (TEACCH) program for pre-school Chinese children in Hong Kong. Eighteen children take full-time TEACCH center-based training. The control group included seventeen children involved in various types of individualized or group training but not the training of the TEACCH program. Hong Kong-validated tools were used to evaluate the cognitive, social adaptive functioning and developmental skills of the children at six month intervals for twelve months before and throughout the training. At posttest, The experimental group's kids showed better outcomes. They have also shown progress over time in various developmental domains. The study provided initial support for the effectiveness of children's application of the TEACCH model.

Ivar Lovaas (1927-2010) was recognized wide-reaching for his research inside the grassland of Lovaas then named Applied Behavior Analysis, and is the largest dominant researcher in the autism treatment arena almost certainly. Ivar Lovaas at the University of California conducted the first controlled study to evaluate long-term EIBI (early and intensive behavioral intervention) for children with autism in 1987. Los Angeles. (Reported by Smith, T et.al, 2007).

The same was reported 2008 when de Rivera, C. contrast the original concentrated behavior intervention program IBI (Intensive Behavioral Intervention), developed by Lovaas with the current program used by the Toronto corporation for Autism Services. Research is needed to find out what aspects of IBI are most efficient for children with autism, which children promoted the most if IBI is wanted on a sustained basis to preserve gains that are made, and if IBI program are money-spinning for the government. (de Rivera, C, 2008)

Healy, O et.al (2008) allows two-year-old boys and 40-week-old boys to receive an early intensive education program. The improvement was considered by means of pre-set learning condition behavioral evaluation measurement and mastery. Throughout the 3-year stage, independent measures in the form of psychological evaluations were also provided annually. The results support Application of Behavior Analysis Peters-Scheffer et.al (2011) conduct meta-study to examine EIBI's usefulness in applying behavioral analysis in children with Autism Spectrum Disorders. There were 11 studies with 334 children with autism; the Downs and Black Checklist were used to assess the distinction of studies. Intervention groups receiving EIBI perform better on intelligence quotient, nonverbal intelligence Quotient language, expressive, receptive, and adaptive behavior in the control clusters. The difference between intervention and control groups on standardized tests was 4.96–15.21 points. These results strongly maintain EIBI's efficiency.

In several intervention studies, support for early and intensive behavioral intervention (EIBI) for children with autism is well-founded. However, the effectiveness of EIBI in social settings has only been investigated by a few studies. This study examined whether children receiving one year of EIBI (N= 35) could lead to greater change in maladaptive reaction than a group of children receiving as usual treatment (N= 24). At the beginning, the chronological age or level of adaptive behavior did not differ significantly. Children in the EIBI group get high grades higher on all scales of adaptive behavior after one year of treatment compared to children taking treatment as usual. In addition, after one year of management, children in the EIBI group showed significant improvements in adaptive behaviour, inappropriate behaviour, and autism symptoms, and this change continued in the second year of treatment, but at a lower level. (Eike Seth, S., Klintwall, L., Jahr, E., & Karlsson, P,2012)

Fernandes, F. D., & Amato, C. A. (2013) conduct organized literature review as evidence-based practice about the effect of Applied Behavior Analysis to persons with Autistic Spectrum Disorders. Using articles from the Web of Science, Lilacs, Medline, SciELO record over the last five years. Articles have been selected published in peer-reviewed studies. Finding demonstrated the questioning of intervention programs, costly and dependent on external factors. While 663 participants were describing intervention processes by authors, due to the lack of an analogous indication of involvement, a meta-analysis is not possible. It was concluded that the predominance of ABA over other options was not adequately demonstrated.

Nykopp, N., Partanen, K., L. 2017 reviewed literature to explain the means about ways to advance psychological condition and wellbeing of caregiver of children with an autism spectrum

disorder. Data was taken out of fifteen articles. Studies revealed that they were under a severe degree of emotional tension than parents of normally growing children. Furthermore, exposure to the severe level of emotional tension leads to more emotional disturbance, for example, sadness & despair. The use of health care facilities and professional direction is useful for the entire family unit. In addition, siblings and grandparents can have a helpful effect on the family's wellbeing. The community must sustain help in handling the suffering involved when caring for a child with Autism. The employment of resourceful curative ways, such as music therapy or mindfulness techniques have proved to improve families' wellbeing state. (Nykopp, N., Partanen, K., & Review, L; 2017)

Others researches examined variables like new management model school-based intervention and stem cell intervention. For example, Rogers SJ et.al 2012 conducted a three-month, low-intensity study to monitor the efficacy of the Early Start Denver Model (P-ESDM) in which therapists interact for one hour per week to educate parents and infants about 1 to 2 years of age for autism spectrum disorders. Ninety-eight children and their families were involved in a random design to examine the teaching model's effectiveness in promoting parental use of a child-centered responsive interaction style that hampered many teaching opportunities in play compared to community treatment as usual. The evaluation was carried out immediately after the end of the parent training sessions at a starting point and one month later. Results showed that parents receiving P-ESDM showed considerably stronger working alliances with their therapists than the community group did. In the community group, children received significantly more hours of intervention than in the P-ESDM group. For the group as a whole, both younger childhood at the beginning of the intervention and more intervention hours were positively related to the degree of improvement in the behavior of children for most variables. (Rogers SJ, Annette Estes A, Lord C, Vismara L, Winter J, Fitzpatrick A, Guo M, Dawson G. ,2012)

Kasari C, Smith T (2013) Concluded that barriers to childhood autism spectrum disorder intervention in schools include incompletely developed interventions, limited evidence of their usefulness in promoting long-term and meaningful change, and poor school fit. Interventions need to be detailed in manuals to overcome these barriers, which identify key components yet allow flexibility, and studies need to assess long-term, real-life outcomes. Innovative research approaches may also be important, in particular research into new interventions in school settings from the outset, leading partial usefulness studies in which students administer interventions in school settings, using participatory community-based research approaches and redesigning interventions in a modular format..

Locke J et.al (2017) Examined the perspectives of school staff (n=39) on the implementation of autistic children's social engagement intervention. There have been semi-structured interviews. Subjects were asked about (1) school factors affecting the overall implementation of evidence-based practices, (2) their specific experiences implementing social engagement intervention, and (3) barriers and facilitators of social engagement intervention implementation. An integrated approach has been used to analyze data. General (e.g. implementation process for discussion, leadership, support, and staff meeting was planned and included.

There is a clear need for further systematic research to develop sensitive evaluation tools and holistic multisystem and multifactorial obesity interventions that adapt individuals with ASDs to social communication, motor and behavioral impairments (Sudha M ET.AL, 2014)

Knight V et.al (2013) Conduct a thorough review of the literature on articles published between 1993 and 2012 to examine the extent to which technology-based interventions can be considered as evidence-based practices for teaching academic skills to persons with Autism Spectrum Disorder (ASD). A total of 25 studies fulfilled the criteria for inclusion. Only three single-subject studies of these studies and no group studies met quality or acceptable studies criteria. Taken together, the results suggest that when teaching academic skills to people with ASD using technology-based interventions, practitioners should use caution.

Reichow B et.al (2010) Presents the best evidence of intervention synthesis to increase autistic individuals ' social behaviour. Sixty-six studies with 513 participants were included in peer-reviewed journals between 2001 and July 2008. The results are presented by the recipient's age and by an intervention delivery agent. The findings suggest that there is plenty of empirical evidence to support many different treatments for individuals with autism's social deficits. Groups of social skills and video modeling have collected the necessary evidence for the classification of established EBP and promising EBP, respectively.

Application of evidence intervention strategies for Sensory Difficulties in Children with Autism was addressed in arandomized Trial by Schaaf CR et.al (2014) The study shows high rigor in itsmeasurement of treatment fidelity and use of a manualizedprotocol, and provides support for the use of this intervention for children with autism

Fetal Stem Cell transfer is newly somatic intervention; that was investigated by Bradstreet, J. J et.al (2014) as a treatment for children diagnosed with Autism. Subjects were assessed prior to the procedure and then followed from 6 to12 months following the initiation of therapy which composed of two dosages of IV and SC administered. Fetal Stem Cell transfer. Overall health domains, as well as reductions in overall scores compared to pretreatment values. Transfer of fetal stem cells recognizes the present as a controversial treatment. However, warrant additional investigations into cell therapy mechanisms for ASDs, while exploring FSCs as "bio pharmacies" competent to develop the full range of cell signaling chemistry in a timely manner. In general, more studies need to be done in this area to confirm the finding of this pilot study, to reveal the safety and utility of Fetal Stem Cell transfer in autism

Siniscalco D et.al (2018) Conduct comprehensive up-to-date review focuses on ASD cell / molecular abnormalities, potentially useful types of stem cells, animal models, and current clinical trials on the use of stem cells in autism treatment. Preclinical evidence highlights potential benefits and significant advances in the use of cell therapy in ASDs. Since the mechanisms by which stem cell transplantation leads to enhanced functional recovery and structural reorganization need to be better elucidated,61 in vivo studies need to provide definitive results on stem cell action mechanisms that may not be reproducible or studied in humans in some cases.

Conclusion

Autistic disorders are a complex disorder distinguished by means of an abnormal prototype of the development in areas of social reciprocity, communication, and behavior which happen in the early time of existence. There are many different strategies proposed for management; numerous preliminary designs revealed strong upkeep for enhancement in child and parent behavior like

TEACCH program, and ABA. However, further work is needed to broaden the horizons on the understanding of Autistic disorders management.

"Implications for Nursing & Health Policy"

Our findings could drive the implementation of studies aimed to explore the effect of application of evidence intervention strategies to enhance communication and social skills among autistic children. Enhancement of teaching opportunity, via application of visual aids and PECS program in various educational models. This review could also support policymakers in understanding which factors shape the current child behavior and the present challenges for them. Frequent assessment and documentation of the individual child's progress against the educational outcome .

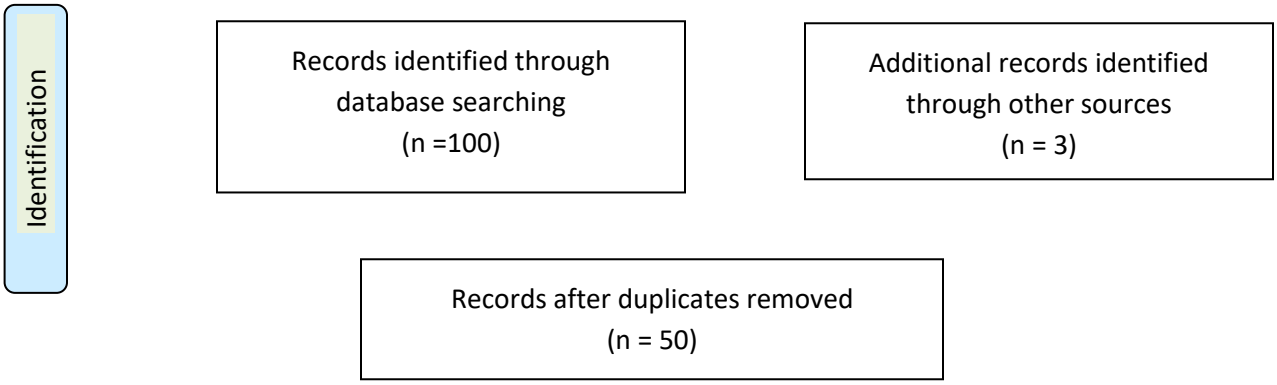
The implication for further management

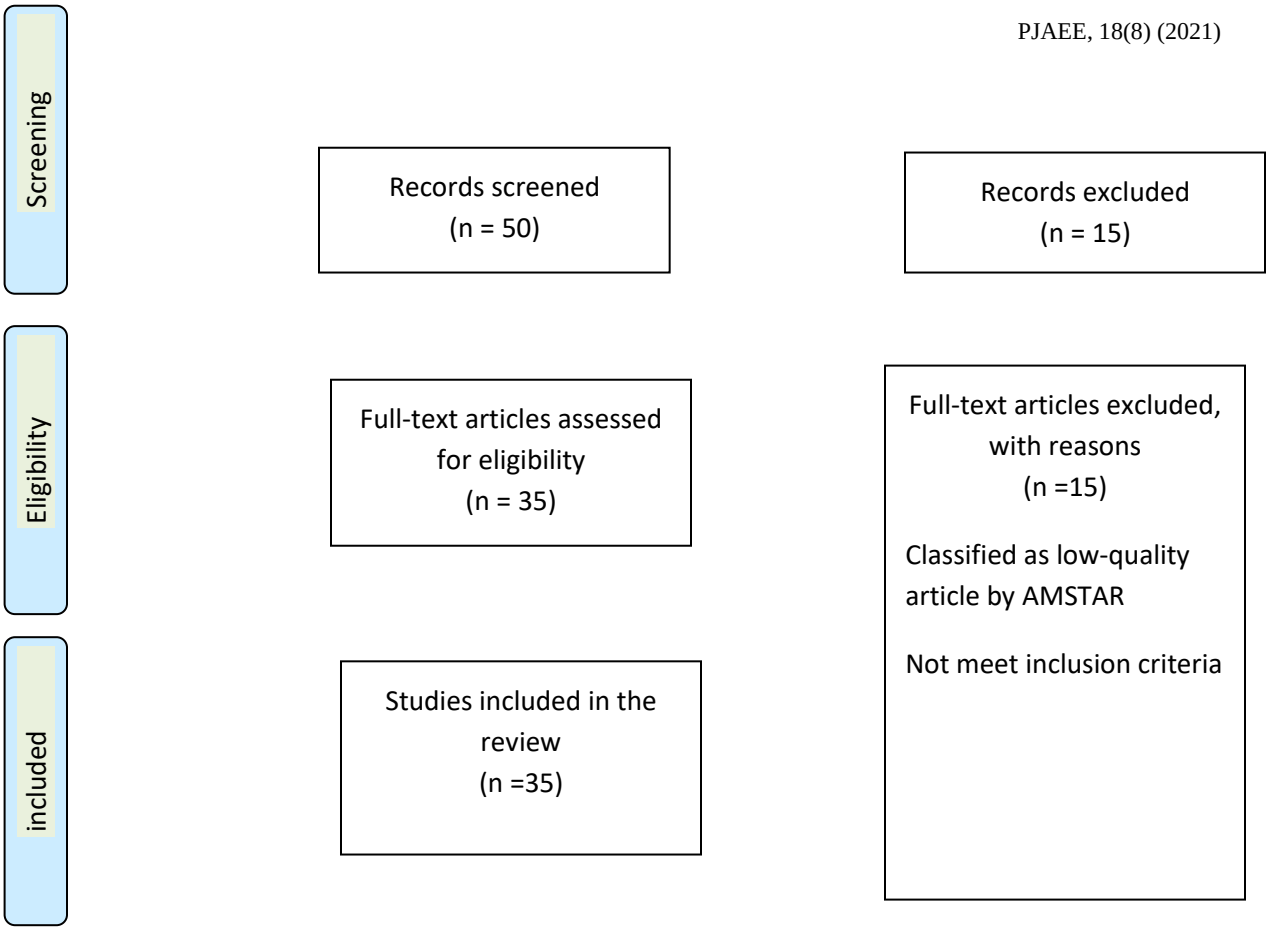
- Autistic children may need multi-disciplinary case management. In addition; parents may need the training to work more effectively with their children.
- School-based intervention should be imitative and more reflection is needed in this area
- Application of evidence intervention strategies to enhance communication and social skills.

Application of evidence intervention strategies to address difficulty processing and integrating sensory information are frequently used as part of a comprehensive approach for individuals with ASD

- Enhancement of teaching opportunity, via application of visual aids and PECS program in various educational models.
- Frequent assessment and documentation of the individual child's progress against the educational outcome
- Applying evidence and looking for its level and also consider evidence recommendation
- Numerous preliminary designs showed robust support for enhancement in child and parent behavior like TEACCH program, and ABA

SMA Flow Diagram





References

Addabbo, L., Bulhak, D., & Autism, C. (2011). Information Sheet Behaviour Management Strategies for Individuals with Autism Spectrum Disorders, 1–4.

- Behavior Analyst Certification Board Inc. ("BACB"). (2014). Applied Behavior Analysis Treatment of Autism Spectrum Disorder: Practice Guidelines for Healthcare Funders and Managers, 46.
- British Columbia. Ministry of Education. Special Programs Branch. (2000). Teaching Students with Autism: A Resource Guide for Schools
- Bradstreet, J. J., Sych, N., Antonucci, N., Klunnik, M., Ivankova, O., Matyashchuk, I., Siniscalco, D. (2014). Efficacy of fetal stem cell transplantation in autism spectrum disorders: an open-labeled pilot study. Cell Transplantation, 23 Suppl 1(0), S105-12. http://doi.org/
- Bodenhorn, K., & Disabilities, D. (2012). Autism Spectrum Disorders: Guide to Evidence-based Interventions. Missouri Autism Guidelines Initiative.
- Checklist, I., & Summary, E. B. (n.d.). 10/2010 Module: Self-Management Evidence-Based Practice Brief: Self-Management Module: Self-Management Overview of Self-Management.
- de Rivera, C. (2008). The use of intensive behavioural intervention for children with autism. Journal on Developmental Disabilities, 14(2), 1–15.

- Eikeseth, S., Klintwall, L., Jahr, E., & Karlsson, P. (2012). Outcome for children with autism receiving early and intensive behavioral intervention in mainstream preschool and kindergarten settings. Research in Autism Spectrum Disorders, 6(2), 829–835.
- Fernandes, F. D., & Amato, C. A. (2013). Applied behavior analysis and autism spectrum disorders: literature review. Codas, 25(3), 289–296. http://doi.org/
- Fornasari, L. M. Garzitto2, F. Fabbro, Londero D, D. Zago3, C. Desinano3, S. Rigo3, M. Molteni3 and P. Brambilla int. j. of developmental disabilities, Vol. 58 No. 3, November, 2012, 145–158
- Goldstein, S., &Naglieri, J. (2014). Interventions for Autism Spectrum Disorders, (October). Retrieved from http://link.springer.com/content/pdf/10.1007/978-1-4614-5301-7.pdf
- Healy, O., O 'connor, J., Leader, G., & Kenny, N. (2008). Three Years of Intensive Applied Behavior Analysis: A Case Study. Journal of Early and Intensive Behavior Intervention, 5(1), 4–22.
- Ichikawa, K., Takahashi, Y., Ando, M., Anme, T., Ishizaki, T., Yamaguchi, H., & Nakayama, T. (2013). TEACCH-based group social skills training for children with high-functioning autism: a pilot randomized controlled trial. BioPsychoSocial Medicine, 7(1), 14. http://doi.org/10.1186/1751-0759-7-14
- Kieft, R. A., de Brouwer, B. B. J. M., Francke, A. L., &Delnoij, D. M. J. (2014). How nurses and their work environment affect patient experiences of the quality of care: a qualitative study. BMC Health Services Research, 14, 249. http://doi.org/10.1186/1472-6963-14-249
- Knight V, McKissick RB, Saunders A. (2013) A Review of Technology-Based Interventions to Teach Academic Skills to Students with Autism Spectrum Disorder. J Autism Dev Disord 43:2628–2648
- Kusmierski, S., &Henckel, K. (2002). Effects of the TEACCH program on maladaptive and functional behaviors of children with autism. Journal of Undergraduate …, 475–492. Retrieved from http://murphylibrary.uwlax.edu/digital/jur/2002/kusmierski-henckel.pdf
- Los Angeles, London, New Delhi, Singapore and Washington DC Using aspects of the TEACCH structured teaching approach with students with multiple disabilities and visual impairment. Reflections on practice. 2010 the British journal of visual impairment 28(3): 244–259
- Locke J, Wolk BC, Harker C, Olsen A, Shingledecker T, Barg F, Mandell D and Beidas R. Pebbles, rocks, and boulders:)2017) The implementation of a school-based social engagement intervention for children with autism. (Autism, 21(8) 985– 994
- Lock, J., & Via, M. C. La. (2015). Practice Parameter for the Assessment and Treatment of, 54(5).
- Lal, R., &Shahane, A. (2006). TEACCH Intervention for Autism. Cdn.Intechopen.Com. http://doi.org/10.5772/17564
- Kasari C, Smith T (2013) Interventions in schools for children with autism spectrum disorder: Methods and recommendations. Autism 17(3) 254– 267
- Mesibov, G. B., & Shea, V. (2010). The TEACCH program in the era of evidence-based practice. Journal of Autism and Developmental Disorders, 40(5), 570–579.
- Nykopp, N., Partanen, K., & Review, L. (2017). Promoting Positive Mental Health of Families with Children with Autism Spectrum Disorder.

OsórioAMJ ,HerrerosRB , Romascano D , Junod V , Habegger A , Pain A , Richetin S , Paola Yu1, Isidor B , Maldergem LV, Pons L , Manifcat S , Chabane N , JequierGygax M, Manuela A. Touch and olfaction/taste differentiate children carrying a 16p11.2 deletion from children with ASD. Osório et al. Molecular Autism (2021) 12:8

- Palmer E, Callanen A. Description, I. M. (2015). CLINICAL Autism Spectrum Disorder
- Petralia MC, Sagone E, Coco M, Gueli R, Gregorio G, Coco Lsga, Buscemi A, Perciavalle V. (2018) The 2d:4d ratio is associated with performance in the 'TEACCH program' of subjects with autism spectrum disorder. Experimental and therapeutic medicine 16: 5373-5375.
- Peters-Scheffer, N., Didden, R., Korzilius, H., &Sturmey, P. (2011). A meta-analytic study on the effectiveness of comprehensive ABA-based early intervention programs for children with Autism Spectrum Disorders. Research in Autism Spectrum Disorders, 5(1), 60–69.
- Rose, I., Dunlap, G., Huber, H., & Kincaid, D. (2003). Effective educational practices for students with autism spectrum disorders. Focus on Autism and Other Developmental Disabilities, 18(3), 150–165.
- Reichow B, Volkmar FR. (2010) Social Skills Interventions for Individuals with Autism: Evaluation for Evidence-Based Practices within a Best Evidence Synthesis Framework. J Autism Dev Disord 40:149–166
- Root, J. R., Henning, B., &Boccumini, E. (2018). Teaching students with autism and intellectual disability to solve algebraic word problems. Education and Training in Autism and Developmental Disabilities, 53, 325-338.
- Rogers SJ, Annette Estes A, Lord C, Vismara L, Winter J, Fitzpatrick A, Guo M, Dawson G.)2012(Journal of the American academy of child & adolescent psychiatry. 51 (10) www.jaacap.org.

Schaaf CR, Benevides T, Mailloux Z , Faller P • Hunt J • Hooydonk VE • Freeman R • Leiby • Jocelyn B, Donna K. An Intervention for Sensory Difficulties in Children with Autism: A Randomized Trial. J Autism Dev Disord (2014) 44:1493–1506

- Siniscalco D, Kannan S, Hernández NS, Eshraghi AA, Brigida AL, Antonucci N. (2018). Stem cell therapy in autism: recent insights. Stem Cells and Cloning: Advances and Applications. Stem Cells and Cloning: Advances and Applications 2018:11
- Sudha M. Srinivasan, Linda S. Pocatello, Anjana N. Bhat. (2014) Current Perspectives on Physical Activity and Exercise Recommendations for Children and Adolescents with Autism Spectrum Disorders Physical Therapy f 94 (6)
- Smith, T., Mozingo, D., Mruzek, D. W., &Zarcone, J. R. (2007). Applied behavior analysis in the treatment of autism. Clinical Manual for the Treatment of Autism, (1966), 153–177.
- Special Programs Branch. (2000)-British Columbia. Ministry of Education https://www2.gov.bc.ca/assets/gov/education/...to.../autism.pdf
- Thompson, D. G., &Tielsch-Goddard, A. (2014). Improving management of patients with autism spectrum disorder having scheduled surgery: Optimizing practice. Journal of Pediatric Health Care, 28(5), 394–403.
- Tsang SK M, Shek TDL, Lam LL, Tang F L Y. Cheung PMP. Brief Report: Application of the TEACCH Program on Chinese Pre-School Children with Autism—Does Culture Make a Difference? J Autism Dev Disord (2007) 37:390–396

- Veerman, G., Holdt Henningsen, K., Eyssen, M., Benahmed, N., Christian, W., Bouchez, M.-H., … Croonenberghs, J. (2014). Management of autism in children and young people: a good clinical practice guideline 2014. Good Clinnical Practice (GCP) Brussels: Belgian Health Care Knowledge Centre (KCSE).
- Welterlin, A., Turner-Brown, L. M., Harris, S., Mesibov, G., &Delmolino, L. (2012). The home teacching program for toddlers with autism. Journal of Autism and Developmental Disorders, 42(9), 1827–1835.
- www.autismspeaks.org