Title: A Review Study: Supportive Care Patterns in Children with Autism Spectrum Disorder

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Abstract

Background: The incidence of autism is increasing day to day and it has increased significantly in the last decade. There have been many studies on the treatment of Autism Spectrum Disorder (ASD) in children.

Objectives: The aim of this study was to design a treatment model for children under three years of age with autism disorder using comprehensive look at the existing patterns.

Method: eight databases ,inculding Scopus, Science Direct, Medline, Google Scholar, Magiran, SID, Iranmedex, pubmed and Cochran databases were independently searched by two researchers MeSH and relevant keywords regarding autism and children under 3 years . We included the studies published in different regions of Iran from 2010-2019 .diagnostic, screening and treatment intervention studies with focused on treatment patterns were reviewed. analyses guideline was used to design this study.

Results: **A** total of 46 articles were collected from which 16 diagnostic, screening and 22 treatment intervention and 18 articles were treatment model. The collected results were assessed in the intervention,. In general, treatment models with emphasis on improvement social interactions and communication were structured and unstructured . some models was used to specific age groups(adolescence and youth) , or all age groups. The oldest model was developed in 1980 and the newest pattern in 2015. Models with more flexibility also allow for continuous evaluation and improvement.

Conclusions: A review of articles shows that therapeutic models in which the active participation of parents, more interaction and freedom of action of the child are considered in the design, improve symptoms more. Models with more flexibility also allow for continuous evaluation and improvement. However, it is suggested that a standard treatment model be designed for children under the age of three that can be evaluated and can be upgraded.

Keyword: Therapeutic model, Under three years old, Diagnosis, Autism, Review article.

Intrudaction:

The affection of autism has been increasing day by day and has grown significantly in the last decade. Getting information about the identification of children infected with ASD in different countries and cultures helps governments plan according to needs and commensurate with population toward designing education and other services for supply special needs of these children and their families (1, 2). Considering that studies on the international level show, the prevalence of disorders can be related to cultural factors and little research has been done in this case so far, investigation based on evidence to identify children infected to this disease in special cultures is necessary. On the other hand, though the initial symptoms of autism appear before the age of three (even before the age of one) another challenges, are well - timed identification this disorder and designing the standard pattern for screening ,well - timed diagnosis and treatment (3و 4).

Definition: Autism is a collection of serious mental and behavioral disorders in children and it leads to the inability to grow. Some Diagnostic Symptoms of Autism Spectrum Disorders Based on the Fifth Edition of the conductor diagnostic and Statistical of Disorders mental (DSM5) includes the following: Criterion 1: Constant defects in relevancy and social interaction like; Defects in mental social interaction, defect in behaviors Non-verbal communication such as making eye contact, Using gesture and having difficulty in spreading , Maintaining and understanding relationships and as well as establishment friends and participating in fiction games. Criterion 2: Behavioral patterns, interests or limited and repetitive activities such as; movements of Stereotyped or repetitive, Insisting on uniformity and inelastic adherence to daily routines, reaction more and less than normal to stimuli Sensory or Unusual interest in the sensory aspects of the environment. Criterion 3: outbreak symptoms in the early of the developmental period. Criterion 4: outbreak signs, Clinical disorder Noteworthy in social and occupational fields. Criterion 5: Unjustifiable symptoms with mental disability disorder (3) among the points that has mentioned above there are two general indicators include: 1) Persistent deficiencies in communication and social interaction in various situations and patterns of behavior, 2) tendencies or repetitive restricted activities are the least diagnostic symptoms of this disorder(4). Indeed, autism means having a tendency to oneself and not paying attention to the outside world, Autism patients, despite having healthy visual and auditory and having special creativity abilities, they have very limited contact with the world around them. Defect in social relationships, stereotyped behaviors, repetitive movements, and social skills disorder are the main characteristics of autism patients (4, 1, 3). Signs and symptoms of autism may occur in infancy. The most common age of beginning of symptoms is 8 to 12 months and then 24 months to six years old. And the prevalence of this disorder in

boys is about four or five times higher and is sometimes associated with Mental retardation (5, 6.) Communication and social interactions disorders are the most known and stable problems in children with autism disorder and defects in social and communication skills before the age of a year, such as eye contact, chase with a look, a social smile emerges. Epidemiology: In recent years, the prevalence of autism spectrum disorders (Growth pervasive disorders) has increased dramatically. In previous years, the Estimates made in the field prevalence of autism spectrum disorders was less than 10 per 10,000 people. In 2007 this number increased to 110 per 10,000 people and in 2010 Disability monitoring network Developmental in the United States, which does Estimation the prevalence of autism spectrum disorder in children Over 8 years of age, the prevalence of autism spectrum disorder reported 14.7 per 1000 people. the prevalence of autism has been increased from 2 cases per thousand people in the 1990s to 80 to 100 in 2008. Recent research, the prevalence of any kind of autism spectrum disorder almost 1 in 68 children aged 8 in the United States has expressed. Means from each 42 boys and 189girls children one people being infected with autism spectrum disorder. In Iran, the amount prevalence of autism 95.2 per ten thousand people, has been declared. (10, 9, 8) In some studies, in terms of racial and ethnic groups, show that whites in comparison with others Groups are more prevalent .However, studies in recent years has indicated that there is a decrease in amount difference of prevalence in different race and ethnicities(Reducing these differences may be a demonstrator of progress in further diagnosis ASD in all children. Among the groups with higher social and economic status, more autism prevalence reported. However, the findings between 2000 and 2014 represent the diversity and difference in the spread of autism (9). Etiology: The cause of autism is an unknown, but there is possible a set of multi-factor in its occurrence.

1-Genetic Risk Factors: Studies on twins have confirmed the heredity of autism in the autism spectrum disorder. In demographics studies that has been done on more than 2 million autistic families, the results showed. The likelihood of hereditary, autism increases to 53%. Also increasing the mother's age in the occurrence of autism is effective Based on the national statistics of Sweden and based on 400 samples of 33,000 children, the probability of newborn child that has an autism increase in mothers over 31 years old (4 and 9) Other research shows that people who have autism children are likely more than others to be their next child with autism.(4) 2-Non-genetic factors: Exposure to air pollution, especially heavy metals and use of some drugs in the era pregnancy, diabetes and bleeding of pregnancy and also increasing the mother's age and father during pregnancy, and…are none-genetic factors (4, 9) Screening and diagnosis: The attention of researchers towards treatment has caused that they look for accurate tools for diagnosis and Autism of Spectrum Disorder. In this way, many screening and diagnostic tools have

been prepared, none of them could not be helpful comprehensively and definitely .A few cases are mentioned below. (11)

CHAT و MCHAT
Checklist for autism evaluation during infancy designed by Baron-Cohen and his Colleagues in 2000 for children 18 to 35 months. The test includes two sections that the first part is the parent and the second part is completed by Specialist. Modified autism Checklist in infancy (MCHAT) was designed by Inada and her Colleagues In 2010.This questionnaire has 20 questions, except for the question 5, 2 and 12 If the child answers no to questions, the child should be referred for further evaluation and if yes to questions 5, 2 and 12 increase the risk of having autism according to the scoring of three probabilities be considered.

Low risk with an overall score of 0-2 the
middle risk with an overall score 3-7 the
high risk with an overall score of 8-20 (11, 12 and 13)

GARS TEST: The
Gars test is one of the most valid tests that was prepared by Gilliam in 1994 Reliability Gars have been accepted in the acceptable range .Studies done representing a 90.0 alpha coefficient for Stereotyped behaviors, 89.0 for communication, 93.0 for social interaction, 88.0 for growth disorders 96.0 is in autism semiotics .11)
The GARS test is for people 3 to 22 years old and can be completed by parents and specialists in school or home. One of the main and fundamental characteristics of this test is that each child in comparison with peers evaluate and silhouette related to each child present. This test is made up of 15 cases and each case is scored from normal level to severe level. (10, 11)
In a study that for the treatment have referred to Isfahan Autism Center was conducted annually on all children and adolescents with autism in Isfahan province , the results the correlation of Gars components showed that it includes appropriate validity of the criterion. Investigations performed for GARS's ability to distinguish between different diagnostic groups Indicates a significant difference between experimental groups (10).

ADIR TEST: This
test is one of the most usable tests for identifying and Diagnosis autism, in the form of interview with watchful and for evaluation of behavior in three areas can be done. This test for children under the age of 18 months with autism spectrum disorder and adults can be performed and takes two hours or more (12).
Considering that one of the major policies of the Ministry of Health and Medical Education in 1396 is considered the integration of the screening program, diagnosis and treatment of autism in children under three years of age .one of the requirements of implementation is the existence of a constant diagnostic and therapeutic program based on standard model and the desired quality that on the one side can meet the needs of children with autism and on the other side prevent from wasting(financial And human)resources. In a study have been done

in 1397 regarding factors social determinant of the economic burden of autism disease by mossadegh Rad and colleagues, the economic burden of disease was 841 and 561 and 223 Rials that respectively, direct medical costs, non-medical direct costs and indirect costs 32,52,16 percentage was calculated) (6). On the other hand, for implementing a systematic program, composition standard processes (Executive process, support and ...) supply and training of specialist forces, evaluation of program and modification of processes are also essential. In this study, valid therapeutic patterns are reviewed so that using its results to achieving a standard Flexible pattern. (15 and 14)

Methodology:

This is a review article. eight database , SID, Magiran, Iranmedex, Google Scholar, Median, Science Direct, PubMed, Cochrane were searched .we conducted search strategy based on the Medical Subject Heading (MESH) keywords related to term "patterns in children with autism spectrum disorder" and combined the following terms: (autism disorder, PDD, ADOS-G, ADI-R, young children, model , treatment) there were no limitations on the publication time frame, peer review criteria , or study design .

Initially, a list of all the titles and abstracts of the collected articles was prepared. Then, in order to focus on the quality of available evidence related to screening, diagnosis and treatment in children by searching in the time range of 2010 to 2019 database. The exclusive criteria consisted letters ,reviews, poor quality article ,conference abstracts.

From among the English and Persian articles, 100 articles were collected using the keywords including treatment models (ABA, TEACCHT, response oriented floortime spark …), screening, diagnosis, signs and symptoms, tools, examination, assessment.

the existing guidelines were extracted using patterns or models treatment autism disorder keywords and by linking databases to other internet resources such as reputable sites and forums (Centers for Disease Control and Prevention, Iranian Autism Association, American Academy of Pediatrics, American Speech-Language and Hearing Association, Autism Society).

The extracted comprehensive and practical information was used to diagnose, screen, and design treatment and education models. Ten articles were not related to the topic and were deleted. 46 articles were in the field of diagnostic and treatment screening, of which 22 articles were about treatment and 18 articles were discuses about patterns treatment . the collected information was categorized and classified(figure1). Data collection is illustrated in the form of a flowchart and all information was summarized and included in a table for the reader to easily understand and access the results. For this purpose, a list of existing test names and treatment models was extracted. Due to the fact that the title of the study is a review of specific treatment patterns, the requested information including the author's name, year of publication, type of study, treatment model- screening and diagnosis, age range, gender, duration of implementation, method of implementation, rate of family participation, outcome, training space and time and number of training sessions required was extracted by referring back to the references . To increase the accuracy of the information about the treatment patterns, the authors collected information in two separate groups and then the information was compared and no contradiction was observed.

All these selected studies were qualitatively evaluated. First , selected articles were for models and definitions . adapted for children with autism disorder .then theses model and definition and relevant characteristics were extracted , such as the author's name ,age of the target group , pattern treatment . The quality of all studies was assessed by a 10 item checklist

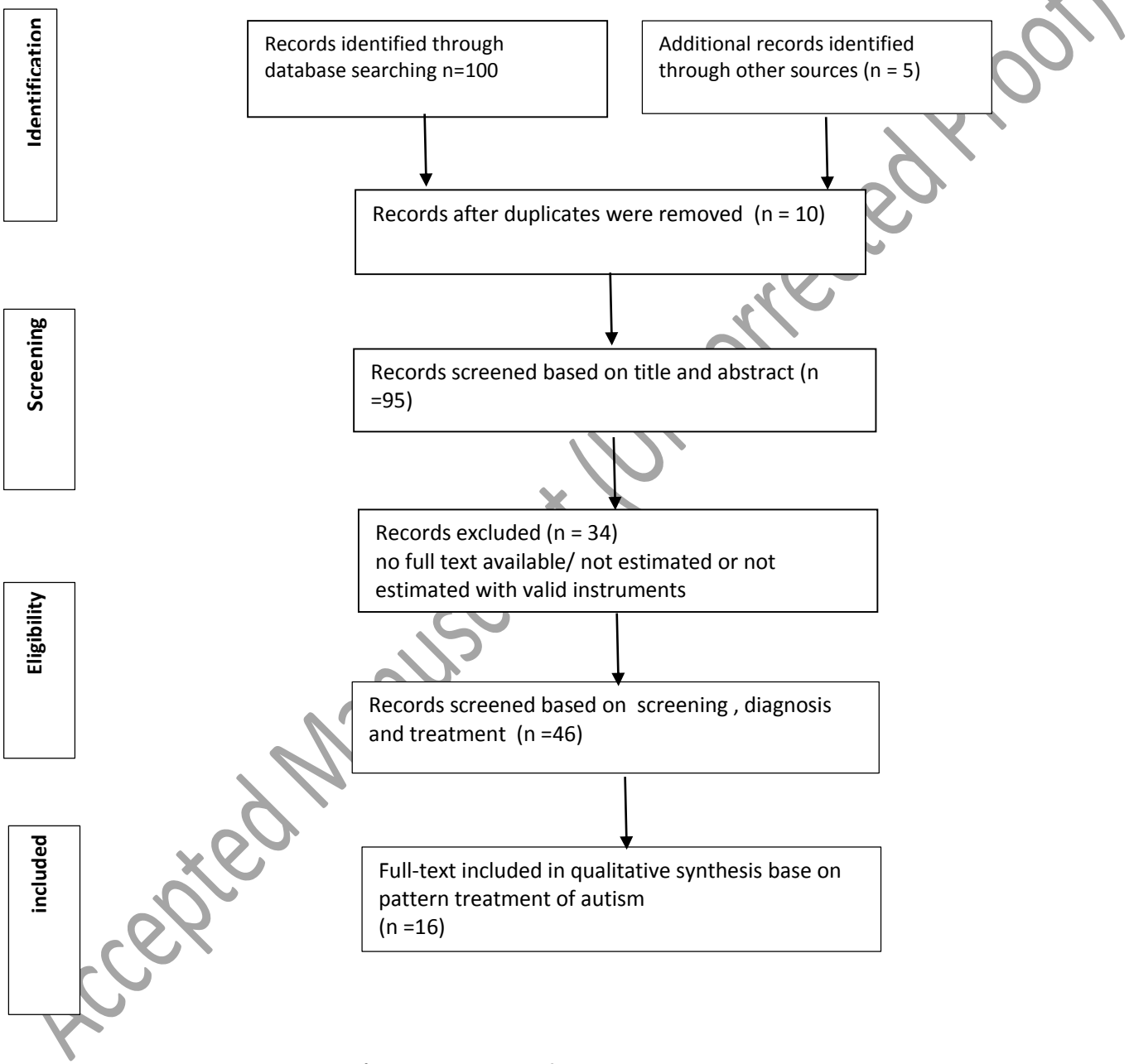

Figure 1. Flowchart of summarized search results

Result:

In this review of the literature, 16 model/ pattern treatment (Table 1) were presented Of the 16 model (Table 1), three study was related to children under 3 years(2,23,38),three study to children aged 3 to 6 year-olds (29.32,36); another ten articles targeted children >6 years (21, 22,24,26,31.34,35,37,39,40), Five pattern focused on education program (21,24,26,28,34)and four pattern focused on education and play program(23,34,37,38), three focused on family education (2,22,35) and two model focoused behavior (29,) and base three model was free (36) However the most research groups focused on social interactions Treatment methods according to the study of scientific studies, books and references depict that there is no single treatment for autism, and no specific drug has been introduced to treat it. The studied treatment models were related to 1972 to 2019. Among the studied models, the following models were selected as functional models for ages under three years. The oldest pattern related to ABA that was used in1993 and the latest is related to the SCERTS model with a multidisciplinary approach to the evaluation and treatment of autism spectrum disorder. In fact, SCERTS is a combination of educational therapeutic strategies arising from evidence-based methods of behavioral, developmental and social approaches (16, 17).

1. Applied Behavior Analysis Method (ABA):

Among the treatments, it has led to further improvement in these children. Using applied behavior analysis based on accurate evaluation of the child, preparation of a special educational program and intensive person-to-person training by educators and using the conditioning method performed at the maximum possible working hours (30 to 40 hours per week), was initially known as the Lovaas method. This method is used for smaller children and in order to enhance its efficiency it is used in an intense format. In the applied approach to behavior analysis, two types of behavior are targeted:

-Additional behaviors (spontaneous behaviors, self-harming, aggressive behaviors, obsessive and cortical behaviors)

-Damaged or undeveloped behaviors (such as language skills, social skills, play skills, school skills, and self-help skills)

Using behavioral methods, additional behaviors are eliminated and damaged behaviors are rehabilitated. In the applied behavior analysis approach, emphasis is placed on the areas of environmental stimuli, attention and motivation of the child and his social behavior. In this method, the child and the educator have a close relationship with each other and there is more verbal interaction, which reduces communication problems (18, 19 and 20).

Golabi performed a study on a group of 19 children (case group) and its comparison with the situation of 2 control groups of 20 and 21 people (all three groups in the primary school age) for 2 years with 41 hours of intensive work in the week and face to face with trained instructors. The results showed the effect of ABA method training leads to a function quite similar to normal people, and these children can continue their education in public classes. In this study, only one person needed special classes to continue his education (21).

2. Picture Exchange Communication System Method (PECS): A way to build practical communication skills with educational standards and special tools in people with autism spectrum disorder. Education in this way has no age limit and can be used from the age of 14

months. A clinical psychologist named Andrew Bondi and a speech therapist named Laurie Frost founded it about 20 years ago. The difference with other methods is that in this method the child initiates communication and uses this device to meet his needs and does not follow the principles of behavior change. This method is done in six steps, first it is aware of the child's interests and then puts the desired moving image in front of the child and asks him to show the desired image and show it to the instructor and the instructor provides the image to the child. In the second stage, in order to increase the demand for spontaneity, the facilitator gradually distances himself from the child so that the child insists on the desired image. In the third step, the distinction between images is taught. In the fourth step, the child learns to make sentence and is taught to put the desired image in the blank space. In the fifth stage, the child learns the answer to the questions and in the sixth stage, the expression of emotions and feelings in the child is strengthened. The PECS method is not used for speech therapy, and its difference with other methods is that it needs three people, the learner, a communication partner and facilitator to implement the training program (22, 23 and 24).

Zeid Abdi et al. conducted a study in 2017 on 41 students with autism spectrum disorder in Kermanshah, its results revealed the PECS treatment has a significant effect on increasing verbal and non-verbal communication in children with autism (23, 24)

3. Response-based therapeutic model:

This model has a free structure based on natural principles and reactions and it is assumed that children's disorders can be improved by environmental manipulations. This method is one of the most flexible and efficient methods for both children and educators, and unlike the classical methods, it is not a prearranged program so that the child and the therapist are required to perform it in detail, but the child has complete freedom of action and directs the program himself. The purpose of this method is to increase children's motivation and desire to learn the environment, reduce the child's resistance during the treatment session, improve effective communication between parents and caregivers with the child. The five main axes focused on response-oriented therapy are:

1. Teaching children how to respond to multiple signs of the environment
2. Children's freedom in choosing the tools and activities related to training (in order to increase their motivation)
3. Teaching self-management methods to children
4. Increasing the innovation and creativity power of the children
5. Providing opportunity to stabilize learning and generalize it to the other situations (25, 26)

The analysis of the findings of a study conducted by Tajrishi et al. in 2013, shows that the two response-oriented therapy and educational therapy models are effective in reducing clinical symptoms in three components (abnormal quality of social interactions, abnormal quality of verbal and non-verbal communication skills, and defects in behaviors, interests, and limited and repetitive activities). However, comparing the effectiveness of these two treatment models reveals that the response-based treatment model is significantly more effective than educational treatment model on the three components mentioned above (26).

4. Treatment and Education of Autistic and related Communication handicapped Children (TEACCH) Method is one of the educational treatments used worldwide for children with autism which is also known as the constructed teaching method and is also used for children over 14 years old. This treatment was invented in 1972 and was patented by Eric Scalper. Of course, there is evidence that the TEACCH project has been under consideration at the University of North Carolina since 1955. In this method, instead of teaching a child with autism a special skill and ability, it tries to teach the child skills so that he can better understand his surroundings and the behaviors of those around him. In this method, it is believed that the child's living environment should be adapted to him, not that the child should adapt to the living environment. The child is taught skills to be able to adapt to their environment and better understand the behaviors of others. The method does not use a specific technique, but the treatment program is based on the level of performance of the child and instead of teaching the child a special skill and ability, it tries to teach skills so that he can improve his surroundings and the behaviors of those around him. Understand. The educational treatment model emphasizes environmental organization, visual support, individualization of the goals, and training of independence and development skills, and its four main components are: physical organization, programs, work system and task organization, and early diagnosis and evaluation, parental cooperation, and organized education in a structured environment (27 and 28).

In a study conducted by Niko Khalq et al. In 1397. in 1397, the TEACCH treatment method effect on the clinical characteristics of students with autism spectrum disorder were investigated and identified (25).

Mohammadi et al. conducted in a study 1398 to compare the effectiveness of TEACCH and neurofeedback therapy educational methods on improving cognitive, social and daily life skills in children with autism spectrum disorder in 45 children aged 7-12 years. The results showed that the mean difference in the post-test of the experimental groups in the cognitive skills development, social and daily life activities variables was more than the control group and there was a significant difference between the two TEACCH and neurofeedback intervention groups and the control group (28).

5. Different individual relationships (DIR / Floortime) Model:

Professor Stanley Greenspan, a child psychiatrist and Professor of Psychiatry and Behavioral Sciences at George Washington School of Medicine, believed that playing with children with autism could be a way for them to get out of their confined world. Accordingly, he invented Floortime or DIR treatment method. In this method, the child's goal is to connect with another person through more precise play schedules. This method consists of six steps in which a child with autism imitates the steps and learns how to learn from an adult. Abazari et al. in 2016 conducted a quasi-experimental study for designing a floortime treatment program based on parents' expressed emotion in improving the social skills of high-functioning autistic children. The treatment program consisted of 23 sessions and 21 children with high-functioning autism divided into two experimental and control groups. In the experimental group in addition to ABA intervention, the designed intervention program was presented to them as well but the control group only used ABA method. The results showed no significant difference in skills and social adjustment between the two groups of children under ABA

intervention and children under floortime intervention. However, after presenting the intervention, the experimental group had better performance in communication variable (29, 30).

6. The SCERTS model is the result of the teamwork of Prizant, Wetherby, *Rubin* and Laurent, who have been trained in speech and language pathology, special education, developmental and behavioral psychology, occupational therapy, and family-centered methods. This model is considered in the formation of skills and learning as a social process with emphasis on the participation of social partners who provide the appropriate conditions for successful learning and acquisition of skills in the child. In this model, he uses new conceptualizations of education and treatment that carefully address the underlying defects observed in autism spectrum disorder. It therefore represents what its creators believe represents the next generation of therapies for autism spectrum disorder. In educational programs, SCERTS is a systematic approach that guarantees specific skills and support. Appropriate tools are selected and used consistently during the day. This process allows families and departments to use a wide range of effective methods available based on their knowledge and abilities. One of the unique features of SCERTS is that it can incorporate strategies related to approaches, including functional behavior analysis, TEACCH, and Floortime into its curriculum (31).

7. A number of social cognition models have been developed to consider socio-demographic changes in health behavior. In an article by Armitage et al. in 2117, the impact of social and demographic changes on health behavior was examined (32). In different types of models, it allows a "consensus" approach to study health behavior and promotes a greater understanding of the psychosocial factors of health behavior (32, 33, 34).

8. In the study conducted by Aqdasi and his colleagues, video modeling was performed using a video-learning modeling method to teach life skills in a practical way. Content analysis was performed before preparing each educational video. Videotapes were made to watch the participant watch and perform the task. Object learner modeling was effective in promoting skills acquisition among children. In the post-filming and one-month follow-up phase, positive reinforcement was used to focus on changing skills and behaviors. In this method, the learner divided the object into smaller steps until the student gained the necessary mastery to perform a particular skill or behavior. The training of the desired skill was done until the child mastered and held intensive training sessions with the participation of parents and the use of a positive enhancer to increase longevity and acquisition of skills. These stats and techniques work for both the educator and the children and adolescents who teach them (35, 36, 37).

9. Parent group training: In a study conducted by Shushtarsi in 1398 on a group of 31 parents of children with autism spectrum disorders, they were randomly divided into experimental and control groups. The duration of the intervention period was 11 sessions that each lasted 91 minutes (According to the Tong program) performed on a weekly basis. The results showed that parent group training in autism spectrum disorders and behavioral management practices significantly influences the parents' mental health and improves the child's condition (38).

Discussion: The results show that none of the supportive training approaches is capable of meeting all the needs of children with autism spectrum disorder. In addition, other treatment methods such as drug treatments with side effects and low consumption at a young age, sensory integration treatment according to the sensorimotor category and other rehabilitation treatments in the field of autism spectrum disorder in areas such as cognitive skills, daily life skills, self-help skills do not deal with professional and personal skills and do not pay much attention to the child's learning processes (11, 39).

What is vitally important here is that interventions should be based on knowledge and application of principles, be scientific and also lead to behavioral improvement in the child, improving neurological development by helping neural flexibility, and eventually increase the quality of life. To achieve this, interventions should be appropriate in achieving a proper range of cognitive, social, verbal abilities and reduction of symptoms and behavioral problems (11).

As mentioned, according to the treatment models that have been developed by researchers over the years, after the diagnosis of autism, it is not possible to specify which treatment can be effective. However, considering that if a program wants to be integrated and implemented in a systematic way and based on instructions and protocols, it needs standards for developing executive and support processes, etc. Structural education is a set of teaching techniques which strategies can be determined by designing comprehensive treatment models for a broad understanding of the treatment of children with autism. This comprehensive model should be able to develop the child's social communication skills with the participation of families and, through individual and group evaluation of individuals, have the necessary flexibility to change teaching strategies (39). These models serve as a tool for teaching skills or as a framework for training and their purposes are to understand how it affects the thinking, learning and behavior of a person with ASD disabilities. Differences in auditory processing, imitation, and motivation can impede the academic achievement of students with autism. Traditional teaching strategies rely primarily on a specific framework based on verbal instruction, representation, social reinforcement, and information sequencing. Adding visual training, flexible in the classroom environment and educational planning is appropriate due to the existing differences to increase interaction and independence and clear organization of classroom spaces and teaching materials to reduce anxiety and increase behavior (33, 35).

Since each method has its strengths and weaknesses, identifying key structures in different types of models allows a "consensus" approach to determine a standard pattern to promote the behaviors of infected children. For this purpose, research-based methods and techniques based on scientific evidence can be effective in acquiring a range of skills, including social interactions by children (34, 38).

Conclusion :

Therefore, the present article suggestions are as follows:

Designing interventions for more involvement and participation of parents and increasing their self-confidence in educating children designing an effective and flexible standard

training method in order to monitor and evaluate the program and the possibility of improving it.

Experimental studies have been conducted to determine effective solutions for educational behavioral interventions and their effect on children less than three years old with less autism spectrum disorder, so comparative studies are necessary to determine the effectiveness of these interventions. It seems that studies on new treatment models that are a combination of other models, such as response-based therapeutic interventions and educational therapies, are also needed. In designing educational models, apart from the method of education, educational space (area, light, color, control and security, heating, etc.) is very important in children with autism.

Numerous critical reflections are likely to affect the current understanding of the proposed model.

This data can be useful when considered in the future health promotion discoveries and interventions thus, more efforts to close these gaps and challenges base on multidisciplinary perspective

Ethical considerations:

All ethical course are considered in this article . the participants were informed about the purpose of the research and its implementation stage ; they were also assured about the confidentially available to them.

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Table 1. model/ pattern definitions in children with autism disorder

No	**Authors**		Definition
21	Golabi P	Applied Behavior Analysis Method (ABA)	
36	-Matsushima K	combine model	Freedom of action and strong determination Framework done by the child Play learning Self-management methods
32	Karbalaei Hosseini Ghiasvand A	Pattern Analysis components environment on Interactions Social	Play with children and early interventions for Interactions Social
34	Absolute unit	Pattern skill social interaction	Combined pattern training for Behaviors) such as eating and to dress) Use the image to establish Relationship
35	dasi L, Pouratemad	Pattern spark	Family participation Telephone intervention Use the Spark pattern
22	Samadi	combine model	Teaching daily activities and play activities and Play
40	Samadi t	Classic pattern	Educating to students with pervasive developmental disorder
38	Zwaigenbaum L	The best treatment patterns	Using combination patterns Social interventions Use a combination of imitation
26	Poor Mohammad R Tajrishi	PRT pattern	Visual learning Freedom of child choice and freedom For Flexible activity
2	jones w, klin	Model SCERTS	Parents and educators Identify child's behaviors and act based on it
31	-Safari S	Types of patterns	Improving communication Social skills Improving movement problems The senses
21	Golabi	Comparison of two educational models ABA and TEACCH	Systematic Method Stable and during the day Combined with other educational patterns
23		Picture Exchange . Communication System (PECS)	Systematic method with special tools Can be used for all ages Based on the needs of the child
39	Nasaian	Virtual . education . model	
		The SCERTS Model	an innovative educational model for working with children with autism spectrum disorder (ASD) and their families.
24	Zaid Abdi	Pax . model	Systematic method , with special tools Can be used for all ages Based on the needs of the child
25	Niko Khalq	Sensory Processing . . Model Winnie Dunn	The concepts of the item in the discussion Processing Communication and Functions processing between Everyday life in sensory Autism disorder with children in Sensory Model Dunn
30, 29	lizadeh Zarei	Flortime Model	Intervention based on differences Individual (Flortime) based on

			Excitement expressed by mothers On social skills children
37		Parent group education model	Determining a confrontation strategies by parents with children's problems

Table 2. Consequence and Aim model/ pattern treatment in children with autism disorder

No	**Authors**		Consequence	Aim
21	Golabi P	Applied Behavior Analysis Method (ABA)	Increasing social interactions Improve target behaviors Increase the power of initiative and Creativity	The effect of this treatment On pivotal behaviors children
36	-Matsushima K	combine model	Feeling safe And comfortable . Participate in learning	Impact of architecture on improvement Social interactions
32	Karbalaei Hosseini Ghiasvand A	Pattern Analysis components environment on Interactions Social	. with Self-help training in the case of combination Improve communication and interactions social	Self-help skills training in Improving communication and interactions social
34	Absolute unit	Pattern skill social interaction	Training family by voice telephone Check the condition of the child Do telephone training based on The condition of the child	Use the Spark method For parents' telephone training
35	Aghdasi L,	Pattern spark	Teaching daily activities and Play	
22	Samadi	combine model	Improve social interaction	single and group games in the classroom
40	Samadi t	Classic pattern	social determinants, health care system attributes, disease inducing behaviors, and health outcomes	Improve social interaction
38	Zwaigenbaum	The best treatment patterns	Encourage coaches to use This therapeutic pattern	nproving communication and social skills
26	Poor Mohamm Reza Tajrishi	PRT pattern	Checking the child for preparation in Improve communication, increasing Self-confidence, self-help Individual education Reviews strengths and weaknesses points and based on it Teaches	Improving communication and social skills
2	jones w, klin	Model SCERTS	Imitation game Freedom of action in choosing daily activities	Improving Interaction
31	-Safari S	Types of patterns	These Autism Services Consumers Strong and persistent support for specific treatment Flexible and high reliability	Comparison of two educational models ABA and TEACCH
21	Golabi	Comparison of two educational models ABA and TEACCH	Arousal of emotions and Feelings	effect in verbal and nonverbal communication

23		Picture Exchange . Communication System (PECS)		Comparison of training model with video
39	Nasaian	Virtual . education . model	These Autism Services Consumers Strong and persistent support for specific treatment Flexible and high reliability	Comparison of two educational models ABA and TEACCH
		The SCERTS Model	Adjusting the emotions inside and out that Through it Adjusts and modify arousal Emotional direction, control, and individual Enables to Act consistently	Family-centered approach Improving social ability and Children's excitement
24	Zaid Abdi	Pax . model	Significantly impact on improvement Communications	Impact on improving verbal communication And non-verbal
25	Niko Khalq	Sensory Processing . . Model Winnie Dunn	The concepts of the item in the discussion Processing Communication and Functions processing between Everyday life in sensory Autism disorder with children in Sensory Model Dunn	Impact on improving verbal communication
30, 29	lizadeh Zarei	Flortime Model	Intervention based on differences Individual	social skills children
37		Parent group education model	Improvement social skill and communication of emotion control	Family participation and improve interaction