

## Effectiveness of group therapy on social interaction in autistic children

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### Abstract

**Background:** Autism is a neurodevelopmental disorder that impacts typical childhood activities, such as socialization, and is often characterized by displays of repetitive and stereotyped patterns of behavior. These children suffer from behaviors that include extreme aloneness, failure to assume anticipatory postures, delayed or deviant language, and a limited range of spontaneous activities and lack of socialization.

**Objectives:** To find out the effectiveness of group therapy on social interaction in children with Autism.

**Methodology:** Sample data constituted of 34 children (28 males, 6 females) aged 5-15 years who then assessed for Autistic symptoms on the basis of Indian autistic assessment scale by assessing therapist. The Interventional therapist then planned the group therapy for the next 4 weeks. Pre and post therapy assessment by the Indian autistic assessment scale were analyzed for the effectiveness of the therapy.

**Results:** Comparison between pre and post intervention Indian autism rating scale for autism shows extremely significant result (<0.0001).

**Conclusion:** Improvement in social interaction in children with autism when treated with group therapy.

**Keywords:** Autism, Group therapy, social interaction, Indian autistic assessment scale

### 1. Introduction

Autism is a developmental disorder that is typically diagnosed during childhood. It was Kanner a psychiatrist from John Hopkins University who first described the term Autism. Autism identified behaviors include extreme aloneness, failure to assume anticipatory postures, delayed or deviant language, and a limited range of spontaneous activities [1]. In the DSM-IV, Autistic disorder is classified as one of the pervasive developmental disorder (PDDs) [2]. PDDs are a cluster of syndromes that share marked abnormalities in the development of social and communicative skills. Autistic disorder (AD) is characterized by a qualitative impairment in verbal and nonverbal communication, in imaginative activity, and in reciprocal interactions that develops before the age of 3 years [3]. Children with AD are diagnosed by [4, 5]:

1. Poor eye contact by 18 months of age.
2. Inability to engage socially or emotionally with caregivers.
3. Delayed speech.
4. Stereotypical behavior.
5. Restricted repetitive behavior.
6. Marked need for sameness.
7. Preference of solitary play.

Autism is a neurodevelopmental disorder that affects typical childhood activities, like socialization, and is often characterized by displays of repetitive and stereotyped patterns of behavior [6]. In addition to these core characteristics of autism, individuals with a spectrum disorder usually display different responses to sensory experiences when compared to typically developing peers. Unusual sensory responses, as well as preoccupations with sensory

features of objects, have been reported for children with autism in several studies [7-9]. The decreased ability to effectively process sensory stimuli may lead to limited participation in preschool activities, such as peer interaction, pre-academic work, play, and feeding [10-11]. There is a need to understand the differences in the various approaches to providing intervention for sensory processing challenges for children with autism within preschool environments, in order to support optimal participation in childhood occupations such as play.

The exact cause of autism is unknown but prenatal factors such as maternal bleeding after the first trimester, meconium in the amniotic fluid, respiratory distress syndrome, neonatal anemia are found to be contributing factor in autistic disorder. Neuroanatomical factors such as brain enlargement, temporal lobe damage and decrease in cerebellar Purkinje cell are also found to be causative for autistic disorder [12]. Genetics appear to play an important role in causing some cases of autism [1, 13].

Group therapy is widely used to treat children's emotional and behavioral problems because of its responsiveness to their unique and varied developmental needs. Most children below the age of 11 lack a fully developed capacity for abstract thought, which is a prerequisite to meaningful verbal expression and understanding of complex issues, motives, and feelings [14]. Thus, unlike adults who communicate naturally through words, children more naturally express themselves through the concrete world of play and activity. In play therapy, then, play is viewed as the vehicle for communication between the child and the therapist on the assumption that children will use play materials to directly or

symbolically act out feelings, thoughts, and experiences that they are not able to meaningfully express through words [15-17]. Play allows children to bridge the chasm between their experiences and understanding, thereby providing the means for insight, learning, problem solving, coping, and mastery. This study is needed as Autistic children represent a heterogeneous group with certain symptoms in common, one of which is disturbance in sensory processing leading to lack of social interaction. Such a child reflects poor modulation or inadequate registration of incoming stimuli. These difficulties are often characterized by either an over- or under-reaction to sensory input. Since a major symptom of autism is a disturbance of sensory processing, it is logical that group therapy procedures would be employed in an attempt to ameliorate the autistic symptoms.

**2. Material & Methodology**

The data was collected from Prasana Autistic Centre. The sample size constituted of 57 Pure Autistic children the sample was then segregated according to the inclusion and exclusion criteria. The one’s fitting in the inclusion criteria were selected and out of them the data was then randomly selected. The sample data constituted of 34 children (28 males, 6 females) aged 5-15 years. The inclusion criteria for the study were 1) Participants in the age group of 5-15 years.

2) Both boys and girls. 3) Able to follow simple verbal commands. 4) Children participating in a special education program for at least one academic year. The exclusion criteria for the study were as follows 1) Children with comprehension problem. 2) Auditory and visual problem. 3) Autism with mental retardation, 4) k/c/o any musculoskeletal disorder. An informed written consent was taken from all the parents. The children were then assessed for Autistic symptoms on the basis of Indian autistic assessment scale by assessing therapist. The Interventional therapist then planned the group therapy for the next 4 weeks, in groups. The assessing and the interventional therapists did not share the data recorded by them individually to avoid biased results. Each group constituted of 5 students. There were 7 groups in all. Each group constituted of an assistant therapist per child i.e. there were 5 assistant therapists and 1 interventional therapist per group. The assistant therapist number per group was reduced after 2<sup>nd</sup> week of intervention in order to increase the difficulty levels. After 4 weeks of intervention the children were reassessed individually by the assessing therapist on the basis of Indian autistic assessment scale. Pre and post therapy assessment were analyzed for the effectiveness of the therapy.

**Protocol**

**Table 1:** Intervention protocol.

Days	Treatment
2-3 Days	Texture: grouping, standing in a circle, holding hands, moving around in a circle.
4-14 Days	Dodging ball in the circle with one assistant per kid, clapping hand of partners on right then left, then on commands, walking on balance beam and placing peg boards.
15-28 Days	All activities with reduction of commands, one therapist per group and no assistance, reinforcement reduced.

**3. Results & Data analysis**

The objective of the study was to find out the effectiveness of group therapy on social interaction in children with Autism and to compare the components of the Indian autistic assessment scale to check the area of maximum improvement. The components of the Indian autistic assessment scale included 1) social relationship & reciprocity 2) emotional responsiveness 3) speech-language & communication 4) behavior patterns. The data which was collected and recorded at the pre and post intervention was used to analyze the

results. Comparison of the results was made at pre and post intervention readings. Statistical analysis was done by trial version of Graph Pad in Stat (v 3.06) software. The data was entered into an excel spread sheet, tabulated and subjected to statistical analysis. Various statistical measures such as mean, standard deviation (SD) and test of significance that is ‘paired t test’ used for comparing data. The results were concluded to be statistically significant.

**3.1 Social Relationship & Reciprocity (SRR)**

**Table 2:** Comparison of SRR scores pre & post intervention.

SRR	Pre Intervention	Post Intervention	P Value	T Value	Results
Mean + SD	26.82+4.51	18.35+5.02	<0.0001	12.389	Extremely significant.

**3.2 Emotional Response (ER)**

**Table 3:** Comparison of ER scores pre & post intervention.

SRR	Pre Intervention	Post Intervention	P Value	T Value	Results
Mean + SD	15.35+2.78	10.17+3.31	<0.0001	13.584	Extremely significant

**3.3 Speech Language & Communication (SLC)**

**Table 4:** Comparison of SLC scores pre & post intervention.

SRR	Pre Intervention	Post Intervention	P Value	T Value	Results
Mean + SD	22+4	14.74+4.48	<0.0001	14.903	Extremely significant

### 3.4 Behavior Patterns (BP)

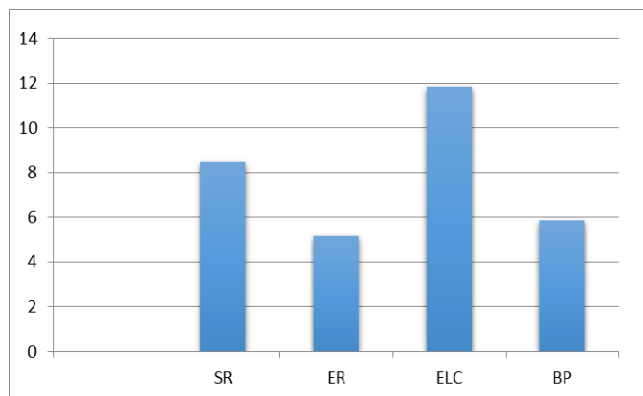
**Table 5:** Comparison of BP scores pre & post intervention

SRR	Pre Intervention	Post Intervention	P Value	T Value	Results
Mean + SD	14.41+3.27	8.55+1.50	<0.0001	14.213	Extremely significant

### 3.5 Comparison of the components

**Table 6:** Comparison of the components.

Component	Results
Social Relationship (SR)	8.47
Emotional Response (ER)	5.18
Speech, Language & Communication (SLC)	11.83
Behaviour Pattern (BP)	5.86



**Fig 1:** Comparison of components.

#### Interpretation

Maximum improvement was in SLC (speech, language & communication) followed by SR (social relationship), BP (behavior pattern) and least in ER (emotional response).

#### 4. Discussion

The present study “Effectiveness of group therapy on social interaction in Autistic children” is aimed to see how group therapy helps in improving quality of life in children with autism. Prasana autistic centre was chosen for the study of four weeks. The results of the study suggested that a positive clinical change occurred in the social interaction in autistic children reaching a statistical significance as a result of 4 week group therapy. The quantitative data provides initial support for the author’s hypothesis regarding the significant effect of social interaction of group therapy in Autistic Children. Thus, these strategies can be applied on a regular basis for helping autistic children to overcome their behavior issues and to cope up effectively with the environment.

An intervention such as group therapy offers a milieu of service delivery that enhances care, provides support and offers the experiential component of common cultural characteristics for this minority population of children (Craven, 2008) [18]. An interaction difficulty which plagues many children with autism is the main cause that this certain population is laid back. Inability to express and stereotyped actions make them stand apart from the children of their age. Development of socialization techniques is often a central theme of group therapy which is necessary to overcome the clinical features of autism. If Individual interventional measures are taken in order to overcome the negatives in an

autistic child it probably wouldn’t provide an adjusting environment and would require a longer time for a positive outcome whereas group therapy helps the children to grow in an environment with their alike which further boosts a Childs confidence physically and/or psychologically. Support and restorative efforts have to be implemented to educate parents how to be aware of children’s socio-emotional needs and develop appropriate support and communication in order to create an environment of healthy growth and development (Howe, 2006) [19].

The adaptive strategies and failure to thrive due to lack of social relationship and reciprocity project character traits demonstrating low self-esteem and being aloof. These social characteristics include a lack of social smile, poor eye contact, remaining aloof, not reaching out to others, unable to relate to people, unable to respond to social/environmental cues, engaging in solitary and repetitive play activities, inability to take turns in social interaction and inability to maintain peer relationships. Social interaction is more than just becoming accustomed to and aware of different people and relations, but the awareness of relations as it applies to every distinct person and the situation or environmental factors, which help shape an individual’s existence. This responsiveness to varied people to varied environment was achieved in children by providing various activities in group trough play which helped grow their social interaction. Post 4 weeks of intervention the average results were 18.35+ 5.020 the improvement as pre and post means were compared was 8.47 units and p value <0.0001; interpreting the results were extremely significant.

Emotional responses are often based on an individual’s experiences. So in order to ameliorate the negative emotional that is often present in autistic children the groups were exposed to certain experiences with their alike as a medium to bring about change and verify the effect of group therapy. The emotional responsiveness is usually inappropriate or at times the child shows an exaggerated response. These children often lack the fear of danger, or may be excited or agitated for no apparent reason. They may also engage in self stimulating behaviors or stimming [20], i.e. repetition of physical movements or sounds. It is viewed as a protective response to stimuli, with which the individual blocks the less predictable stimuli [21]. These include hand flapping, rocking, head banging, repeating noises or words, snapping fingers [22, 23]. Group therapy can assist in the forming processes such as Imitate behavior; Individuals can model the behavior of other members of the group or observe and imitate the behavior of the therapist. Group cohesiveness; because in a group there is a common goal, members gain a sense of belonging and acceptance. Catharsis; Sharing feelings and experiences with a group of people can help relieve pain, guilt, or stress. It was observed that through interpersonal learning children learnt that there are others out there with similar experiences to their own which closing up a floodgate so that the creation of other factors are made impossible such as self-disclosure, agitation,

abnormal responses and etc. Thus helps in maintaining a healthy balance in emotion. Post 12 week sessions the mean calculated was  $10.17 + 3.31$ . On comparison of pre and post mean the result calculated showed improvement of 5.18 units & p value  $<0.000$  which interpreted that the results were extremely significant.

The concept of universality plays a significant role in providing group therapy an ethos which suggests that "I am not alone. I am in fact part of a larger network of people who have similar problems" and experiences. The notion of universality may cause a child to feel less socially isolated. Group therapy offers a prosocial milieu of service that in a social context benefits children's social interactions and improves interpersonal communication [24]. Group interaction allows children to bridge the chasm between their experiences and understanding, thereby providing the means for insight, learning, problem solving, coping, and mastery. This was effectively seen in the present study. The post interventional results showed the highest improvement in speech-language and communication which was 11.83 units. The post intervention was mean was recorder to be  $14.74 + 4.48$  and p value  $<0.0001$  interpreting it to be extremely significant.

The 4<sup>th</sup> component where marked difference was observed through the present study was in the behavioral pattern of the autistic children. Post interventional period most of the children had reduced stereotyped and repetitive motor mechanisms, attachment to inanimate objects, hyperactivity/restlessness, aggressive behavior, temper tantrums. The average post session was recorded as  $8.55 + 3.31$ , showing an improvement of 5.86 units when compared to pre session recordings and p value was  $<0.0001$  this could probably due to the Existential factors of group therapy i.e. While working within a group offers support and guidance, group therapy helps member realize that they are responsible for their own lives, actions, and choices.

A study done by Dr. Pallavi Rokade *et al.* on behavior modification in Autistic children with outcome measure Indian autistic assessment scale showed significant results whereby the authors used dance/movement therapy to ameliorate the negative signs of autism [5].

In addition, the children that were evaluated under the age of ten, a quarter of the studied population had abnormal or suspect results on learning of academic coursework which showed improvement post sessions. It therefore made sense to provide these services in the one place where children reside for 6-8 hours per day, in the schools. Through the present study it can thus be deduced that group therapy was effective for autistic children to reduce the negative signs of autism and improve Social Interaction, Emotional Response, Speech, Language and Communication, Behavior Patterns post 4 weeks.

## 5. Conclusion

According to the present study it was thus found that group therapy is effective for social integration in autistic children.

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