Social Interaction Skills Development in Children with ASD: A Group-Based Comparative Study

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ABSTRACT

Autism is a processing disorder that disrupts the ability to understand and utilize language and significantly poor social skills. During a typical group therapy session, children are facilitated to socialize with their peers, initiate or participate in the group play or express their potential. This study aimed to see the effect of different types of therapy as a team approach (Speech therapy & Occupational therapy) during the group therapy session and apply it during the group therapy sessions, and to see the impact of different age groups in developing social interaction skills. A total of 5 mainstream children with ASD (age range- 6 to 8 and 8-10 years) were selected. 6 sessions of group therapy for 2.5 hours were conducted with OT and ST together. The objectives of the group therapy were rated on four rating scales and compared before and after the session by the parents and therapist. The Wilcoxon signed ranked test was done to find any significant difference between the two groups and the Mann-Whitney U test was to see the impact of different age groups in developing social skills. The finding indicated that the children from both groups showed improvement in social communication with their peers, and show interest to participate; initiating, and taking a turn in storytelling, and various art, and craft activities. However, children in the higher age group showed more improvement in their social skills. This signifies that the transdisciplinary approach in group therapy is a useful treatment strategy to facilitate the children to initiate and interact with their peers.

INTRODUCTION

Autism is a processing disorder that disrupts the ability to understand and utilize language, and organizes incoming auditory and visual information, usually accompanied by repetitive motor movements, a need for routine and sameness[1], and significantly poor social skills. It is a childhood condition that has a significant impact on the development of social interaction, communication skills, and conduct. It causes stereotyped habits, interests, and activities, and it usually appears before the age of three[2].

This disorder affects an individual's capacity to interact with others in a socially acceptable manner. Social interaction difficulties have direct and indirect consequences for people with Autism Spectrum Disorder (ASD). Regardless of cognitive or language abilities, socialization problems are a key source of impairment for people with ASD[3]. Individuals with ASD have a wide range of social difficulties, including interpersonal interaction, linguistic conventions, and speech.

Although recent research has revealed a variety of deficits at both the anatomical and microscopic levels, the specific cause or causes of autism remain unknown. Because

every instance is different, there is no exact clinical definition of autism. The degree of heterogeneity that can exist among people with autism must be considered. Individuals with autism have a wide range of symptoms, severity, cognitive impairment, and clinical issues[4].

As per Allen[5], the major social skills to be learned during the early years relate to getting along with others.

a. Interacting with children and adults, in a variety of ways, at home and away from home.

b. Trusting and enjoying known adults outside the immediate family.

c. Recognizing and protesting inappropriate advances from known or unknown adults within or outside the family.

d. Attending to self-care needs at home and in public places with consideration of others.

e. Sometimes initiating play ideas with children, other times, are following children's lead.

f. Participating in group activities through listening, taking turns, and contributing to the group effort.

g. Sometimes putting aside individual needs and interests so the needs and interests of the group may be met.

h. Working and playing independently as well as operatively; learning to be alone without feeling isolated or rejected.

i. Using language as a powerful social tool is for persuading, defending, reasoning, explaining, solving problems, and getting needs and preferences attended to.

Children with ASD have a wide range of social difficulties, including speech, linguistic standards, and interpersonal interaction. Impairments in social pragmatics (e.g., turn-taking in conversation and the ability to take the perspective of the listener), poor speech prosody (e.g., the typical rising and falling of voice pitch and inflection that aids verbal communication), a proclivity to dwell on certain topics, difficulty understanding and expressing emotions, and difficulty interpreting nonliteral languages such as sarcasm and metaphor) are all frequently identified problem areas[6]. Children with ASD struggle to develop acceptable social skills and may be deprived of opportunities for healthy peer relationships; group training is a sensible solution. Furthermore, given the growing awareness of ASD in youngsters of ordinary cognitive ability[7].

SST (Social Skills Training) is an effective component of therapy regimens for a variety of developmental problems, including social anxiety[8] and certain learning difficulties[9]. SST in a group setting is an appealing intervention strategy for children with ASD because it allows them to practice newly taught skills in a more naturalistic setting, which may encourage interaction with other children[10]. According to Cooper[11], this intervention entails using behavioural and social learning strategies to teach certain skills (e.g., keeping eye contact, initiating discussion).

Individual therapy limits socialization and group interaction because it focuses on children's specific areas such as pre-linguistic skills (eye to eye contact, focusing), linguistic skills (comprehension, expression), fine and gross motor skills, and helps children develop functional communication in day-to-day activities in a one-on-one setting with the therapist. As a result, during individual therapy sessions, they do not have the opportunity to develop their social interaction skills[12].

In the first grade, Davis[13] established group therapy as a method of assisting children in gaining social acceptance. Children are encouraged to socialize with their peers, start or participate in group play, and exhibit their potential during a normal group therapy session. Most social learning, according to Bandura[14], occurs through observation of others (others being people in the child's local social context, such as parents, siblings, teachers, and peers). Group therapy can be done in a variety of places, such as a therapist's office, a special school, a children's developmental center, and so on. Children can practice their social interaction skills with other children in their

age group in a safe atmosphere during group therapy sessions. These "practices" in social skills will increase their confidence in initiating and interacting with their peers in a comfortable and safe setting. As it is a therapeutic technique in which a group of children with similar issues or homogeneous traits meets for multiple sessions under the guidance and direction of a therapist, the children will also get the opportunity to practice acceptable social behaviour within the group.

Groups normally meet once a week, and therapy can last anywhere from a few weeks to several months. Group therapy can last a few months in some circumstances, but it can also continue for several years in others. Rhodes[15] discussed short-term work (six or eight sessions) that addressed behavioural change. Many factors influence the frequency and duration of group therapy, including the severity of the clients' conditions and/or problems, as well as the therapist's intended outcomes[12].

With all of these approaches combined, SPD's pediatric rehabilitation section conducted the first single-session group therapy program on June 25, 2010, followed by six sessions of group therapy from September 2010 to February 2011, and from April 2011 to February 2012.

Speech therapists (ST) and Occupational therapists (OT) were co-facilitating the group and complementing each other's professional practices while working as a team to run the group in a transdisciplinary manner. A team approach is a concept in which a group of professionals with complementary backgrounds and talents collaborates to achieve similar objectives[16]. The transdisciplinary approach is a framework that allows members of an educational team to contribute their knowledge and skills, cooperate, and collaboratively decide which services would be most beneficial to a child.

This strategy integrates a child's developmental requirements throughout the major developmental areas and entails a greater degree of collaboration than other service delivery models, Bruder[17].

The series of activity group therapy sessions provided a platform for the children to improve their social interaction while also keeping track of their progress.

Aim

During the group therapy session, to see how different types of therapy (Occupational therapy and Speech therapy) work together.

In a group-based therapy setting, to determine the impact of different age groups on the development of social interaction skills.

MATERIALS AND METHODS

A total of 5 male children with ASD aged 8 to 10 years (group 1) and 6-8 years (group 2) were chosen at random. The students were in lower primary, or grades 1-4. All of the children were in regular school, receiving individual speech and occupational treatment (45-minute sessions every two weeks), and struggling with social interactions. The children were enrolled in a 3-hour group therapy program for six sessions, guided by two professionals at our center (SPD), a speech-language therapist and an occupational therapist.

There were 5 objectives for the group therapy program i.e.
1. Listen and follow the instructions
2. Interacts with other children in the group
3. Initiates in the activity
4. Initiates and maintain interaction
5. Initiates and completes activities

Each objective was graded on a four-point rating scale that also indicated the percentage of achievement for that objective, Such as 1 - 25% (the child who requires maximum prompt, i.e. visual, verbal, and physical guidance from the therapist), 2 - 50% (the child who requires moderate prompt, i.e. visual and verbal cues from the therapist), 3 - 75% (the child who requires minimal prompt, i.e. verbal cues from the therapist), and 4 - 100% (The child who does not require any prompting and is

capable of performing independently). And the percentage was calculated as a total percentage of each child's performance in the group. Before and after each group treatment session, the parent of each child and the therapist scored the rating scale. To track the child's overall performance for each objective, the scores were compared before and after therapy.

The Mann-Whitney U test was used to assess the impact of different age groups in developing social skills, and the Wilcoxon Signed Ranks Test was used to determine if there was any significant difference between the pre and post-therapy rating scores among parent and therapist.

RESULT

The purpose of this study was to investigate how beneficial it was to incorporate occupational therapy and speech-language therapy treatment approaches into group therapy sessions, as well as the effects of different age groups on social interaction skills development. Parents and therapists were in responsible for rating scoring. The comparison of pre and post-therapy scores between the two groups, i.e. parent and therapist, shows that the group therapy objectives were rated higher after the completion of the group therapy. Graph 1 indicates the pre and post-therapy score which has been scored by parents of both the age groups. The post-group therapy scores are higher in each objective for the age group of 8-10 years when compare to the age group of 6-8 years, which shows there was an improvement in each objective. However, there was less improvement for the age group of 6-8 years.

Graph 1: shows pre and post Parents rating scales for different Objectives
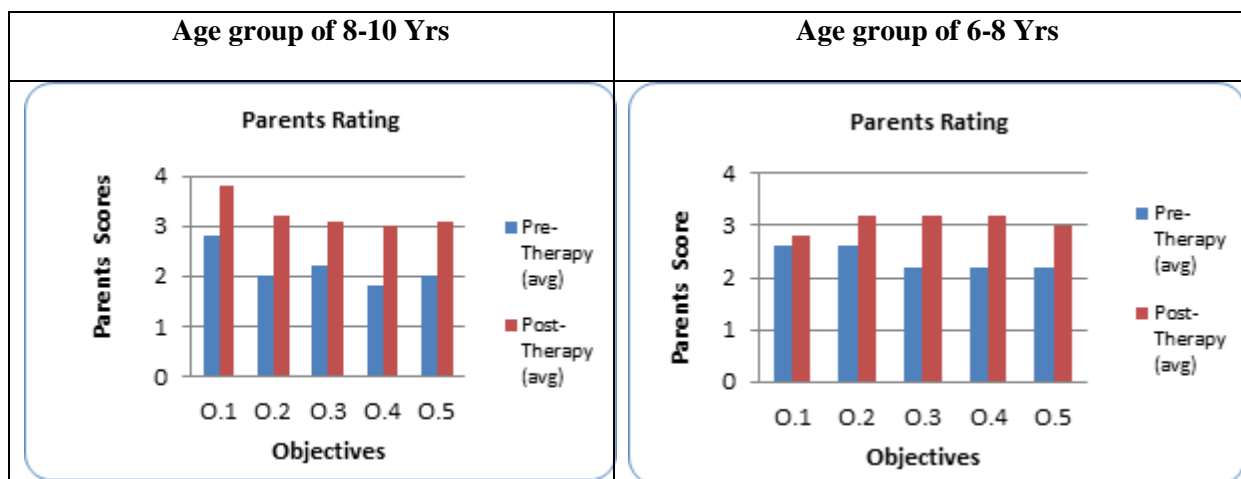
For the age group of 8-10 years, the Wilcoxon Signed Ranks Test show there is a significant difference (P<0.05) observed between pre and post-group therapy rating scale by parents in objective 4 and 5. However, there was no significant difference observed on pre and post-rating scales by parents for objectives 1, 2, and 3. For these objectives, it was approaching near significance level.

For the age group of 6-8 years, Wilcoxon Signed Ranks Test shows there is a significant difference (P<0.05) observed between pre and post-group therapy rating scales by parents in objectives 4 and 5. However, there was no significant difference (P>0.05) observed pre and post-rating scale by parents for objectives 1, 2, and 3.

Graph 2: shows pre and post-rating scales by therapist for different Objectives

Age group of 8-10 Yrs	Age group of 6-8 Yrs
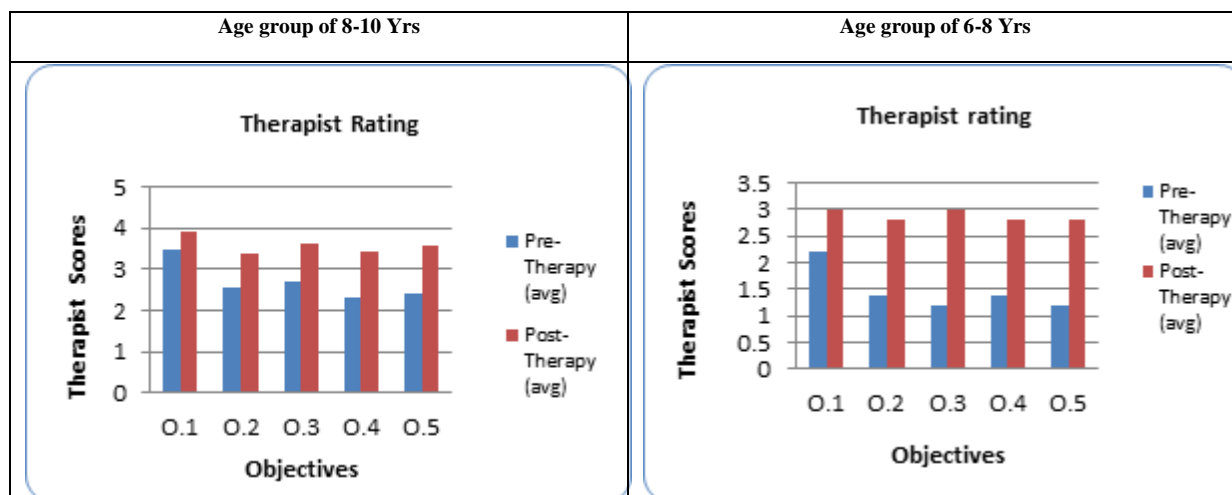
The pre-and post-therapy scores scored by the Therapist are shown in the graph above. Each objective's post-group therapy scores are higher, indicating that there has been progressed.

For the age range of 8-10 years, the Wilcoxon signed ranked test reveals a significant difference (P<0.05) between the therapist's pre and post-score for objectives 2, 3, 4, and 5. The therapist's pre and post-scores for objective 1 were nearing a significant level, with P-values more than 0.05 for all of the children.

For the age range of 6-8 years, the Wilcoxon signed ranked test reveals a significant difference (P<0.05) between the therapist's pre and post-score for all objectives, notably 1, 2, 3, 4, and 5.

Mann-Whitney U test reveals a significant difference (P<0.05) between the two groups (group 1 and group 2), particularly in terms of therapist scoring. The parents, on the other hand, showed no significant differences across the groups. For both groups, the parent's rating was approaching the significance level.

DISCUSSION

The result shows there is an impact of group therapy to develop social communication skills in children with Autism. The children from group 1 showed better progress after the completion of the six-session of the group therapy. The Post Rating scores from the 4 Parents for the child show more than 75% improvement and 1 parent's response is more than 60% in their social interaction skills. The overall learning of the objectives showed more than 75 % for all the children. The children from group 2 also show progress up to 60% for objective 1, 75% for objective 5, and up to 80% for objectives 2, 3, and 4.

In the same group of children which was rated by the therapist, the post rating scores for group 1 show up to almost 80% for all the objectives, and group 2 shows up to 75% improvement in their post ratings for the objectives of the group therapy. Both parent and therapist post rating score show there is improvement in the individual child as well as their objectives for the social interaction when compared to the pre-therapy score of 50-60%.

All of the children in the group enhanced their social interaction with their peers, such as initiating, maintaining, and completing activities with other children in the group. In addition, the youngsters in the group performed better in listening and following instructions during various tasks. This indicates that group therapy is an effective treatment option for children who want to improve their social interaction with their peers[12].

Several researchers have underlined the importance of socially valid and change-sensitive outcome measurement in their

therapeutic study for children with ASD. The outcome measuring system should be capable of detecting the child's acquisition of new specific skills in both the context of treatment and in the real world[18]. The older children in this study were able to develop social skills more quickly than the younger children in the group. This could be due to older children using more social skills in various routines than younger children, or it could be due to increased exposure or demand to apply the learned social skills in the real world and in various environments.

In a transdisciplinary-team approach, group therapy had an impact on developing social skills in children with ASD, which was facilitated by the therapist (OT and ST) and parents as a team approach. Similar findings have been reported in the literature as well[12].

CONCLUSION

According to our findings, individual therapy may impede sociability, but group therapy promotes a socially appropriate environment for children with ASD. Session children in group therapy have the opportunity to practice diverse social interaction skills in a safe atmosphere with other children in their age group. As a result, it boosts their confidence in initiating and interacting with their classmates. As a result, the transdisciplinary approach in group therapy plays an important role in the development of social interaction skills for children with autism, as it provides a platform where the children are facilitated by different professionals using diverse treatment methodologies.

Limitation: Because just 5 children in each group were involved, the results may not be generalizable to all populations of children of the same age and diagnosis. More research with a larger population in a different region may be needed. Inter-child, inter-parent, and inter-therapist assessments for the performance were also lacking.

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