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Effects of Art Therapy on Autistic Children with Visual Impairment

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ABSTRACT

The use of art in therapeutic form is very popular and its benefits are proven. Many therapists employ artistic methods to address the complications of autism for a long time but the increased prevalence of autism spectrum disorder with visual impairment is being witnessed these days. The present study aims to study the effects of art therapy intervention on the dual disability of autism and blindness. For this study two children having moderate autism with visual impairment were selected. Activities planned for them majorly focused on the stimulation of their tactile senses. The art therapy project for these students was divided into four stages: Pre-stage - the exploration of art material. In this stage, children were made familiar with different art materials. The second stage included tactile art-sand drawing, and the third and last stage activities were coins activity and paper weaving activity. It was designed to enhance motor skills and coordinated hand and body movement. There was resistance shown by both of them at the initial stage. However, the results after extensive sessions of their participation in activities indicated positive improvement in concentration. Their typical behavior of avoidance was also reduced. The results suggest that a tailored approach with the coordination of other experts and parents can help to overcome the complexity of their disorder.

KEYWORDS: Autistic children, Visual impairment, Art therapy, Tactile art activities

INTRODUCTION

It is assumed that visually impaired children with autistic like behaviour will have improper and ineffective interaction with others. Such children could have certain patterns and perceptions of their own about objects and activities. Commonly their communication is difficult to understand. These behaviours are only taken as symptoms as it displays the mental picture of their world. It is important to recognise certain patterns in their behaviour and also to determine the reasons behind such responses.

The present study focussed on two disabilities autism and visual impairment. Autism is a biological developmental disorder and referred as a spectrum disorder due to its different ranges from mild to severe in its many features (American Psychiatric Association, 2013). It mainly impairs: communication, imagination and socialization (ability to relate to others) (American Psychiatric Association, 2013). Due to its non-specific etiology, it could have many possible causes including environmental toxins, genetics and dysfunction of metabolism but, the common feature among all is that it is a brain-based disorder. The diagnosis of autism is based upon a certain type of behavior which is determined by comparing. One could display socially withdrawn behavior which includes non-verbal behavior, relationship development with peers and a preference

for solitary activities. In restricted communication, most of the time non-verbal behavior or language ability is restricted. There could be a delay in language development or sometimes those who have language may have high pitch, inflection or rhythm to the speed. The use of the language could be a stereotype like repeating sentences or poor use of grammar. They have certain body movements like eye pressing, clapping, flapping, rocking, light gazing and other hand or body movements (Turner, 1999). Some of the individuals show a lot of interest in numeric patterns like dates and phone numbers and some show interest in electric equipment, dismantling and assembling parts. In the broader term children with autism are not different from children without autism. The only difficulty they face is the processing of information which comes to their brain and this result in sensory delay or failure.

The term, 'Visual Impairment' is used for a wide range of ailments. It could be a low vision defect to total vision loss. Visually impaired children do not live a life which normal children do as their functions are performed without visual information. Studies have proved that sighted children depend 80% upon their vision for world information whereas blind children have 100% experience of the world without vision (Boyce & Hammond, 1996). So, such children process sensory information differently. Globally the visual impairment in children is 0.8/1000 (Wrzesinka *et al.*, 2017). Congenital or

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early childhood visual impairment disturbs social and emotional areas of life. In their world visual information is lacking and it results in affecting a child's perception on many things. The whole picture is different for them because the processing of information is different, it slows down the speed of information as compared to the sighted person. Most of the children get trained in their daily activities and perform them with the help of motor skills.

Some research show that children who have congenital visual impairment are at high risk of social communicative difficulties. 11- 40% of such children meet the criteria of clinical autism spectrum disorder (Absoud *et al.*, 2011). The tool to diagnose ASD in children with visual impairment is still not understood. There are multiple factors like visual, age, sex, psychological and neurological components responsible for it (Parr *et al.*, 2010). However, developmental difficulties with visual impairment should be accurately identified at an early stage. One reason causing this problem is that observational tools are used to identify such developmental disorders like ASD. This usually relies upon visual behaviours like eye contact, joint attention and gestures it becomes difficult to determine in case of visual impairment (Lord *et al.*, 2000). Second reason could be that visual impairment is generally under diagnosed for those who have complex needs as the signs are often difficult to underline due to diagnostic overshadowing because one condition generally masks another in case of intellectual disabilities (Brown *et al.*, 1997; Cass, 1998; Turner, 1999). It is observed that children having severe visual impairments find difficulty in social and relational development and similar symptoms are observed in children with ASD (Brown *et al.*, 1997).

LITERATURE REVIEW

Keeler was the first one to observe similarities in traits between autistic and visually impaired children in 1958. After research he concluded that many children with very little sight or totally blind show autistic traits (Keeler, 1958). Similarly, Fraiberg in the development of his research on autism and visual impairment introduced, "blindism" that can bring stereotype and repetitive behaviour like flapping, rocking and eye rubbing (Fraiberg, 1977). Chase (1972) in his research with 263 people confirmed a relationship between neurological changes in the structure of the brain, visual impairment and autism.

The visual impairment and autism project by Ian Bell with his team, in 2006, designed a project. The main feature of this project was that representatives from both disabilities participated in this project. After observations and discussions on strategies and approaches, it was suggested learning should be promoted by managing the environment and effective communication with a feeling of independence should be encouraged. Their sensory needs also to be supported.

In another research where 243 children with congenital rubella participated; Ten children out of those 243 children were diagnosed with classic autism whereas eight were having

partial autism. According to Chess (1971) brain damage was the common component accounted for autism in such cases.

There are certain parameters made to understand autism. The ABC (Autism Behaviour Checklist) is one of the assessment keys. It consists of 57 very commonly seen behaviours in autistic children (Krug *et al.*, 1980). In its reliability and validity study ABC scores indicated a significant difference between autistic and non-autistic children (Rogers & Newhart-Larson, 1989). Out of the total scores generated in ABC which falls between 1-158, a score of 67 and above was considered an autism indication with "high probability", however researchers reported lower score for deaf-blind autistic children than for the sighted clients (Jan *et al.*, 1977). Another tool is the Developmental History Tool used to evaluate psychomotor development, blindness type, the period of onset of blindness, other medical disorder associated with any other observations of a child's behaviour. The school records also play a role in determining the intellectual level and other areas related to the child's development. The use of verbal indicators of the Stanford-Binet Intelligence Scale and Wechsler Intelligence scale relies upon the Clinical judgement by clinicians, school performance, reports by teachers and their assessment. IQ 90 and above defined under normal category, 70-90 comes under the borderline and under 70 is mentally retarded (Mukaddes *et al.*, 2007).

Childhood Autism Rating Scale (CARS) is another diagnostic tool for autism which covers 12 functional areas to determine the 'degree of autism' in the absence of more validated instruments (Schopler *et al.*, 1980). Its scores range from 15-60; between 30-36 for mild to moderate autism and above 36 for severe autism.

DSM is the final diagnosis for ASD. It is determined with the consensus of two clinicians (American Psychiatric Association, 2013).

For the assessment of visual imparity, the severity on the basis of low vision to blindness is evaluated (World Health Organization, 1993). It is assessed by an ophthalmologist (ST), who uses the Snellen E chart. It is measured at four points: Total blindness, near blindness, profound and severe.

Absoud *et al.* (2011) in Developing a schedule to identify social communication difficulties and autism spectrum disorder in young children with visual impairment aimed at developing an observational instrument, the Visual Impairment and Social Communication Schedule (VISS), which will help to identify early social communication difficulties and autism in young children with visual impairment. Twenty-three children (12 male, 11 female) were a data group and results indicated VISS as an initial step to help early ASD with visual impairment diagnosis.

The major issue for these children to get appropriate education. Colclasure *et al.* (2017) in teaching students with disabilities: visual impairment and blindness focus at their equal right to education and advocate for Individual Education Plan (IEP).

There should be scope for accommodation in the classroom, laboratory and in a non-formal educational atmosphere. It is suggested that agricultural education could be a great help for the visually impaired. The development of life skills and different strategies for working should be taught in their educational programmes.

Research Question

The purpose of this paper is to present the results of art therapy intervention to visually impaired autistic children. Their reaction in accepting therapy and also to note down their behaviour during therapy. Does art therapy assist them to get a sense of themselves and get comfortable with the atmosphere around them? Can the healing power of art therapy in tactile way support autistic children to develop their motor skills and ease their anxiety?

METHODOLOGY

In this qualitative research, random sampling method was used. The researcher selected two visually impaired autistic children (boys), Vardaan and Singh (parents did not allow to disclose name) aged 11 years and 12 years. They both have autism (moderate level) and severe visual impairment (zero sight). Both are very friendly in nature, Vardaan is mute whereas Singh speaks at a high pace and words are usually not understood. They were decided to give art therapy as their motor skills were also not developed properly. They both were undergoing speech therapy also.

In the first meeting with the therapist they showed excitement because of the fragrance she was wearing. Vardaan held her hand and kept it on her face. So the most crucial phase- friendship was established.

The second step was to understand their language through a speech therapist, so that the therapist could understand their needs. This phase remained non-working phase for them, but only tried to understand more and more about them. This helped her in winning their confidence.

The third step included the development of therapeutic relationship, where both children were introduced to art materials. Newspaper tearing, ball making, sand, clay and water. They didn't accept wet material on their hands initially and asked to remove but in the second sitting only they accepted. The reason behind making them familiar with tactile art material was to stimulate their sensory experience. It took many sittings for making them to understand the activity and to get familiar with the material.

Finally at stage-1, they started working with art material. For their exposure to the material they were told to dip their hands in warm and cold water to get them comfortable with the first activity which was hand printing. Poster colour was applied to their hands and they were told to make an impression on the paper. They felt the wet colour on the hand and refused to

make an impression. Vardaan didn't like the small and resisted it. The next day an acceptance came to him and he put his hand impression happily on paper as seen in Figure 1 and 2. A typical autistic behaviour was noticed where they do not like change in their routine.

The next activity in stage-2 was sand art (Figure 3 & 4). In a tray they were given semolina and they were told to draw in it with the help of their fingers. This was the activity they liked most. They both were thrilled with this and kept enjoying this activity for at least one hour. They threw semolina here and there but kept doing it. It was such fun to see them enjoying this activity.

For the next many days coin activity took place. In this activity coins of two types were given to the children. One was a little long in height and the other type of coins was of low height and a little broader one. Both types of coins were kept on the sides of the table and children were told to use both hands to keep coins one by one from each side in the centre. This technique was practised for 10 days consecutively. This activity they found a little difficult. At many stages they were guided and many times their one hand was held in order to use only one hand. In Figure 5 and 6 it is seen. With practice they were able to



Figure 1: Vardaan (Hand printing activity)



Figure 2: Singh (Hand printing activity)



Figure 3: Vardaan (Sand drawing activity)



Figure 4: Singh (Sand drawing activity)



Figure 5: Vardaan (Coin activity)

do little, but perfection was not attained. The purpose of this activity is to use both sides of the brain.

The final activity was the weaving activity. These levels of activities was from easy to difficult. So, it was the most difficult



Figure 6: Singh (Coin activity)

task for them. They didn't like the activity perhaps it was not as tactile for them. Vardaan after few days tried half-heartedly as with time they started to accept things. Singh also tried it. But they couldn't do it properly. They were given instruction by making it with their handheld so many times.

Findings

In the work, the therapist tried to stimulate the processing of different functions of the brain with the help of art, which leads to hand and body coordination with the brain. One positive effect noticed was that both the children were more receptive. Vardaan being affectionate child, used to welcome all instructions, a change to try to understand instructions was observed. Singh being a hyper child often displayed agitation. Many times he used to run away from the class and get hit by a wall or door. With the time being in therapy, improvement in the behaviour was observed.

In this activity the process was important. During this intervention program they were trying to understand themselves. The two main areas of this intervention program were repetition and expression. The reptation process included auditory and tactile functions. Hand and body control came under expressive area.

The second change observed was earlier Singh opposed hand printing activity as he showed his displeasure towards applying on hand but with time he happily accepted it. The acceptance of different sensations with the texture objects made them understand the objects 'outside of themselves'.

The intervention of the therapy, made them curious about new materials whereas earlier they were hesitant to even touch new materials. They were showing typical autistic behaviour in playing with their favourite toys.

CONCLUSION

Art therapy through scribbles, sculptures, paper-craft, colouring and many other mediums focuses on expressions. It assists in

changing of perceptions about self and surroundings. In the case where child is visually impaired, the information about the outside world is missing or is very limited.

An art therapist needs to understand child with multiple disorders can have sensory issues. They do resist clay and sticky substances as such materials taken by their nervous system as a sensory assault. Once the child is comfortable with other material, gradually art therapists motivate them to respond positively to the material which a child has resisted. This gives a sense of self-acceptance and acknowledgement of others' presence. However, getting to this point might take a long time.

The hand and finger movement gives the experience of feeling textures and also students like Vardaan and Singh who have insufficient control of their hands due to low muscular tone. Art therapy can be a blessing in such cases. The external factors like therapist's relation with the child, voice and touch plays an important role in motivate them to get engaged in the activity.

It was observed that a few days or months were not enough for them to give desired results. Constant efforts by therapists and practice by the students can help in attaining fruitful results.

LIMITATIONS AND FUTURE RESEARCH

The problem with both autistic and congenitally blind children is that they do not have a clear sense of their world and their sensory information processes in a different way. This research was limited to two children only. More data could have played a better role in getting fair conclusions. Parents support is very important in this research. Vardaan's parents were very supportive whereas Singh's parents agree to go for art therapy for their child but it was on the condition that not to reveal his identity in any way, be it name or pictures.

There are many things which can be done to manage this type of cross-disability collaboration. Special teachers should also get their training in dealing with such multiple disabilities. Most of the teaching methods for children with autism are based on their vision. The approaches for treatment or teaching children with the combination of blindness and ASD are still unclear. On the other hand activities commonly used for visually impaired children might not be appropriate for ASD subjects. Special teachers or trainers or educators are trained to work with one disability either blindness or autism. They rarely are comfortable with or have knowledge about other disabilities. In such cases so often, the behaviour of the children is rarely understood. There is a need to design training programs focussing on multiple disabilities. The activities and the programs should be designed in such a way.

REFERENCES

Absoud, M., Parr, J. R., Salt, A., & Dale, N. (2011). Developing a schedule to identify social communication difficulties and autism spectrum

- disorder in young children with visual impairment. *Developmental Medicine & Child Neurology*, 53(3), 285-288. <https://doi.org/10.1111/j.1469-8749.2010.03846.x>
- American Psychiatric Association. (2013). The Diagnostic and Statistical Manual of Mental Disorders (5th ed.), Washington DC. Retrieved from: https://dhss.delaware.gov/dsamh/files/si2013_dsm5foraddictionsmhandcriminaljustice.pdf
- Boyce, F., & Hammond, F. (1996). *Autism and visual impairment - Making Sense*. Scottish Sensory Centre. Proceedings of Autism and Visual Impairment Conference. Retrieved from <http://www.ssc.education.ed.ac.uk/resources/vi&multi/boyce.html>
- Brown, R., Hobson, R. P., Lee, A., Stevenson, J. (1997). Are there "autistic-like" features in congenitally blind children? *The Journal of Child Psychology and Psychiatry*, 38(6), 693-703. <https://doi.org/10.1111/j.1469-7610.1997.tb01696.x>
- Cass, H. (1998). Visual impairment and autism: Current Questions and Future Research. *Autism*, 2(2), 117-138. <https://doi.org/10.1177/1362361398022002>
- Chase, J. B. (1972). *Retrolental fibroplasia and autistic symptomatology*. New York, US: American Foundation for the Blind.
- Chess, S. (1971). Autism in children with congenital rubella. *Journal of Autism and Childhood Schizophrenia*, 1, 33-47. <https://doi.org/10.1007/BF01537741>
- Colclasure, B. C., Thoron, A. C., & LaRose, S. E. (2017). *Teaching Students With Disabilities: Intellectual Disabilities*. UF/IFAS Extension. Retrieved from <https://edis.ifas.ufl.edu/publication/WC261>
- Fraiberg, S. (1977). *Insights from the blind: Comparative studies of blind and sighted infants*. New York, US: Basic Book.
- Jan, J. E., Freeman, R. D., & Scott, E. P. (1977). *Visual Impairment in Children and Adolescents*. New York, US: Grune & Stratton Publisher.
- Keeler, W. R. (1958). Autistic patterns and defective communication in blind children with retrolental fibroplasia In P. H. Hoch & S. Zubin (Eds.), *Psychopathology of Communication* (pp. 64-83) New York: US: Grune & Stratton.
- Krug, D. A., Arick, J., & Almond, P. (1980). Behavior checklist for identifying severely handicapped individuals with high levels of autistic behavior. *The Journal of Child Psychology and Psychiatry*, 21(3), 221-229. <https://doi.org/10.1111/j.1469-7610.1980.tb01797.x>
- Lord, C., Risi, S., Lambrecht, L., Cook Jr., E. H., Leventhal, B. L., DiLavore, P. C., Pickles, A., & Rutter, M. (2000). The autism diagnostic observation schedule-generic: a standard measure of social and communication deficits associated with the spectrum of autism. *Journal of Autism and Developmental Disorders*, 30, 205-223. <https://doi.org/10.1023/A:1005592401947>
- Mukaddes, N. M., Kilincaslan, A., Kucukyazici, G., Sevetoglu, T., & Tuncer, S. (2007). Autism in visually impaired individuals. *Psychiatry and Clinical Neuroscience*, 61(1), 39-44. <https://doi.org/10.1111/j.1440-1819.2007.01608.x>
- Parr, J. R., Dale, N. J., Shaffer, L. M., & Salt, A. T. (2010). Social communication difficulties and autism spectrum disorder in young children with optic nerve hypoplasia and/or septo-optic dysplasia. *Developmental Medicine & Child Neurology*, 52(10), 917-921. <https://doi.org/10.1111/j.1469-8749.2010.03664.x>
- Rogers, J. S., & Newhart-Larson, S. (1989). Characteristics of infantile autism in five children with Leber's Congenital Amaurosis. *Developmental Medicine & Child Neurology*, 31(5), 598-608. <https://doi.org/10.1111/j.1469-8749.1989.tb04045.x>
- Schopler, E., Reichler, R. J., DeVellis, R. F., & Daly, K. (1980). Toward objective classifications of childhood autism: Childhood Autism Rating Scale (CARS). *Journal of Autism and Developmental Disorders*, 10, 91-103. <https://doi.org/10.1007/BF02408436>
- Turner, M. (1999). Annotation: Repetitive behaviour in autism: A review of psychological research. *The Journal of Child Psychology and Psychiatry*, 40(6), 839-849. <https://doi.org/10.1111/1469-7610.00502>
- World Health Organization. (1993). *International Classification of Impairments, Disabilities and Handicaps (ICD-10)*. World Health Organization, Geneva.
- Wrzesnink, M., Kapias, J., Nowakowska-Domagala, K., & Kocur, J. (2017). Visual Impairment and Traits of Autism in Children. *Psychiatria Polska*, 51(2), 349-358. <https://doi.org/10.12740/PP/OnlineFirst/61352>