



A Pilot Study: Comparison between Body Awareness Therapy and Dance Movement Therapy in Children with Autism to Improve Body Awareness, Communication and Quality of Movement

Rakesh Solanki¹, Yagnik Dave², Dinesh Sorani³, Mital Patel⁴

¹PhD Scholar, Saurashtra University, Rajkot, Gujarat, India.

²Assistant Professor, Faculty of Physiotherapy, Marwadi University, Rajkot, Gujarat, India

³I/C Principal, Government Physiotherapy College, Jamnagar, Gujarat, India.

⁴HOD, Anatomy, Government Medical College, Jamnagar, Gujarat, India.

Corresponding Email : yagnikdave93@gmail.com

ABSTRACT

Purpose: This pilot study compared body awareness therapy and dance movement therapy in 10 children, 05 Children treated with body awareness therapy and 05 Children treated with Dance movement therapy with autism to improve body awareness, communication and quality of movement. Methods: 10 Patients systemically into two groups. In first group of 05 patients treated with body awareness therapy and second group of 05 patients treated with Dance Movement therapy. First severity of Autism measured by Indian Scale for assessment of Autism (ISAA), than Rate of behaviors compared with Child Autism rating scale, communication compared with social communication questionnaire and quality of movement measured with body awareness rating scale. Study completed within 2 month. Results: Compared two treatment body awareness therapy versus Dance movement therapy and measured outcomes pre and post treatment. Outcome measures body awareness rating scale, Social communication questionnaire and child autism rating scale were measured. Participants of Autism with age group of 4-18 years shows better prognosis by Basic body awareness therapy than Dance movement therapy in above outcome measures. Conclusions: These findings indicate significantly improved conditions of participants with autism by Basic body awareness therapy. The findings also enhance our understanding of Body awareness improved deficits in persons with Autism, and have used theoretical as well as clinical implications.

Keywords: Indian Scale for assessment of Autism (ISAA), Child Autism rating scale, social communication questionnaire, body awareness rating scale, Dance Movement therapy, body awareness therapy

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INTRODUCTION

Autism is a developmental disorder which is characterized by trouble with interactions as well as communication, and by restricted and repetitive behavior. [1] Parents usually notice signs during the first two or three years of their child's life during activities and communication.[1][2] These signs often develop progressively, though some children with autism reaches their developmental milestones at a normal pace before worsening [3]. Autism is one of a spectrum of behaviorally defined "pervasive developmental disorders" [1], which are commonly referred to as autism spectrum disorder (ASD). The deficits in social communication and presence of restricted interests and repetitive behaviors result in lifelong impairments and disability [4]. Autism is associated with a combination of genetic and environmental factors. Various risk factors include certain infections during pregnancy, such as rubella, as well as valproic acid, alcohol or cocaine use during pregnancy [1]. Autism affects information processing in the brain by altering how nerve cells and their synapses connect and organize; how this occurs is not well understood.[5]. In the DSM-5, autism and less severe forms of the condition, including syndrome as well as pervasive (PDD-NOS), are included within autism spectrum disorder (ASD).[6]

DANCE MOVEMENT THERAPY (DMT) addresses the nonverbal abilities to relate nonverbally, and to feel comfortable when relating nonverbally. It further addresses the ability to sense one's own body, to distinguish self from other, and to feel comfortable in one's own body and in relationships with others.

Which commonly includes Warm up for 10 min, Dyadic movement for 20 min and Baum circle for 20 min?

VERBAL PROCESSING PART (ABOUT 10 MIN): Finally, all participants sat down to reflect on the session, moderated by the Physiotherapist. In this context, the participants could verbally express their feelings and their opinion regarding the session.

BASIC BODY AWARENESS THERAPY: The aim of the training programme was to enhance body awareness and to achieve the positive experiences from the body itself. All sessions started with a short warm-up, followed by specific exercises and ultimately ended with a 15-minute verbal reflection and a summary of individual experiences.

Table 1.	Basic Body Awareness Therapy programme Total Duration: approximately 1–1.5 hour
A.	Encounter between the patient and the physiotherapist
B.	Exercises in lying position
C.	Exercises in sitting position
D.	Exercises in standing position
E.	Push-hands and walking exercises
F.	Session ending

MATERIAL AND METHODS [7]

This Quasi Experimental Study is done with consecutive sampling followed by systematic allocation into group in Maharshi Multispeciality hospital, Surendranagar, Shree B. D. barad physiotherapy college-kodinar, Jeevendee health education trust-kodinar. Shreejiviklang trust Mendarda. Study population taken of Patients with Autism with age of 4 to 8 years old [9]. Sample size taken 10 patients divided into 2 groups, Group A with 5 patients and Group B with 5 patients. The study is done under 1 year, Treatment given 7 weeks, first 2 weeks- 1hr / session, 2 session/week and Following 5 weeks – 1.5 hr/ session, 2 session/ week.[11] Instruments used in this study are Table, mat, Mirror, Swissball, Medicine ball, Peg board, plastic foldable big size ring, Balance board, Mobile, Speaker and stationary.

RESULTS AND DISCUSSION

The statistical analyses were done using software called Statistical Package for Social Science (SPSS 16) for windows. Descriptive analysis was done to find Mean and standard deviation. Inter-group comparison was analyzed by using non parametric Mann Whitney U test. Intra-group pre & post values comparison was analyzed by Wilcoxon Sign Rank test.

Tables below shows the all the values of patients data in which tables 1.1 shows demographic details of both the groups. Tables 1.2 to 1.5 shows intra groups comparisons. And tables 1.6 to 1.9 shows inter group comparison.

Table:1.1 Demographic Details of Subjects In Both The Groups

	MEAN		SD		P Value
	GROUP-A	GROUP-B	GROUP-A	GROUP-B	
AGE	6.3	4.58	2.32	0.40	0.369
DEMOGRAPHIC DATA		GROUP-A (n=5)	GROUP-B (n=5)		
AGE	MEAN	6.3	4.58		
	SD	2.32	0.40		
GENDER	FEMALES	1	1		
	MALES	4	4		

Table: 1.2 Intra-Group Pre & Post Rx Comparison (ISAA : Group A & B)

SCALE			Min.	Max.	Mean	± SD	Z	P
ISAA	GROUP-A	Pre	116	144	1.30	10.58	-2.55	0.003
		Post	96	126	1.09	11.03		
	GROUP-B	Pre	120	144	1.31	9.65	-7.54	0.001
		Post	113	132	1.22	7.98		

INTER-GROUP PRE & POST RX COMPARISON OF BARS (BETWEEN GROUP A & B)

In this research 4 outcomes were used, ISAA which shows the severity of the autism in the patients. The CARS was designed to measure cognitive abilities in the autism patients. SCQ was used to know about the cognitive skills of the patient. And BARS shows the body awareness. This study investigates the reliability, validity, and sensitivity of the all the outcomes in Autism. We hypothesized that the Scales would distinguish between healthy children and children with autism based on previous scales findings in autism.

After 2 months duration of treatment in patient and after 1 year duration of study, it was found that Basic body awareness therapy group reached better scores in focus, cognitive abilities, body awareness and communication with Quality of movement while the Dance movement therapy reached less improvement.

All treatment activities were practiced many times and, when appropriate, were repeated for body. Differences between child with focus, attention, cognitive abilities, communication problem and socialization develops and all these were facilitated by both the therapy.

In the statistical analysis between the Group-A and Group-B had been done. Inter- group comparison was analyzed by using non parametric Mann Whitney U test. Intra-group pre & post values comparison was analyzed by Wilcoxon Sign Rank test. Among the both treatments group B showed more mean difference than group A which suggested that Basic body awareness therapy were more effective than Dance movement therapy. This study provides guidance for physical therapists when planning a rehabilitation program for children who have Autism. As a result of changed in the body awareness, communication, and Quality of movement, there is a need for a clear focus and efficiency of intervention. This study adds to the existing scientific literature regarding the efficacy of BBAT as a rehabilitation approach for improving Body awareness and QOM. Several other clinical implications could be drawn from this research study.

This study provides statistical and clinical significance in improving body awareness, communication and Quality of movement among Autism subjects and this can be generalized for Autism population. After the statistical analysis, it was proved that null hypothesis was rejected.

DANCE MOVEMENT THERAPY [9]



Warm Up- 10 min. – Therapist uses one chase circle, takes one element and asks the patient to pick it and throw it out from the circle. It is one type of playful activities.



Dyadic Movement Part- 20 min. – A dyad consisted of either 2 participant, or 1 therapist and 1 participant takes part. In it one can lead and other follows. (Mirror based or visually activities with songs)



3. Baum Circle- 20 Min. –aims to establish kinesthetic attunement and emotional contagion. Therapist initiated the movement and participant follows the same movement and dance with feeling and expression.



4. Verbal processing part- 10 Min.
– Participants, therapist and volunteers get together and sat down, participant expresses his feeling by verbally or with expression. Aim to provide and receive feedback.

BASIC BODY AWARENESS THERAPY [8]



1. Body awareness in supine or standing, Moving body part feeling, Diaphragmatic breathing.
2. Massage on ground, or by cervical roller pillow or bolster at body parts, under spine in different positions.



3. Expression and sensation of body parts on bolster, swissball and Maintaining Balance on swissball
4. Communication intervention in which patient sharing his feeling about treatment process by verbally or by expression.

Table:1.3 Intra-Group Pre & Post Rx Comparison (CARS: Group A & B)

SCALE			Min.	Max.	Mean	± SD	Z	P
CARS	GROUP-A	Pre	39	56	47.00	6.96	-4.43	0.04
		Post	30	40	35.40	4.57		
	GROUP-B	Pre	42	50	46.60	3.43	-4.32	0.003
		Post	36	44	40.60	3.13		

Table: 1.4 Intra-Group Pre & Post Rx Comparison (SCQ : Group A & B)

SCALE			Min.	Max.	Mean	± SD	Z	P
SCQ	GROUP-A	Pre	17	29	21.80	5.21	-1.22	0.210
		Post	9	13	10.20	1.64		
	GROUP-B	Pre	16	21	18.80	1.92	-2.66	0.056
		Post	12	18	14.40	2.30		

Table: 1.5 Intra-Group Pre & Post Rx Comparison (BARS: Group A & B)

SCALE			Min.	Max.	Mean	± SD	Z	P
BARS	GROUP-A	Pre	52	67	57.20	5.89	-4.66	0.274
		Post	66	71	67.80	2.16		
	GROUP-B	Pre	43	54	49.40	4.21	-2.23	0.024
		Post	52	60	55.80	3.03		

Table: 1.6 Inter-group Pre & Post Rx Comparison of ISAA (Between Group A & B)

Scale	Intergroup Pre And Post Treatment Comparison				
ISAA	Min	Max	Mean	Z Value	P Value
Pre	116	144	1.30	-0.211	0.833
Post	96	132	1.15	-1.984	0.047

Table :1.7 Inter-group Pre & Post Rx Comparison of CARS (Between Group A & B)

Scale	Intergroup Pre And Post Treatment Comparison				
CARS	Min	Max	Mean	Z Value	P Value
Pre	39	56	46.80	-0.105	0.916
Post	30	44	38	-1.786	0.074

Table: 1.8 Inter-group Pre & Post Rx Comparison of SCQ (Between Group A & B)

Scale	Intergroup Pre And Post Treatment Comparison				
SCQ	Min	Max	Mean	Z Value	P Value
Pre	15	29	19.30	-0.210	0.834
Post	09	18	12.30	-2.319	0.020

Table: 1.9 Inter-group Pre & Post Rx Comparison of BARS (Between Group A & B)

Scale	Intergroup Pre And Post Treatment Comparison				
BARS	Min	Max	Mean	Z Value	P Value
Pre	43	58	52.30	- 2.207	0.027
Post	48	71	61.20	-2.619	0.009

CONCLUSION

In the experimental conditions used in this study, Group-B showed significant improvement in body awareness, communication and Quality of movement in participants with Autism. Both the therapies are effective, but the use of Basic body awareness therapy (Group B) evidenced a significant improvement than Dance movement therapy in participants with Autism.

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