



A STUDY TO ASSESS THE EFFECTIVENESS OF SENSORY STIMULATION TECHNIQUE ON IMPROVING THE ATTENTION AMONG AUTISTIC CHILDREN AT SELECTED HOME, PUDUCHERRY.

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Abstract:

Background : Autism is characterized by impaired, and restricted repetitive behavior. Parents usually notice signs in the first two years of their child's life. These signs often develop gradually, though some children with autism reach their at a normal pace and then. The childhood disorder children develop within systems or social networks, most obviously the immediate and extended family and the school environment, the later including peers and teachers. **Methodology:** In this study, a quantitative approach and pre experimental one group pre test and post test design were used. 30 autism childrens were selected by using the convenience sampling technique who fulfilled the inclusion criteria and data was collected using a Structured questionnaire with an interview schedule. **Results:** The level of attention in pre test 3(9.99%) had mild attention impairment, 4(13.32%) had moderate attention impairment.23 (46.59%) had severe attention impairment. In case of post test level of attention impairment shows that 5(16.65%) were in mild attention impairment, 21(69.93) were in moderate attention, 4(13.32%) were in severe attention impairment. **Conclusion:** The study was conducted among 30 autistic childrens by administering sensory stimulation technique shows that the intervention helps in improving attention in good range and fine one of the helpful interventions in improving the attention among autistic children.

Key words: Autism, sensory stimulation technique, childrens.

INTRODUCTION

Autism is characterized by impaired, and restricted repetitive behavior. Parents usually notice signs in the first two years of their child's life. These signs often develop gradually, though some children with autism reach their at a normal pace and then. The require that symptoms become apparent in early childhood, typically before age three. Autism is due to a combination of environmental factors. Some cases are strongly associated with certain infections during pregnancy including and use of surround other proposed environmental.

Autism affects information processing in the brain by altering and their connect and organize occurs is not well understood. In the autism is included within lacks delays in cognitive development and language, which was diagnosed when the full set of criteria for autism. Each speech can help children with autism gain self- care, social and communication skills. Although there is no known cure, there have been reported cases of children who recovered. Not many children with autism live independently after reaching adulthood, though some become successful. An has developed, with some individuals seeking a cure and others believing autism should be.

Sensory stimulation technique stimulating the senses can have a positive effect on attention on learning as well as emotional and social growth in a child. Sensory stimulation in learning means having activities that challenge or make use of the five senses. These senses, touch, taste, smell, listening, and visual, must be included in one's learning. Schools incorporate sensory stimulation in their curriculum from the basis of math and reading to special classes such as art or extra curricular activities such as sports.

STATEMENT OF THE PROBLEM:

A STUDY TO ASSESS THE EFFECTIVENESS OF SENSORY STIMULATION TECHNIQUE ON IMPROVING THE ATTENTION AMONG AUTISTIC CHILDREN AT SELECTED HOME, PUDHUCHERRY.

OBJECTIVES OF THE STUDY:

- To assess the level of attention among autistic children.
- To evaluate the effectiveness of sensory stimulation technique on improving the level of attention among autistic children.
- To associate the effectiveness of sensory stimulation technique on improving the level of attention among autistic children with their selected demographic variables.

ASSUMPTIONS:

Researcher assumed that,

- The autistic children may have some extent of impaired Attention
- Sensory stimulation technique may help in autistic children which ultimately improves the level of attention.
- Sensory stimulation technique help in the autistic children in the mode of less expensive method.

HYPOTHESES:

H₁ There will be a significant difference between the level of attention among autistic childrens before and after administering sensory stimulation technique.

H₂- There will be significant association in the level of attention among autistic children with their selected demographic variables:

DELIMITATIONS:

- The study is delimited to autistic children.
- The study is delimited to 2 weeks of study duration.
- The study is delimited to 30 samples.

RESEARCH METHODOLOGY

RESEARCH APPROACH:

A quantitative Research approach was adopted for this present study.

RESEARCH DESIGN:

The pre experimental one group pre test and post test design chosen for this present study.

SETTING OF THE STUDY:

The study was conducted at baby sarah home ariyankuppam, pudhucherry, The baby sarah home which is located 25 kms away from Sri Lakshmi Narayana college of Nursing. The home continuously provides medical care, love and concern to more than 40 children screeed with the local sponsors and international donors.

POPULATION:

Population refers to all the autistic childrens

SAMPLE:

Sample is the small portion of population selected for observation and analysis of Sample. Sample of the study comprises of autistic children at baby sarah home. Ariyankuppam, puducherry

SAMPLE SIZE:

Sample size consists of 30 Autistic children who fulfilled in inclusion criteria

SAMPLING TECHNIQUE:

Convenience Sampling technique was adopted for this present study.

CRITERIA FOR SAMPLE SELECTION:**INCLUSION CRITERIA:**

- Autism children both male and female
- Autism children present at the time of data collection

EXCLUSION CRITERIA:

- Autistic children with physical disability
- Autistic children with other training programme.

VARIABLES:

INDEPENDENT VARIABLES: Sensory stimulation technique

DEPENDENT VARIABLES: Improving attention among autistic children

SCORING INTERPRETATION:

SCORE	INTERPRETATION
68-90	NORMAL ATTENTION
46-67	MILD ATTENTION IMPAIRMENT
24-45	MODERATE IMPAIRMENT
0-23	SEVERE ATTENTION IMPAIRMENT

DATA ANALYSIS AND INTERPRETATION

SECTION-A

Table-1: Frequency and percentage wise distribution of autistic childrens at selected home according to their demographic data.

S.NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PRECENTAGE
1.	Age a) Below 3 years b) 3-5 years c) 6-12 years d) 13-15 years	1 3 18 8	3.33 9.99 63.27 26.27
2.	Gender a) Male b) Female	16 14	53.28 46.62
3.	Types of family a) Joint family b) Nuclear family	8 12	26.64 73.26
4.	Level of autism a) Mild b) Moderate c) Severe d) Profound	3 4 23 0	9.99 13.32 76.59 0
5.	Family income a) Below 5000/ month b) 5001-10,000/month c) 10,001-15,000/month d) Above 15,000/month	14 10 4 2	46.62 33.3 13.32 6.66
6.	Types of parents marriage a) Consanguineous b) Non Consanguineous	3 27	9.99 89.91
7.	Parents education status a) Literate b) Illiterate	23 7	76.59 23.31
8.	Religion a) Hindu b) Muslim c) Christian	27 0 3	89.91 0 9.99
9.	Residency a) Rural b) Urban	15 15	49.95 49.95
10.	Family history of autism a) Yes b) No	3 27	9.99 89.91

Table: 1: Represents that 3.33%) of childrens in age group of below 3 years. 3(9,99%) childrens were in 3-5 years, 18(63:27%) childrens were in age group of 6- 12 years.8 (26.27%) childrens were in age group of 13-15 years. Regarding the gender 16(\$3.28%) of the childrens were in male, 14(46.62 %) childrens were in females. In a view of type of family 8 (26.64%) were in joint family, 22(73.26%) childrens were in nuclear family. In the level of autism. 3(9.99%) were in mild attention impairment.4(13.32%) were in moderate attention impairment, 23(76.59%) childrens were in severe attention impairment. In family income. 14(46.62%) childrens were in below 5000/ month 10(33.3%) childrens were in 5000- 10,000/month. 4(13.32%) childrens were in 10,000-15,000/month, 2(6.66%) childrens were in above 15,000/month. In types of parents marriage, 3(9.99%) were in consanguineous, 27(89.91%) were in Non- consanguineous. In parents education status, 23(76,59%) were in literate, 7(23.31%) were in illiterate. In the religion,27(89.91%) were in hindu,3(9.99%) were in

Christian. In the residency, 15(49.95%) were in rural,15 49.95%) were in urban. In the family history of autism 3(9.99%) were in presence of autism,27(89.99%) were in absence.

Table-2 : frequency and percentage wise distributing to assess the effectiveness of sensory stimulation technique among autistic childrens at selected home.

Level of attention	Pre-test		Post -test	
	N	%	n	%
Mild attention Impairment	3	9.99	5	16.65
Moderate Attention impairment	4	13.32	21	69.65
Severe Attention Impairment	23	76.59	4	13.32

Table: 2 Represents the level of attention in pre test 3(9,99%) had mild attention impairment, 4(13.32%) had moderate attention impairment.23 (46.59%) had severe attention impairment. In case of post test level of attention impairment shows that 5(16.65%) were in mild attention impairment, 21(69.93) were in moderate attention, 4(13.32%) were in severe attention impairment.

Table:3 mean and standard deviation to assess the effectiveness of sensory stimulation technique among autistic children.

	MEAN	STANDARD DEVIATION	PAIRED 't' test
PRE TEST	24.86%	8.41%	1.354%
POST TEST	40.53%	9.15%	

Table:3 Represents that the pre-test mean level is 24.86 and its Standard deviation is 8.41 and post test mean level is 40.53 and its Standard deviation is 9.15. The paired 't' test overall value is 1.354% which is statistically highly significant at the level of $p < 0.001$.

Table:4 Association between the level of attention in pre test and selected demographic variables.

S.NO	DEMOGRAPHIC VARIABLES	Mild		Moderate		Severe		X ²	P value
		N	%	N	%	N	%		
1.	Age			-	-	-	-	0.45 df=3	0.9297 NS
	a) Below 3 years	1	3.33						
	b) 3-5 years	1	3.33	1	3.33	1	3.33		
	c) 6-12 years	-	-	2	6.66	16	53.28		
	d) 13-15 years	-	-	3	9.99	5	16.65		
2.	Gender							2.26 df=1	0.1328 NS
	a) Male	-	-	5	16.65	11	36.63		
	b) Female	1	3.33	1	3.33	12	39.96		
3.	Types of family							0.0005 df=1	0.9822 NS
	a) Joint family	1	3.33	4	13.32	11	36.63		
	b) Nuclear family	2	6.66	-	-	12	39.96		
4.	Level of autism							0.65 df=2	0.7225 NS
	a) Mild	3	9.99	-	-	-	-		
	b) Moderate	-	-	4	13.32	-	-		
	c) Severe	-	-	-	-	23	76.59		
	d) Profound	-	-	-	-	-	-		
5.	Family income							1.16	0.7626
	a) Below 5000/ month	1	3.33	1	3.33	12	29.96		
	b) 5001-10,000/month	1	3.33	3	9.99	6	19.98		

	c) 10,001-15,000/month	1	3.33	-	-	3	9.99	df=3	NS
	d) Above 15,000/month	-	-	-	-	2	6.66		
6.	Types of parents marriage							df=1	0.3032 NS
	a) Consanguineous	-	-	1	3.33	2	6.66		
	b) Non Consanguineous	3	9.99	3	9.99	21	69.93		
7.	Parents education status							df=1	0.6801 NS
	a) Literate	3	9.99	1	3.33	19	63.27		
	b) Illiterate	-	-	3	9.99	4	13.32		
8.	Religion							df=1	0.2238 NS
	a) Hindu	3	9.99	4	13.32	20	66.6		
	b) Muslim	-	-	-	-	-	-		
	c) Christian	-	-	-	-	3	9.99		
9.	Residency							df=1	0.0323 S
	a) Rural	2	6.66	3	9.99	10	33.3		
	b) Urban	1	3.33	1	3.33	13	43.29		
10.	Family history of autism							df=1	0.1345 NS
	a) Yes	-	-	-	-	3	9.99		
	b) No	3	9.99	4	13.32	20	66.6		

*-p < 0.05, significant and **-p<0.01& ***-p<0.001, Highly significant

Table:4

Reveals the association between the selected demographic variables with pre-test level of attention among autistic childrens. Residency is significance to the values of p<0.05.

DISCUSSION

The main focus on the study was to assess the effectiveness of sensory stimulation technique on improving the attention among autistic children at selected home puducherry.

A total number of 30 autistic children were selected for this present study by using convenience sampling technique. The pre test was conducted by using a Mindfulness Awareness Attention Scale After pre test, the clients were engaged with a various sensory stimulation technique measures for 2 weeks. After these post-test was conducted by using the same tool in the same manner. The study had proved that effective had brought excellent changes and improvement in level of attention among autistic childrens.

The first objective of the study was to assess the level of attention among Autistic Children.

In pretest assessment, the level of attention as 3(9.99%) of the childrens comes under mild attention impairment, 4(13.32%) childrens comes under moderate attention impairment. and 23 (76.59%) childrens comes under severe attention impairment shown in the table 2

ShobaSrinathet.al. (2015) conducted a study on Childhood autism in India: A case-control study using tract-based spatial statistics analysis Autism is a neuro developmental disorder with a range of clinical presentations. Impaired social interaction, associated with verbal and nonverbal communication deficits and stereotyped behaviors are the most common clinical sign Autism is a growing problem worldwide and possesses a greater healthcare and economic burden to the developing nations like india. Research is on rise in the last decade on understanding various aspects (eg pathophysiology, epidemiology etc 1 of this condition Clinicians and researchers worldwide are being challenged by the unique nature of this condition India is no way behind, research is more fixed into major institutions under various disciplines (eg. neurology, psychiatry, neuroradiology pediatrics, epidemiology etc) across the country. The study is an attempt to analyze this complex entity affecting the Indian population. They hypothesized that white matter located between the brain

regions known to be involved in social cognition would be structurally and functionally abnormal in autistic individuals.

The second objective of the study is to evaluate the effectiveness of sensory stimulation technique on improving the attention among autistic children.

After assessing attention impairment among autistic children as pre test sensory stimulation technique were administered for 7 days as intervention After administration of sensory stimulation technique, 5 (16.65%) of childrens were comes under mild attention impairment, and 21 (69.93%) of childrens were moderate attention impairment and 4 (13.32%) of childrens were comes under severe attention, impairment. The pre test mean was 24.89% whereas in post test the mean value was 40.53% The paired t test overall value is 1.354% This shows the effectiveness of sensory stimulation technique and improvement of attention

Finally, it seems there will be a significant difference between in the level of attention improving before and after administration of sensory stimulation technique among autistic children. Hence hypotheses (H1) was accepted.

This study was supported by **John MC Donald et al (2016)** conducted a study on "Sensory Integration and the Perceptual Experience of Persons with Autism "Research, studies on sensory issues in autism, including those based on questionnaires, autobiographical accounts, retrospective videos observations and early experimental approaches are reviewed in terms of it strengths and limitations. They present a cognitive neuroscience theoretical perspective on multisensory integration and propose that this may be a useful way of conceptualizing and studying sensory integration and the perceptual experience of persons with autism Our goal is to operationalize the concept of sensory integration, a notion that is frequently alluded to in the field of autism yet rarely defined in empirical terms. They conclude with a discussion of how this re-conceptualization and study of sensory integration may generate testable hypotheses and lead to refinements in current perceptual theories of autism

The third objective of the study is to associate the effectiveness of sensory stimulation technique on improving the attention among autistic children with their selected demographic variables.

There are 10 demographic variables such as age, gender, type of family level of autism, family income, types of parents marriage, religion, residency, family history of autism. Among these demographic variables there was significant association exists between level of attention and the selected demographic variables in pre test. In the pre test association exists the level of attention among autistic childrens with residency at the value of $P < 0.001$. Hence hypothesis was accepted.

SUMMARY AND CONCLUSION

MAJOR FINDINGS OF THE STUDY

The level of attention in pretest as 3 (9.99%) sample of autistic childrens comes under mild Attention impairment and 4 (13.32%) samples of autistic childrens comes under moderate attention impairment and 23 (76.59%) samples of autistic childrens were severe attention impairment.

Mean and standard deviation value of pre-test mean level is 24.86 and is Standard deviation is 8.41 and post test mean level is 40.53 and its Standard deviation is 9.15. The paired "test overall value is 1.354% which is statistically highly significant at the level of $p < 0.001$.

The post level of attention impairment shows that 5 (16.65%) were in mild attention impairment. 21 (69.93%) were in moderate attention impairment), 4 (13.32) were in severe attention impairment

Reveals the association between the selected demographic variables with pre-test level of attention among autistic childrens. Residency is significance to the values of $p < 0.05$

CONCLUSION

The study was conducted among 30 autistic childrens by administering sensory stimulation technique shows that the intervention helps in improving attention in good range and fine one of the helpful interventions in improving the attention among autistic children. This study proves effect in improving attention.

RECOMMENDATIONS

Based on findings of the present study, the following recommendations have been made.

- This study could be conducted large group of populations with sensory stimulation technique for longer duration.
- It is recommended that special area with trained staffs for provision of sensory stimulation technique in clinical settings will improve the attention.
- Same study can be conducted in different settings.

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