



Effectiveness of Behavior Therapy's Techniques in Communication of Autistic Children

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ABSTRACT

Aim of this present research is determine of Effectiveness of behavior therapy's techniques in communication of Autistic children. This research is a semi trial project without having an evidence group. Statistical society of the present research includes all the autistic students of special autistic children's school in Tehran in 1391-1392. From autistic children schools of Tehran 16 children 7-14 years old were selected as sample and placed in a group consisted of 16 persons. The sample group participated in treatment meetings in two months (two 60 minute sessions in a week). Findings of research, making use of the correlated examination showed that implementation of behavior treatment techniques Increase communication in in autistic children. The method employed in the above research is the compiled method of Evar Le Vass known as "intervention therapy by ABA method". The basis of this method is the analysis of the weaknesses, behavioral and cognitive problems of autistic children and an individual training program for each child to train them individually by trained instructors employing operant conditioning (Skinner). GARS test was use to collect the data; it included three subsets of stereotype behaviors, communication, and social equilibrium; each of these three subsets included 14 questions with 42 scores at most to represent the severity of autism. Mean while, the spss software and T-test were used for the analysis of the data. The findings of the research showed that the behavior therapy techniques (by the use of ABA method) were instrumental in the improvement and enhancement of social communication in autistic children.

Keywords: behavior therapy's techniques - communication - autistic children

INTRODUCTION

One of the most important and providing disorders in growth is autism which as expressed in different terms such as autistic disorder in childhood, autism disorder and Kanner's syndrome (Benjamin J Sadock & Sadock, 2010; B.J. Sadock, Sadock, & Kaplan, 2005). Autism syndrome is a long-term disability which leads to disorder in nerve function & normal growth of the brain (Mason-Brothers, Mo, & Ritvo, 1985; Starkstein et al., 2000) which leaves its effect on the social relations and communication skills. Autistic children and adults are very weak in talking and speaking skills and

are not able to make use of talking as a main medium in their communication with the other people. The main disorder of Autism which has absorbed attention of the parents & physicians is disability in speaking. Disorder and disability of speaking communication of the autistic children, is one of the major criterion for identifying these children. In compassion with the other children even the mentally backward autistic children, even if they have a further word reserve, may have a further word reserve, may have more difficulty in meaningful sentences in many autistic children, disability in talking is

very sever and without intervention of treatment, no considerable progress can be expected. Those Autistic children, who are able to utter the words, may suffer from Echolia (nonsense repeat of the words & seconds that they have heard).

Although it seem that autism is a rare disorder, but the recent information shows that spread of autism and its relevant disorders is 1 case for every 88 alive born of the total population of the world and 1 for every 55 boys born alive. (disease control center of America 2012). Autism in males is 3-4 times more than the females (Karim M., 1379). No definite and special treatment has ever been suggested for autism. It is obvious that decision makings for treatment should be individually and after carrying out a comprehensive study and on the basic of those which are most suitable for the children. In spite of resistance of the autistic children against treatment, behavior treatment is used as the most suitable method. (Sallows & Graupner, 2005; Schreibman, 1997; Weiss, 1999).

In this treatment, autism symptoms are divided in two big groups of excess and lacks in behavior. Excess in behavior include talking, attention motivation and social behaviors. Control and treatment of each of these symptoms is on the basic of specific behavior methods. These children also had problems with their social interactions and play activities. The autistic children avoided interaction and communication with their peer groups leading to more limitation in their communication abilities. Eye contact and appropriate responding of the children, when in contact with their peer groups and their parents, were also very limited. This disorder made communication with others and external world difficult for them (Alizadeh, 2009). To control the behaviors of self-injury, self-stimulation, and destructive behaviors, techniques such as silence (extinction), excess correction, differential reinforcement, stimulus control, and exclusion were used in the behavior approach. Also, in cases where the therapist intended to create appropriate behaviors or increase the frequency of appropriate behaviors in the autistic child, he could use methods such as, use of significant and modern reinforcements, letting the child have control over learning situation, mixing autistic children with normal peer children in natural environment, etc.

Beh Pezhouh and colleagues (2011) in their studies considered effect of the social stories in abnormal behavior of the autistic children. In this relation, they selected 3 children suffering from autism and entered into a treatment process. Result achieved showed that intervention has reduced behavior abnormality in two children. From this achievement, we can get in this result that social stories are effective in reducing some behavior abnormalities.

Foxx (2008), During a study reviewed applying behavior techniques in intensive way for treatment of behavior difficulties of autistic person. He came to this result that behavior techniques (ABA) has been the essential way in treatment abnormal behavior in autistic children. Also he, by studying results of different treatments of autism, declared that the best effective way in treatment of behaviors difficulties of the autistic children, in behavior treatment on the basis of (ABA). Mamaghaniyeh (2006) embarked on a study on the effectiveness of communication system of image exchange on behavioral problems and nonverbal skills of

autistic children (suffering from autism disorder spectrum). In the direction of the above goal, he selected 4 autistic children with nonverbal ability aged 4 to 7 years and exposed them to PECS intervention for 4 months, 3 sessions a week. The results showed that this method of intervention therapy had been effective in the reduction of behavioral problems and in increasing their nonverbal skills.

In a study carried out by (Perry et al., 2008), they studied the effectiveness of intensive behavioral interventions on the basis of extensive community-centered programs for autistic children. This study reports on a study performed on 332 children aged between 2 to 7 years, registered in an extensive IBI general and community-centered program in Canada, Ontario. The review of the results at the input and output at group and individual bases were compared. The results were indicative of meaningful development both statistically and clinically: reduction in the severity of autism, development at cognition and adaptation levels in addition to the doubling of the rate of children growth. There was an evident heterogeneity in the results as expected, and the children were divided into 7 groups based on development/result. The majority of the children (75%) showed development during the IBI programs and 11% attained an average performance. In spite of the vast studies made in western countries, no systematic studies have been carried out in Iran to show) rate of spreading this disorder in Iran. But clinical experiments shows that this disorder has been increased is Iran in recent years (Mohtashami I, 1389). So studying for identification of impairment of this disorder especially from treatment and vitalization point of view seems to be more and more necessary. It is not expected, the treatment programs for autistic person lead to curing, because there has been no specific and definite treatment for it up today (Myers & Johnson, 2007). Only action which is made in this concern has been with aim of the person.

In this between treatments on the basis of behavior treatment have been effective, (Sallows & Graupner, 2005). In this direction, the present research try to investigate of effectiveness of behavior therapy's techniques in communication of Autistic children. It worth mentioning that, importance of this research is due to this matter. The research is one of the few studies which is made in Iran. This research aims at studying the Effectiveness of behavior therapy's techniques in communication of Autistic children.

METHODOLOGY

This study in terms of the objective, is a functional study, and is a semi-experimental research because of using medical interventions in experimental group. The statistical population for this study includes Autistic students from Autism special schools of Tehran at 91 - 92 academic year. From these students from Autism Schools in Tehran, 16 students were selected with available sampling method and were placed in experimental group (16 students). The selected group includes students who have difficulties in terms of communication, in psychologists and teachers opinions.

RESEARCH TOOLS

In this study, (Swift, 1999) is used in order to measure the educational variables. Some descriptions are followed about

this questionnaire : Gilliam Questionnaire: South et al. (2002) is a checklist which helps is identifying Autistic people. This test is standardized in 1994 in America, and shows the Autistic people features based on a 1094 Autistic people from 46 states from Columbia, Porto Rico and Canada. GARS test is prepared based on the definitions from (Association, 2000a, 2000b) and suggestions from DSM-IV(Association, 2000a). GARS test is suitable for 3 to 22 - year people and can be conducted by parents or professionals at school or at home.

GARS (Gilliam Autism Rating Scale) test is evaluated and standardized according to a population consists of 1092 kids, teenagers and adults from USA. Its reliability is defined by Cronbach's Alpha technique, which shows 90 % for alpha coefficient for stereotype behaviors, 89% for communications, 93% for social interactions , 88% for growth disorders and 96% for sign identification in Autism Disorder. Also confidence and persistency of GARS test is evaluated by studying 134 Autistic children. The results show 90 % of confidence coefficient for this test (Eaves et al , 2003). In Iran (Ahmadi, 1389) evaluated the Gilliam Autism Diagnosis measure with the name of Isfahan Autism. The validation of this measure is confirmed by professional and specialist from Isfahan Autism Society. The validation of the test communication is calculated by Cronbach's alpha, which shows a total coefficient equals to 0.911 that is a very high degree of confidence for the questionnaire. In order to validate the measure, the opinions from many specialists were used for confirmation, and this shows that the questionnaire is accepted and confirmed.

MATERIAL

In this study, the statistical population consists of Autistic children from special Autism schools in Tehran, includes 16 students (7 to 14 years) which were selected by available sampling method and placed in experimental group. The selected group consists of students who have with communication, in psychologists and teachers opinions. The experimental group kids were cured by behavioral therapy in 15 sessions, 2 sessions per week and 60 minutes for each session. When the sessions ended, again the assessment form was completed by teachers in order to evaluate the treatment process. The after-treatment scores were selected and used as the measure for comparison and assessment, and then these scores were analyzed statistically in order to define any significant trend in tests. In this research, behavioral therapies were conducted exactly as the same of its principles, except parent's coordination.

RESULTS

The main hypothesis of this research is as follow: Applying behavior therapy's techniques has Significant Effects on communication, of Autistic children. Results from statistical show the comparison between the average scores after and before the test for communication of Autistic children in experimental group. Also the results from T-test, Kolmogrov-Smirnov test and correlation test are shown in separate tables.(Tables of Descriptive Statistics)

Table.1 Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Girl	4	25.0	25.0	25.0
	Boy	12	75.0	75.0	100.0
	Total	16	100.0	100.0	

Table.2 Statistics

Communication	N		Mean	Std Deviation	Variance	Median	Mode	Skewness	Kurtosis
	Valid	Missing							
Pre-communication	16	0	1.580	0.741	0.550	1.821	1.93	-0.723	0.445
Post-communication	16	0	1.205	0.802	0.643	1.071	0.86	0.689	0.245

Results from statistical for the comparison between the average scores after and before the test for communication of Autistic children in experimental group.

Table.3 One-Sample Kolmogorov-Smirnov Test

N		Pre-communication	Post-communication
		16	16
Normal Parameters ^{a,b}	Mean	1.580	1.205
	Std. Deviation	0.741	0.802
Most Extreme Differences	Absolute	0.181	0.112
	Positive	0.115	0.112
	Negative	-0.181	-0.101
Kolmogorov-Smirnov Z		0.722	0.450
Asymp. Sig. (2-tailed)		0.674	0.987

a-Test distribution is Normal, b-Calculated from data.

Also in Kolmogrov-Smirnov test, the average scores for communication in Autistic children before the test is 0.722 and after the test is 0.450. In order to compare between the

average scores before and after the test for communication in Autistic children of experimental group, the correlated t-test is used. The results shows that average score of

communication for Autistic children in experimental group, was 1.580 before test and 1.205 after test. In the experimental group, the communication for Autistic

children has increased, because the average score after the test is decreased ($df = 15$).

Table 4 Paired Samples Test

Pair	Paired Differences					t	df	Sig.(2-tailed)
				95% Confidence Interval of Difference				
	Mean	Std Deviation	Std. Error Mean	Lower	Upper			
pre-communication post- communication	0.37500	0.54989	0.13747	0.08198	0.66802	2.728	15	0.016

This increase in experimental group with the value of $T = 2.728$, $P = 0.016$, is significant statistically.

Table.5 Paired Samples Correlations

Pair	N	Correlation	Sig.
Pre-communication Post- communication	16	0.749	0.001

The Correlation coefficient between the average scores before and after the test for communication in Autistic children in experimental group is 0.749 which is a significant value ($p < 0.001$). So, Applying behavior therapy's techniques has Significant Effects on communication, of Autistic children.

CONCLUSION

With regard to the above mentioned issues and significant relationship between them confirmed by t-test, generally the main hypothesis of this research is confirmed. Pre-test scores and comparing them to the after-test scores (the average difference between before and after test scores) shows an decrease in symptoms which is significant. The main problem of Autism children is in communication; with regard to the decrease in scores and symptoms in experimental groups, we conclude that effect of functional behavior education on communication in Autism children is significant.

This research shows that medical intervention by analyzing functional behavior, in order to improve the communication of Autism, can children be an effective method. Autism children in experimental group of this research, could show a

increase in symptoms in terms of communication, after passing treatment sessions (about 2 months of education), which this shows that these Autism children should not be left without any structured and organized educational program. The study shows that behavior therapy's techniques with ABA method have the greatest Effectiveness on Autistic children communication, and thus the results endorse (the necessity) of giving a specially designed plan for these children. A limitation to this research is that GARS merely indicates the number of symptoms and disorders in Autistic children. By manipulating this test, we can only assess the reduction in symptoms after training, but not children's other improvements such as knowledge enhancement, as well as comprehending complicated concepts. Some other restrictive factors are as follow: Choosing limitation by Autistic Children, Insufficient educational aids, lack of a control group, which could otherwise further support the result.

A similar study suggested to be carried out in larger group of Girls and boys autistic children, using different tools and method and considering other features of these children

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