



RESEARCH ARTICLE

EFFECTIVENESS OF TRAINING FOR THE MOTHERS IN CARINGFOR CHILDREN WITH AUTISM TO ENHANCE DEVELOPMENT AND REDUCE PROBLEM BEHAVIOR

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ARTICLE INFO

Article History:

Received 29th October, 2017

Received in revised form

17th November, 2017

Accepted 26th December, 2017

Published online 19th January, 2018

Key words:

Parent Training, Healing Touch Massage, Autistic Children, Alternative Medicine, Meditation.

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Citation: Vanvisa Sresumatchai, Surasak Taneepanichskul and Suporn Apinuntavech, S. 2018. "Effectiveness of training for the mothers in caringfor children with autism to enhance development and reduce problem behavior", *International Journal of Current Research*, 10, (01), 64316-64319.

ABSTRACT

The randomized control trial was conducted at Autistic Center Nonthaburi, Nonthaburi province. From both the Sensory Features for treatment in Autistic Spectrum Disorder Questionnaire in statistical improvement was detected for conduct problem in social-emotional reciprocity such lack of showing and directing attention, lack of offering to share, and use of other's body to communicate. The Sensory Features for treatment in Autistic Spectrum Disorder Questionnaire revealed an improvement only for Directing Attention ($p=0.002$) in the healing touch massage group, whereas the Likelihood ratio test present the fitting model process provided -2Log Likelihood was goodness of fit model which was an effect of independent variables showing and directing attention ($p=0.000$) and LR for improvement behavior with healing touch massage ($\text{sig}=0.00$) was found.

INTRODUCTION

The situation of children with autism in Thailand have receive increased attention in hospital. The number of individuals diagnosed with autistic has dramatically increased in urban and rural area for the past years. In Thailand the prevalence of Autism has total children 370,000 were estimates by Minister of Mental Health. There are many autistic patients accessing services only 25,537 patients or 39.74 rate per 100000 population (Poolsupparit et al., 2005). In Thailand, found that 47 (7.7%) new cases with Autistic Spectrum Disorders who attended at Child and Adolescent Clinic, Queen Sirikit National Institute of Child Health, that the number increased every year in both sexes with an average ratio of male: female ranging from 3.3:1 to 4.6:1. The incidence rate of the new cases with ASD to the total number of all patients who attended the Queen Sirikit National Institute of Child Health was much increased annually from 1.43:10,000 in 1998 to 6.94:10,000 in 2002 (Ratanotai et al., 2005). Interestingly, no single cause has been identified for the development of autism. (Hughes, 2008; Filipek et al., 1999; Szatmari et al., 1998; Baker et al., 1998; Howlin et al., 1995; Cohen and Volkmar, 1997) Presently, since neuropsychological etiology is essentially unknown, 8, 9

it is difficult to treat autism from a pharmaceutical standpoint. (Hughes, 2008; Filipek et al., 1999) This situation has created a demand for nonpharmaceutically (Szatmari et al., 1998) based treatments and has led to the development of treatment methodologies in a wide variety of fields (Baker et al., 1998; Howlin et al., 1995; Cohen and Volkmar, 1997; Pelios and Lund, 2001; Charles et al., 2008; Volkmar, 2001).

MATERIALS AND METHODS

The study protocol was approved by Ethical Review Committee for Human Research of the Faculty of Public Health, Mahidol University, Bangkok, Thailand. This was a randomized, controlled clinical trial comparing the effectiveness of parent training with Healing Touch Massage Technique, a behavioral intervention, with usual care in Thai patient autistic children between the ages of 13 and 25 who were recruited from the Autistic Centre Nonthaburi of Ministry of Social Development and Human Security. This Centre received referrals from several hospitals located throughout Thailand and hence was the perfect venue for us to recruit our participants. A total of 64 parent with autistic children were enrolled in the study and were randomized into two groups: parent training with healing touch massage group ($n=32$) and control group ($n=32$). The control group received only usual care, whereas both usual care and Healing Touch Massage Technique were administered to the parent

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training group. Parent training group received for the training with healing touch massage technique by researcher, 7 step for massage technique and 10 session, 3 minutes per session, for a duration of 12 weeks with parent use for autistic children. For each autistic children, the parent would use the massage technique in each day before bed time. The sessions utilized following key principles of healing touch massage technique: (1) Left and right index finger touch between the eyebrows, put together, (2) Place the left thumb, right above the eyebrows drawn to the temples of the head, (3) Place both right and left middle finger and pull the arm, (4) Both index finger drag on hairline, (5) Place both index finger on middle hairline, (6) Making the finger seem a cup-shaped, and (7) Palm lean and use finger pull the hair on lightly.

RESULTS AND DISCUSSION

Total of 64 parent with autistic were the handed the questionnaire and 32 were participant with parent training in healing touch massage technique. Age of samples ranged from 13-26 years with an average of 18.95 years. Male was older than female on average 19.0 and 18.0 years respectively. Regarding children in family, about half of parent have two children, followed by an only one child and three children. However, twin seem to have in male which does not appear in autistic female. For autistic patient care, almost all reported that parent were take care (92.2%), follow by grandfather (4.7%). Autistics patient female seemed to have taken care by parent only (7.8%).

Table 1. General characteristics of Autistic patient

Variable	Intervention (32)		Controls(32)	
	Number	Percent	Number	Percent
Lack of showing and directing attention				
Yes	14	43.8	20	62.5
No	18	56.3	12	37.5
Inappropriate Facial Expressions				
Yes	18	56.3	15	46.9
No	14	43.8	17	53.1
Range of Facial Expressions Used to Communicate				
Yes	14	43.8	20	62.5
No	18	56.3	12	37.5
Does not try to establish friendships				
Yes	27	84.4	26	81.3
No	5	25.6	6	18.8
Stereotyped Utterances and Delayed Echolalia				
Yes	23	71.9	30	93.8
No	9	28.1	2	6.3
Hand and Finger Mannerisms				
Yes	25	78.1	17	53.1
No	7	21.9	15	46.9
Avoid or concern the sound in playground				
Yes	14	43.8	9	28.1
No	18	56.3	23	71.9
Mannerism				
Yes	25	78.1	18	56.3
No	7	21.9	14	43.8
Feel uncomfortable when being embraced				
Yes	10	31.3	13	40.6
No	22	68.8	19	59.4

Table 2. Binary Logistic for persistent deficits in social communication and restricted, repetitive patterns of behavior

Variables	$\hat{\beta}$	S.E. ($\hat{\beta}$)	Wald	df	Sig.	\overline{OR}	95% C.I.	
							Lower	Upper
Lack of showing and directing attention	-5.135	1.224	17.608	1	.000	.006	.001	.065
Inappropriate Facial Expressions Range of Facial Expressions Used to Communicate	-4.900	1.112	19.406	1	.000	.007	.001	.066
Does not try to establish friendships	-4.081	1.082	14.222	1	.000	.017	.002	.141
Stereotyped Utterances and Delayed Echolalia	-4.696	1.343	12.221	1	.000	.009	.001	.127
Hand and Finger Mannerisms	-2.037	.567	12.915	1	.000	.130	.043	.396
Mannerism	2.402	.539	19.889	1	.000	11.046	3.844	31.746
Uncomfortable to sit on chair	-3.390	.466	52.850	1	.000	.034	.014	.084
Avoid or concern the sound in playground	1.375	.329	17.493	1	.000	3.954	2.076	7.530
Distracted by noise	-1.466	.291	25.454	1	.000	.231	.131	.408
Distracted with the picture	1.372	.274	25.070	1	.000	3.943	2.304	6.745
Difficulty to communicate with symbols	-1.036	.281	13.621	1	.000	.355	.205	.615

Table 3. Hosmer and Lemeshow Test for the fit of the model in deficit for social communication

Test the fit of the model	Chi-square	df	Sig.
deficit for social communication	9.420	2	.009
ritualized patterns	4.626	4	.328
Highly restricted, fixated interests	14.813	5	.011
social communication disorder	9.262	5	.099

Table 4. Step Summary for the model in deficit for social communication

Step test model	Improvement			Model			Correct Class %
	Chi-square	df	Sig.	Chi-square	df	Sig.	
Deficit for social communication	28.756	1	.000	28.756	1	.000	95.3%
Ritualized patterns	29.965	1	.000	29.965	1	.000	79.7%
Highly restricted, fixated interests	19.078	1	.000	37.752	2	.000	67.6%
Social communication disorder	14.281	1	.000	14.281	1	.000	50.0%

**Fig.1. Training for mother at Autistic Center**

Considering the item of reflects problems with social initiation and response was category in lack of shared enjoyment consist of showing and directing attention, offering to share, and seeking to share enjoyment with others found that controls group was about one items more than intervention (65.2%) an inappropriateness facial expressions the intervention group show symptom more than controls group (56.3%, 43.8%) were present in Table 1. The results of generalized binomial logistic regression analysis as contain behavior of autistic in persistent deficits in social communication and social interaction and deficits in nonverbal communicative behaviors used for social interaction. The results of each variable in relation to parent were used healing touch technique with them using generalized linear model for binary response. To select individual behavior into general linear model was performed and for any variable with p-value less than 0.30 was consider as candidate. All variable of autistic characteristics except family status were considered as candidate for further analysis. Since there was only one variable each as defined in autistics behavior, then it was considered as candidate of further analysis. For this present variables: lacking showing and directing attention, lack of offering to share, use of other's body to communicate, quality of social overtures, appropriateness of social responses, social verbalization/chat, and reciprocal conversation. For deficits in nonverbal communicative behaviors used for social interaction present the characteristics in body language, lack of facial expressions and nonverbal communication were present in Table 2. Logistic coefficients present autistic children reduce the problem behavior and development peer relationship for other children related to mother practice healing touch massage in every day. For the fit model, Homer and Lemeshow used to test the fit of healing touch massage model that mother practice to autistic children of null hypothesis test that the current model fits well (Table 3). Meanwhile the development of variable in the problem behavior of autistic improve from the model healing touch massage related the significant (0.009, 0.328, 0.011, and 0.099) of the model test. From step choose, the equation present variable the improvement in Deficit for social communication, Ritualized patterns, highly restricted, fixated interests, and Social communication disorder for chi square test (28.756, 29.965, 19.078, and 14.281) which related healing touch massage model in Table 4.

This is combine between the healing touch massage model with mother (Fig.1) and usual care demonstrate the results adaptive serious behavioral problems of dimension score on lack of communication. Adjusted for grade point average, mean sensory features for treatment in autism spectrum disorder questionnaire score for deficiency/insufficiency of the body and restricted interest or patterns were significantly greater for parent training versus medication. The percentage of this case in combine method treatment who achieved six month. When adjuster for serious behavioral problems, however, this finding was small case for significant. The diagnostic criteria was grouped into binary data: yes and no diagnostic criteria. Therefore, binomial logistic regression was chosen to utilize in this study less assumption involved. It is well appropriated for describing and evaluating hypotheses about associations between independent variable and unordered categorical outcome. Furthermore, binomial logistic regression provides effectiveness and reliable method to obtain the estimated probability of belonging to behavior of autistic and the estimate of odds ratio of social communication factors on their behavior problem, in which the log-odd of outcomes was modeled as a linear combination of the predictor variables. It suggested assessing fit of two possible models with Usual Care (UC) that were reference group. The likelihood ratio (LR) test was used to examine whether the variables of interest should be retained into the model or not from comparing with the current model and previous model.

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