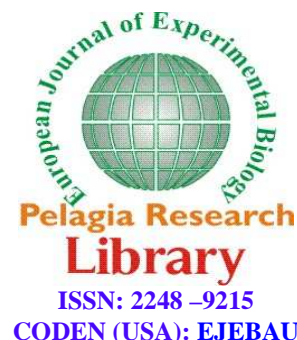




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## Regular practice of relaxation in reducing anxiety in mentally retarded children' mothers with different demographic characteristics

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### ABSTRACT

*This research is a pseudo-test study with two disassimilated groups following pre and posttests which are designed to review the remedial effects of simple and shorted relaxation for reducing the symptoms of mothers with anxiety and brain-retarded children with different demographical specifications. The research sample including 48 mothers with one brain-retarded child was selected? Then, 23 ones of mothers who were able to participate continuously in the relaxation or meditation classes were also selected as experimental groups and 23 of mothers through assimilation with experimental group were taken up due to some factors of anxiety, education level, literary, intensity of the child brain-retardation of observational group. The relaxation group exercises were carried out for two months as three days a week in the experimental group, and the related data was obtained by demographical questionnaires and anxiety pre-posttests in both groups. The data was analyzed by covariance analysis. The results indicated that the continuous relaxation exercises was effective to reduce mothers anxiety and this reduction for mothers with one brain-retarded child is different in all aspects of educational, literacy, economical, age factors equally? But the reduction of anxiety in mothers of city areas is more than rural districts. ( $F_{1, 43} = 6.8, p < 0.05$ ). Generally, this research showed that the designed relaxation technique can be used to reduce the anxiety of mother's efficiency.*

**Key words:** relaxation, anxiety, mothers, brain, retarded children, demographic features

### INTRODUCTION

Fryers (2006) presents that in every society about 2.5-3% of population is consisted of brain-retarded people. These people have been categorized based on their disability intensity in to four groups: mild, moderate, severe and profound. The reaction of parents to their children disability can be predictable in a sequence following to the next step and finding suitable solution. The excitement reactions of parent against their child's disability in step theory are as follows:

Shock, Rejection, Feeling sin, Anger, Sadness, Hopeless, Anxiety and worry, Solutions and aloneness, Acceptance or adoption [15]. A brain-retarded child in a family, due to his or her needs, is a kind of stimuli resource for mothers than other healthy children's mothers. The continuous maintenance of these children in different and hard circumstance especially the children's stress confrontation such as cliché behavior, tongue disorders, chaos and the

lack of maintenance ability make mothers weak in their functions. The research about the effect of handicapped children on mother, show the high-level of stress, depression, family separation, low chance to care of themselves [15]. Many studies have shown that parents especially mothers of handicapped children have high anxiety [12, 6]. Totally, the research literature indicating that these mothers have lower health than normal children's mothers? These mothers are facing to higher mental tensions and pressures [11]. The anxiety comes from the lower level to higher, physical injury, unsafety, the lack of physical or social needs and susceptibility to situational optimization can happen to these individuals breaking their cohesion down [7]. Many people are afraid of taking drugs but they accept cognitive interventions and other useful cognitive consultations. These cognitive interventions needed little training are acceptable. One of the most common high-potential techniques is the relaxation [10]. Bestable (2003) presents that the training of relaxation is a non-drug intervention that is used for reducing tensions, anxieties, pain and depression: the positive relaxation exercises have shown recovery on the mental situation of these individuals; for example, doing relaxation exercises can lead to the optimization of life quality in people with practical-thinking temptation [16]. The reduction of anxiety before the surgery of nose, throat and ear [3], the recovery of adolescents life quality (youngest with epilepsy) [5], the reduction of delivery stress (postpartum) in women [8], the reduction of sleeping stress in three-months pregnancy [11], increasing lactation degree reducing anxiety in mothers who delivered and took off the hospital [13], controlling cardiac disorder in old people [2], reducing commit suicide in brain-retarded women, reducing pre-menstruation syndrome [10], have been effective in these above-mentioned factors. The relaxation technique is a self-method way which the person makes contraction and then learn to give relaxation to a group of muscles; in nature, the relaxation has opposite physiological effects making mental pressures and it is particularly reducing the sympatric neural activity increasing para sympatric neural activity and then it decreases heartbeat, hypertension, sweating glands activity, changing brain wave patterns and physical-move mental activity. In this way, the person was given self-monitor to be trained [] (Ahmadvand, 1386). The muscular forwarded relaxation is vastly used in many researches intervening in the reduction of behavior and stressful agents, and then composing the basics of relaxation by training the process of feeling, controlling muscular stretches [6]. Davidson et al (2005) presented that this kind of relaxation is one of the most common defensive approaches against any stimulants and the use of the technique can remove any unfavorable physiological effects from tensions. The results of Chiyong's (2003), and Bonadonna (2003) show that using the relaxation technique can increase the quality of patients life in three dimensions of physical, mental and social terms incredibly. As mentioned before, some mental-therapy interventions need skill full experts to be fulfilled due to it was complexity and time consuming affairs. It will never be useful for society's people prone to any risk factors in this regard; hence, it seems that therapies and remedial approaches such as relaxation do not need high-proficiency learning issues but require lower expenses and time for learning for different ages and areas (city and rural districts). These effects, importantly never being forgotten ; thus, in this research, due to the weakness and strength points of earlier relaxation, a comprehensive and simple technique of relaxation has been designed as practical method. This research is aim to determine whether this remedy can be effective to reduce the brain-retarded and mothers stress or no?! It of course depends on mothers' economy, age, education and living place!

#### MATERIALS AND METHODS

The present research is a pseudo-experimental study which is consisted of two non-equivalents pretest and post-test control group design. The statistical community of the research is including the brain-retarded mothers of Bonab City. To measure the sample volume in experimental researches, the simplest way is to use compiled tables by Cocrahan (1986). To complete an experimental research with two groups (experimental and observational) and  $\alpha=0.05$ , 20 subjects were governed for each group with test power equal to 0.08 [14]. Thus, to raise the power of test in this study, the statistical sample of the research is including 230ones for experimental and 25 ones for control group were taken up. Mothers, in this research were selected by using sampling method available with inclusion – criteria. Having at least one brain handicapped child and criteria of removing hypertension, Cardiac disease, pregnancy, cognitive therapy for anxiety from mothers with background in Bonab city. The selection of the mothers into two experimental and control groups was carried out so that 23 ones of these mothers were readily able to participates continuously in relaxation training classes as experimental group and then 25 ones were taken up through assimilation with the experimental group due to some parameters of anxiety degree, education, literacy level 1, intensify of brain-retarded disability as control group. After designing relaxation therapy technique, experimental group in rehabilitation center of Bonab city. It should be noted that, the data about mothers anxiety was obtained by a questionnaire in two steps of pre-test (before beginning the therapeutic intervention) and post-test (after finishing relaxation exercises). The analysis of data was carried out through double sided covariance analysis and SPSS-18 software.

**Instrument****Questionnaire of demographical features:**

This questionnaire was used to collect some data about mothers' background such as age, literacy, child's brain-handicapped, family economy and living place (city or village).

**Beck anxiety questionnaire:**

This questionnaire is including 21 choices and each one takes 0-3 score ranging from 0-63. Beck and Clarck, Episton, Brown and stir (1998) reported its internal assimilation with 0.93. They also have reported the Reliability coefficient 0.75 after one week. Beak and Clarck (1988) reported the internal equivalence, 0.93 and retest the reliability, 0.75. In this study, the Cronbach  $\alpha$  coefficient was obtained for the questionnaire in pre-test, 0.83 and post-test, 0.79.

**Intervention method:**

In applied relaxation technique in this study including active and inactive relaxation, mentioning and processing was evaluated as well. This method due to its positive and negative remarks of Jacobson relaxation technique, Bernshtein mentioning relaxation and Borkovich, Kermani evaluating and applied relaxation by Gold fried and due to the respiration control theories were designed [13]. The process was designed so that the first and second sessions of the basic theory related to relaxation techniques and respiration control such as inhalation, exhalation and doing relaxation exercises were described. Then, in the latter exercises sessions, it is carried out in the relation to the experimental group. For beginning the exercises, the participants were taken on the chairs with long mattress as learning on the even floor with closed eyes preferably. Then, they were asked to focus just on the called muscles concentrating on the executive sound with "start" or "now" words for 5-10<sup>s</sup> approaching to their high tension suddenly in the related muscles trying to release the muscles and with the word "release", try to make their muscles tensioned for 30<sup>s</sup> and then focusing on the muscles. Due to the importance of respiration control, in the related designed in the study; the subjects were suggested to carry out all steps in tension exercises simultaneously [13].

As mentioned before, the designed method is including the following options:

- 1-Active relaxation
- 2-Inactive relaxation

And shortening the earlier forms by reducing the number of evolved muscles to make it applicable. In first step (active relaxation) 8 groups of the tension exercised muscles were participated. They are including:

- 1-Both hands without bending
- 2-Both hands with bending elbows
- 3-Lifting shoulders
- 4-Pulling shoulders rear
- 5-Wrinkling the whole face
- 6-Tightening abdominal part
- 7-Pressuring toes outward
- 8-Pulling toes towards body to tension calf

In the second step, the subject is asked to be in earlier position to release the same 8 groups of muscles (inactive relaxation). In fact, in the second step, the subjects just do releasing exercises. It should be noted that, in this method, although the subject has been awarded of two months releasing and contraction exercises, three last sessions only were devoted to the mentioning relaxation to recovery mothers in this method and when they feel any tensions or stresses. They would be able to get rid of those stimulant stresses and tensions.

**RESULTS**

In general, 25 mothers in control group and 23 ones in experimental group were established. In the experimental group, 7 mothers had safety brain-retarded children, 8 educatable and 8 ones trainable child. Four of the mothers were ill iterated, seven ones, under diploma, 12 ones diploma and higher. 12 ones were living at city and 11 ones were in rural areas. 8 ones had weak economical situation and 15 ones had normal positions. 17 of mothers were under 35 years old and 6 ones higher than 35 years old. In the control groups, 8 mothers had shelter like brain-retarded children, 8 ones educate able and 9 ones trainable, 9 as diploma. 16 of the mothers were living at city and 9 ones in rural areas. 7 of these mothers had weak economical situations and 18 had normal position. 12 of the

mothers were 35 years old and 13 ones upper than 35 years old the mean and standard deviation of the anxiety in shelter-like, educatable and trainable children were  $21.28 \pm 5.1$ ,  $17.6 \pm 11.2$ ,  $12.6 \pm 4.3$ , respectively, and for control group:  $19.6 \pm 9.45$ ,  $25.4 \pm 2.6$ ,  $22 \pm 8.14$ , respectively. For mothers of illiterate experimental group, under diploma, higher diploma,  $17.75 \pm 13$ ,  $15.6 \pm 7.1$ ,  $17 \pm 8$  and for mothers of control group,  $27 \pm 7.9$ ,  $19.8 \pm 9.2$ ,  $21.4 \pm 6.3$ . For mothers of experimental group in city and rural areas:  $15.25 \pm 7.2$ ,  $18.9 \pm 8.96$  and for control group:  $22.1$ ,  $25 \pm 7.98$ ,  $22.11 \pm 8.9$  and for mothers of experimental group with weak and normal economical position:  $13.6 \pm 5.9$ ,  $18.8 \pm 8.7$ , and for mothers of control group,  $19.1 \pm 8.9$ ,  $23.3 \pm 7.8$ . for mothers of experimental group under 35 years old and higher 35,  $18.4 \pm 8.2$ ,  $13 \pm 7.1$  and for mothers of control group,  $20.3 \pm 7.9$ ,  $23.8 \pm 8.3$ .

For testing the hypothesis which the effect of relaxation exercises is different on these kinds. Of mothers in terms of demographic both variable of the group and the related feature of demographic as an independent variable, the score of mothers anxiety in pre-test as dependent variable and score of mothers anxiety in post-test as covariate were entered in to the analysis. Thus, the bilateral covariate was used for this purpose (tables 1-6). Before the analysis, the errors and mistake lines were confidently obtained.

**Table1. Pre-test covariance analysis of anxiety after the balance of post-test for mothers with brain-retarded shelter-based children**

Source	Total squares	DF	Mean squares	F	sig	Effect size
Pre-test anxiety	2017.5	1	2017.5	138.4	0.000	0.77
Child retarded intensity	860.5	1	860.5	59	0.000	0.59
Child retarded intensity	82.26	2	41.13	2.8	0.07	0.12
Group	35	2	17.6	1.2	0.31	0.06
Error	597.7	41	14.6	—	—	—
Total	21918	48	—	—	—	—

According to the significance level, the interactive effect level of brain-retarded intensity and the group ( $P=0.31 > 0.05$ ), relaxation exercises of three group of mothers were the same.

**Table 2. the results of post-test covariance analysis after controlling pre-test of mothers anxiety with different educational levels.**

Source	Total squares	DF	Mean squares	F	sig	Effect size
Pre-test anxiety	2151.8	1	2151.8	132.6	0.000	0.76
Group	835.8	1	835.8	51.5	0.000	0.56
Literacy	36.5	2	18.2	1.1	0.33	0.05
Group*literacy	5.8	2	2.9	0.2	0.84	0.009
Error	665	44	16.2	—	—	—
Total	21918	48	—	—	—	—

According to the significant effect, the interactive level of literacy and the group is 0.84 higher than 0.05; thus, the hypothesis of the researcher is rejected and the relaxation exercises of three groups of mothers have the same effect.

**Table 3. The results of anxiety pre-test covariance analysis after balancing the post-test for city and rural mothers.**

Source	Total squares	DF	Mean squares	F	sig	Effect size
Pre-test anxiety	2370.8	1	2370.8	172.5	0.000	0.8
Group	833.8	1	833.8	60.7	0.000	0.6
Literacy	24.5	1	24.5	1.8	0.19	0.04
Group*literacy	92.96	1	92.96	6.8	0.01	0.14
Error	590.96	43	13.7	—	—	—
Total	21918	48	—	—	—	—

According to the significance level and interactive effect of living place and the group (living place  $\times$  group), 0.01 is lower than 0.05, hence, the zero is rejected. In other words, the city and rural mothers have been observed different effects from relaxation therapy. For this reason, the results of mean tables are suggested. (Table 4)

**Table 4. The balance means of anxiety for the interaction effect of group and living place**

Groups	Living-place	Mean	St dev.	Confidence distance	95% Low and high limit
Experimental	City	12.87	1.08	10.68	15.06
	Village	17.18	1.125	14.91	19.45
Control	City	24.5	0.945	26.43	22.62
	Village	23.13	1.24	20.64	25.63

Based on table 4 and balanced means in groups, city mothers had been belonged to the experimental group with the relaxation of anxiety. (M=12.87)

**Table 5. The results of covariance analysis in post-test anxiety after balancing pre-test for mothers with weak and normal economical situation**

Source	Total squares	DF	Mean squares	F	sig	Effect size
Pre-test anxiety	2192.5	1	2192.5	152	0.000	0.78
Group	807.9	1	809.9	56	0.000	0.57
Economical situation	71.3	1	71.3	4.9	0.032	0.1
Group*economy	15.3	1	15.3	1.06	0.31	0.024
Error	620	43	14.4	—	—	—
Total	21918	48	—	—	—	—

According to the significance level and interactive effect of economical situation and group, the relaxation exercised had the same effect for both groups of mothers.

**Table 6. The result of covariance analysis of post-test depression after balancing anxiety pre-test of mothers under and higher 35 years old**

Source	Total squares	DF	Mean squares	F	sig	Effect size
Pre-test anxiety	2143	1	2143	133	0.000	0.76
Group	821.25	1	821.95	51.1	0.000	0.54
Age	3.8	1	3.83	0.24	0.63	0.006
Group*age	9.8	1	9.8	0.16	0.43	0.014
Error	691.9	43	16.6	—	—	—
Total	21918	48	—	—	—	—

According to the significance level and interactive effect of age and group, 0.44 is higher than 0.05 hence, the relaxation effect is the same in reduction of anxiety in mothers under and higher than 35 years old.

## DISCUSSION AND CONCLUSION

About 44% of participant mothers had severe and very severe anxiety in this study, representing the high outbreak anxiety among these people. Along with the study, the studies showed that parents and particularly mothers with brain-retarded children have higher anxiety [6, 12]. In the description of the related topic, Govoun (2002) states that these families need high energy and time to spend requiring huge financial expenditures as well. Parents particularly mothers feel much disable and spiritual or emotional instability in this regard. The family members mental challenges is getting higher in relation to their concerns about the requirements of disabled children which they cannot afford their daily chores and routines [8]. The main aim of the study was to study the effectiveness of relaxation remedial affairs which have been designed based on strengthen and weakness remarks of relaxation theorists in this regard. According to the findings of this study, the relaxation exercises were effective in reducing mother's anxiety. The researchers have completed different approaches in the field of effective therapies to compare different anxiety remedial methods based on "Evidence-based" observations. These researchers found 17 researches which have been reviewed as accidental and control methods of cognitive therapies consequences. These researches were carried out on the participants, 55 years old higher who were worried on their anxiety or had anxiety based on DSM-IV. These studies reported the remedial effect of cognitive-behavioral therapy (CBT), cognitive therapy, Relaxation training and supportive therapy on the panic disorder, social phobia and generalized anxiety patients. In relation to these therapeutic approaches, the researchers found observations based on the effectiveness of these approach in the reduction of late-life anxiety particularly those patients who were treated with CBT method. Also, the observations confirm the relaxation training for those ones who feel anxiety. The author of the study also concluded that the confirmed CBT observations and relaxation training are stronger than cognitive therapy and supportive therapies [2]. The lack of ability in muscular relaxation, exhaustion and neural analysis, and irritability are the symptoms of anxiety [7]. Thus, it seems that if a person can approach his or her own relaxation, the level of anxiety reduces as well. In fact, the relaxation technique gives ability to individuals. According to the Afzali et al (2009), the progressive planning of relaxation training in muscles is effective in reducing the anxiety of cardiac patients. Lundgren et al (2006) also found the relaxation in reducing dentistry phobia. Siv and Chambles (2007) stated that there are enough reasons showing that the cognitive therapy and relaxation are considered as serious and effective therapies for anxiety disorder published by GAD and panic disorder without agoraphobia. Along with these



findings, the results of chi young studies (2003) indicates that using the muscular progressive relaxation technique can increasingly optimize the life quality of patients in three dimensions of physical, mental and social. Also, the study of Bonadona (2003) has shown that using the related technique can incredibly reduce patient's anxiety increasing their life quality. Also, Bastani et al (2005) have shown the effects of relaxation in the reduction of mental pressure and anxiety in pregnant women. They also presented that the techniques have been suggested as a fruitful resources for developing mother's physiological health. According to Concard and Ross (2007), muscular relaxation training (MTR) plays a key role in treating anxiety disorders. Based on the mentioned results, relaxation-training leads to mitigate anxiety among many people and patients. According to the present study, this approach was effective in the reduction of mothers with brain-retarded tensions. This technique, of course had the same effect in mothers with different retardation intensities such as literacy, economical and age levels. These findings indicate that the positive effect of applied relaxation technique had different features for mothers. Any interventions and psychological supports recovering the psychological problems are value in this regard. But, in one hand, same intervention approaches are not applicable for their high-expenses requiring experts to be done in this regard. These mentioned techniques due to their complexity cannot be useful for people particularly for susceptible and families with high-tensioned challenges. Unfortunately, it must be noted that most mothers in this study have presented that they punch and kick their brain-retarded children. Carol and Bauer (1993) also believed in this case that the positive effects of relaxation cannot be governed fast. In fact, the relaxation is a kind of response which most individual should learn it sufficiently. The relaxation exercises can increase people's relaxations for several weeks, influencing on physical and spiritual dimensions of these people. In contrast, according to the experiences of new authors, the complete relaxation can be originated from doing relaxation techniques of progressive muscles for 4 or 5 sessions and it is suggested for rehabilitator to do 3-5 times. There for, it seems that those therapies requiring more literacy for learning and little expenses and time as well as applicable in different settings can be useful as well. The present findings showed that the applied relaxation techniques in the study have high profits for community individuals giving its available functions applicable in this regard. One of the side-effect incredible results reported by mothers was that most participant mothers in relaxation exercises (experimental group) presented that the aggressive behaviors and punching their children have been reduced increasingly. Troster (2005) states that fury against a child and wife and the fury from misfortune is a common reason for mothers. Exercises suitably applied in this regard.

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