

Effect of Progressive Muscle Relaxation Technique on Reducing Stress among Adolescents at Orphanage in Assiut City

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Abstract:

Back ground: Stress threatens the wellbeing and perception of adolescents and reduces their ability to cope with threat. Adolescents in foster care are more liable for stress than other adolescents. **The aim of this study** was to assess the effect of progressive muscles relaxation technique on reducing stress among adolescent at Orphanage in Assiut City. **Subjects and method:** This study was conducted in three foster care settings at Assiut, these settings were lelianTrasher, Dar- ElSafa and Dar-Elhanan). A quasi Experimental research design was used. A convenient sample of all adolescents either males or females and their ages ranged from 12- 18 years. One tool was used in this study. **Results:** A adolescents in the study group had lower level of stress in posttest1,2,3 than on pretest(severe stress was present in 18.9%,24.3%,27% and 91.9%).Meanwhile there were no statistical significant difference between adolescents in the control group in relation to their level of stress (severe stress was present in 89.2%,86.5%,89.2% and 91.9%).**It was concluded that** progressive muscle relaxation technique reduced the level of stress among adolescents in study group. **Recommendations:** Social workers in orphanage institutions should use and teach different types of relaxation techniques as progressive muscle relaxation technique to promote psychological wellbeing of orphan children.

Key Words: Adolescents, Stress, progressive Muscle Relaxation Technique, Orphanage

Introduction:

Adolescence is a transitional stage of physical and mental human development that occurs between childhood and adulthood. This transition involves biological, social and psychological changes which are shaped by the social environment in which they live. The social environment provides the opportunity, barriers, role models and support for individual's development and health. Systems within the social environment include family, peers, schools, community and the large society and these all contribute to an adolescent's development and health (**Wilson & Hockenberry, 2007**).

Adolescence Period can be stressful for children and parents. Children are dealing with the challenges of going through puberty, meeting changing expectations and coping with new feelings. Most of the children meet these challenges successfully and grow into healthy adults while others have a harder time coping with all these problems. Mental, emotional and behavioral disorders among children, youth and young adults create an enormous burden for their families and nation. They threaten the future health and well being of young people (**Aggarwal et al., 2007**).

Stress is the way human beings react both physically and mentally to changes, events, and situations in their lives. People experience stress in different ways and for different reasons. The reaction is based on perception of an event or situation (**Ayala, 2008**). Signs and symptoms of stress include headaches, other aches and pains, sleep disturbance, insomnia, upset stomach, indigestion, diarrhea, anxiety, anger, irritability, depression, fatigue, feeling overwhelmed and out of control, feeling moody, tearful, difficulty concentrating, low self-esteem, lack of confidence, high blood pressure, weakened immune system and heart disease (**Australian Psychological Society, 2012**).

Foster child defined as a child living with unrelated adult or foster parent who provides parental care. Foster care is a safety service for children when they are unable to remain safely at home. (**Nebraska Health and Human Services system, 2004**). Nationally, 542,000 children are in foster care. Many of these children have prior histories of maltreatment such as abuse and neglect, with neglect being the most common form of maltreatment and the reason for many children requiring foster care services. Painful experiences associated with maltreatment and the trauma of being removed from one's parents. Foster care may affect the developmental and mental health of children (**Delilah, 2008**).

Treatment of stress include two parts. The first Pharmacological, These may include drugs to control blood pressure or other physical symptoms of stress, as well as drugs that affect the patient's mood. Part two non pharmacological include stress management programs. These strategies include relaxation techniques. One of this relaxation techniques is Progressive Muscle Relaxation (PMR) is a technique for reducing stress and anxiety by alternately tensing and relaxing the muscles. It involves a two-step process in which adolescent systematically tense and relax different muscle groups in the body (**Liza and Christina, 2011**).

The nurse should play a significant role in making child aware of these methods and facilitating their effective use. The nurse should begin with the assessment phase of the nursing process to identify child who might benefit from stress management techniques. Once assessment has been accomplished, the nurse plan to use these techniques to help others who are experiencing stress, nurses must first develop their own familiarity with them (**Holly and Carol, 1996**). The nurse should recommending stress reduction strategies to the child, Providing information about stress reduction strategies that are likely to meet child specific needs, encouraging the child to make the decision to practice relaxation, encouraging the child to devote this time to themselves alone, enlisting the support of friends in meeting the child need

for uninterrupted time in a quiet setting ,encouraging friends to lend verbal support to the client. The stress management techniques are based on the belief that mind and body are interrelated and that the condition of one will affect eventually the condition of the other(Holly and Carol ,1996).

Significance of the study

According to the World Health Organization(WHO), stress is a significant problem of our times and affects both physical as well as the mental health of people (Liza and Christina, 2011) . American Academy of Child & Adolescent Psychiatry, Helping Teenagers with Stress, 2014 reported that, Approximately 25% of boys and 19% of girls avoided or refused to deal with their stress, 23% of boys and 14 % of girls sought ways to distract themselves away from their stress. Recently new trends in pediatric nursing researches go toward specialty and sub-specialty and topics related to child psychology is very important as anew specialty .Stress among adolescent is a serious problem that need solutions. Studies about stress among orphan children are limited ,so it is considered as a phenomena that need to be researched in details.

Aim of the study

The aim of this study was to assess the effect of progressive muscle relaxation technique on reducing stress among adolescents at orphanage in Assiut City.

Research Hypothesis

- Adolescents who practice progressive muscle relaxation technique will have lower level of stress in posttest than in pretest
- Adolescents who practice progressive muscle relaxation technique (study group) will have lower level of stress than adolescents who don't practice (control group).

Subjects and Method

Research Design

A quasi experimental research design was used in this study.

Setting:

The study was conducted in three foster care at Assiut city (LelianTrasher, Dar- ElSafa and Dar-ElHanan). These foster care settings receive orphan children from one year to 18 years and service Assiut governorate.

Subjects:

The study subjects include a convenient sample of all adolescents either males or females and their ages ranged from 12- 18 years. They divided into two groups : study group(37) (for applying progressive muscle relaxation technique) and control group(37) and both groups were selected randomly(double number represented study group, individual number represented control group) .

Tools of the study:

One tool was used in this study, it was developed by the researcher to collect the required data that include two parts:

Part one: Include personal data such as : name, age , sex, grade in school , age of puberty.

Part two: Orphanage Adolescents Stress Scale (Abd Al fatah etal.,2015), It was a questionnaire standardized and validated prepared specifically for this study by the researcher to measure stress among orphan adolescents . It contained four domains .The first domain was **emotional deprivation** (11items), the second was **future planning** (7items), the third was relations outside the organization (6items) and **relations inside the organization** (6items) and the fourth domain was **stress symptoms** (9items).

Scoring system of Orphanage adolescent stress scale:

Each item in this scale was measured by likert scale (don't agree =0, agree for some degree=1and agree=2).The total score of this scale is divided into <50 % showed that the adolescent did not suffer from stress and 50- <75 % showed that the adolescent suffer from stress on a moderate degree and ≥ 75 showed that the adolescent suffer from stress on a highest degree.

Content validity: The scale was estimated by nine experts, five experts in child psychology from the faculty of education, two experts in neurology and psychiatry department from the faculty of medicine and two experts in pediatric nursing from faculty of nursing to referee the scale. Content validity index calculated and it was (0.95)Scale reliability: Reliability score for this sample was 0.92 by using Cronbach's Alpha test and reliability was calculated for each domain as following: for emotional deprivation domain was 0.81, for future planning domain was 0.79,for relation inside the organization was 0.7, for relation outside the organization was 0.78, for stress symptoms domain was 0.81.

Method:

Official permission was obtained from the ministry of social insurance to collect data from Foster agencies in Assiut city and the permission was sent to the three Orphan agencies. Written informed consent from studied adolescent was obtained. Research proposal was approved from Ethical Committee in the Faculty of Nursing. There was no risk for study subject during application of the research. The study was follow common ethical principles in clinical research. Confidentiality and anonymity was assured. Study subject had the right to refuse to participate or withdraw from the study without any rational any time .Study subject privacy was considered during collection of data.

Pilot Study was carried out on 10% of adolescents to test the clarity and applicability of the tool. Based on the results of pilot study there were no modification in the scale was done. pre- test :the researcher began to collect data from Augustus 2015 to November 2016 for (74)child who accepted to participate in this study from the three Orphan agencies . The researcher met adolescents in their organization and interview each child to apply the scale that took about (20-30) minutes to be answered .The data was collected on average two day / week with the average number of 7 child / day.

Application of progressive muscle relaxation technique: it was implemented for study group. the researcher show technique for study group by using data show and the researcher done the technique by himself for them and trained each child in the study group to practice the technique which took about (10-15) minute at least twice time daily. post- test: done after implementing the program immediately for study and control group. Follow up: done after one month and after two months from implementing for study and control group.

Data analysis:

The data were tested for normality using the Anderson-Darling test and for homogeneity variances prior to further statistical analysis. Categorical variables were described by number and percent, where continuous variables described by mean and standard deviation (Mean, SD). Chi-square test and fisher exact test were used to compare between categorical variables. Comparison between continuous variables was done by t-test and ANOVA. A two-tailed $p < 0.05$ was considered statistically significant. All analyses were performed with the IBM SPSS 20.0 software.

Results:

Table (1) :Frequency and percentages distribution of study and control group related to personal data

	Study		Control		P. value
	No.	%	No.	%	
Age					
<15 years	14	37.8	13	35.1	0.809
≥15 years	23	62.2	24	64.9	
Mean±SD	15.1±1.83		15.3±1.79		0.982
Sex					
Male	33	89.2	32	86.5	0.722
Female	4	10.8	5	13.5	
Organizations names					
Dar El-Hanan	7	18.9	8	21.6	0.879
Dar El-Safa	4	10.8	5	13.5	
LelianTrasher	24	64.9	24	64.9	
Education level					
Preparatory	14	37.8	14	37.8	0.481
Secondary	23	62.2	23	62.2	

Table (2): Comparison between study and control groups regarding degree of adolescent's stress according to domains of Emotional deprivation and Future planning in pre, post1, post2 and post3.

Items		Pre		Post1		Post2		Post3		P. value
		No.	%	No.	%	No.	%	No.	%	
Emotional deprivation										
Study	Sever	33	89.2	9	24.3	11	29.7	13	35.1	<0.001**
	Moderate	4	10.8	11	29.7	12	32.4	13	35.1	
	Mild	0	0.0	17	45.9	14	37.8	11	29.7	
Control	Sever	32	86.5	31	83.8	29	78.4	32	86.5	0.841
	Moderate	5	13.5	5	13.5	7	18.9	5	13.5	
	Mild	0	0.0	1	2.7	1	2.7	0	0.0	
	P. value	0.772		<0.001**		<0.001**		<0.001**		
Future planning										
	Study									
Study	Sever	30	81.1	8	21.6	10	27.0	10	27.0	<0.001**
	Moderate	6	16.2	12	32.4	14	37.8	16	43.2	
	Mild	1	2.7	17	45.9	13	35.1	11	29.7	
Control	Sever	33	89.2	33	89.2	31	83.8	32	86.5	0.954
	Moderate	3	8.1	4	10.8	5	13.5	4	10.8	
	Mild	1	2.7	0	0.0	1	2.7	1	2.7	
	P. value	0.565		<0.001**		<0.001**		<0.001**		

Table (3): Comparison between study and control groups regarding degree of adolescent's stress according to domains of relation inside and outside the organization in pre, post1, post2 and post3.

Items		Pre		Post1		Post2		Post3		P. value
		No.	%	No.	%	No.	%	No.	%	
Relationships inside the organization										
Study	Sever	19	51.4	7	18.9	7	18.9	9	24.3	<0.001**
	Moderate	18	48.6	14	37.8	15	40.5	14	37.8	
	Mild	0	0.0	16	43.2	15	40.5	14	37.8	
Control	Sever	24	64.9	23	62.2	25	67.6	24	64.9	0.681
	Moderate	13	35.1	12	32.4	12	32.4	12	32.4	
	Mild	0	0.0	2	5.4	0	0.0	1	2.7	
	P. value	0.239		<0.001**		<0.001**		<0.001**		

Relationships outside the organization										
Study	Sever	35	94.6	15	40.5	17	45.9	17	45.9	<0.001**
	Moderate	2	5.4	12	32.4	13	35.1	15	40.5	
	Mild	0	0.0	10	27.0	7	18.9	5	13.5	
Control	Sever	37	100.0	33	89.2	33	89.2	34	91.9	0.329
	Moderate	0	0.0	4	10.8	3	8.1	3	8.1	
	Mild	0	0.0	0	0.0	1	2.7	0	0.0	
	P. value	0.152		<0.001**		<0.001**		<0.001**		

Table (4): Comparison between study and control groups regarding degree of adolescent's stress according to domains of stress symptoms in pre, post1, post2 and post3

Stress symptoms	Pre		Post1		Post2		Post3		P. value
	No.	%	No.	%	No.	%	No.	%	
Study									
Severe	36	97.3	13	35.1	12	32.4	12	32.4	<0.001**
Moderate	1	2.7	11	29.7	14	37.8	16	43.2	
Mild	0	0.0	13	35.1	11	29.7	9	24.3	
Control									
Severe	35	94.6	34	91.9	35	94.6	33	89.2	0.782
Moderate	2	5.4	3	8.1	2	5.4	4	10.8	
Mild	0	0.0	0	0.0	0	0.0	0	0.0	
P. value	0.556		<0.001**		<0.001**		<0.001**		

Table(5): Comparison between organization name and study group in post1,post2,post3 according to Orphanage Adolescent Stress Scale

groups	Orphanage Adolescent stress scale	Organization Name									Time	Organi zation	Time & organi zation
		Post1			Post2			Post3					
		1	2	3	1	2	3	1	2	3			
study	Severe	14.3	25	19.2	0	50	26.9	0	75	26.9	0.014*	0.003**	0.243
	Moderate	28.6	25	42.3	28.6	0	53.8	28.6	25	50			
	Mild	57.1	50	38.5	71.4	50	19.2	71.4	0	23.1			
control	Severe	100	100	83.3	87.5	100	83.3	100	100	83.3	0.309	0.159	0.001**
	Moderate	0	0	16.7	0	0	16.7	0	0	12.5			
	Mild	0	0	0	12.5	0	0	0	0	4.2			

Organization Name **1-Dar-El Hanan** **2- Dar-El Safa** **3-LelianTrasher**

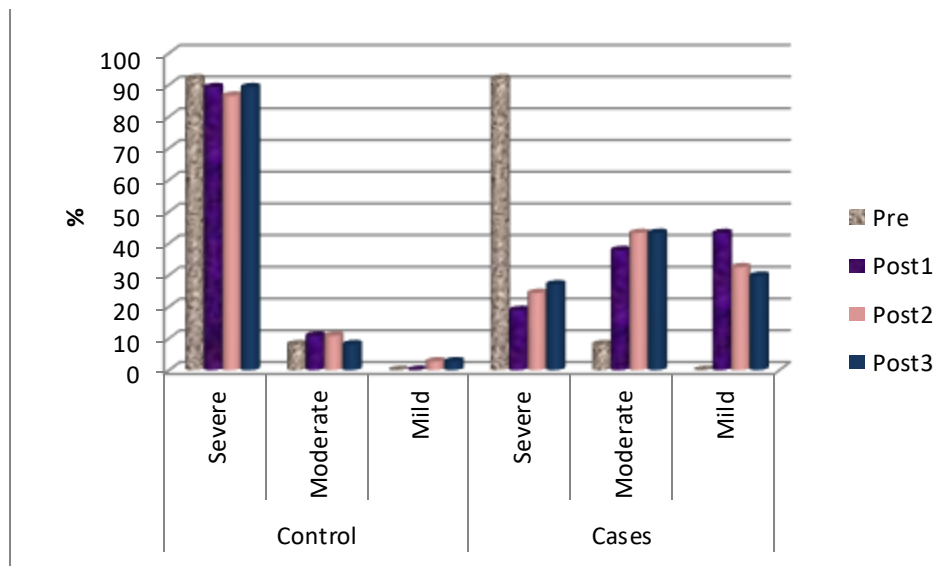
Table(6):Levels of stress among adolescents having different levels of education

groups	Orphanage Adolescent stress scale	Educational level						Two way ANOVA		
		Post1		Post2		Post3		Time	Organizatio n	Time x organization
		Prepa ratory	Second ary	Prepara tory	Second ary	Prepara tory	Secondary			
Study	Severe	14.3	25	0	50	0	75	0.014*	0.003**	0.243
	Moderate	28.6	25	28.6	0	28.6	25			
	Mild	57.1	50	71.4	50	71.4	0			
Control	Severe	100	100	87.5	100	100	100	0.309	0.159	0.001**
	Moderate	0	0	0	0	0	0			
	Mild	0	0	12.5	0	0	0			

Table(7):Levels of stress among adolescents having gender differences

groups		sex						Two way ANOVA		
		Post1		Post2		Post3		Time	Organiza tion	Time x organization
		Male	Female	Male	Female	Male	Female			
Study	Severe	18.2	25	21.2	50	21.2	75	0.005**	0.197	0.195
	Moderate	39.4	25	48.5	0	45.5	25			
	Mild	42.4	50	30.3	50	33.3	0			

Control	Severe	87.5	100	84.4	100	87.5	100	0.078	0.116	0.001**
	Moderate	12.5	0	12.5	0	9.4	0			
	Mild	0	0	3.1	0	3.1	0			



Fig(1): illustrates Comparison between study and control groups regarding degree of adolescent's stress according to Orphanage Adolescent stress scale in pre, post1, post2 and post3 .

Table (1): Illustrates Frequency and percentage distribution of study and control groups related to personal data. There was no statistical significance difference between study and control groups regarding personal data. It was noticed that nearly more than 60% of adolescents in control and study groups were ≥ 15 years .Regarding sex the majority of adolescents in study and control groups were male (89.2%&86.5%)respectively. It was revealed that the highest percentage of adolescents were from Leliantrasher in study and control groups (70.3%&64.9%) respectively. While the lowest percentage came from darEl-Safa(10.8%&13.5%) respectively. According to educational level more than half of adolescents in study and control groups were in the secondary school (54.1%&62.2%) respectively.

Table (2): Demonstrates comparison between study and control groups regarding degree of adolescent's stress according to domain of emotional deprivation and future planning in pre, post1, post2 and post3 .It was noticed that there was no statistical significant difference between adolescents in pre, post1, post2 and post3 in control group but there was a high statistical significant difference between adolescents in pre, post1, post2 and post3 in study group . therefore, there was a high statistical significant difference between study and control group in (post1, post2 and post3) with p value(<0.001**).

Table (3):Shows comparison between study and control groups regarding degree of adolescent's stress according to relation inside &outside the organization in pre, post1, post2 and post3 . It was noticed that there was no statistical significant difference between(pre, post1, post2 and post3) in control group but there was a high statistical significant

difference between adolescents in pre, post1, post2 and post3 in study group therefore, there was a high statistical significant difference between study and control group in post1, post2 and post3 p value($<0.001^{**}$).

Table (4): Indicates comparison between study and control groups regarding degree of adolescent's stress according to domain of stress symptoms in pre, post1, post2 and post3 . It was revealed that there was no statistical significant difference between adolescents in pre, post1, post2 and post3 in control group but there was a high statistical significant difference between adolescents in pre, post1, post2 and post3 in study group therefore, there was a high statistical significant difference between study and control group p value($<0.001^{**}$).

Table (5): illustrates Comparison between organization name in study and control study group in post1, post2, post3 according to Orphanage Adolescent Stress Scale. It was found that there was statistical significant difference between organization name in study group & control group according to Orphanage Adolescent Stress Scale.

Table(6): represents Levels of stress among adolescents having different levels of education. It was found that there was statistical significant difference between educational level in study group and control group according to Orphanage Adolescent Stress Scale.

Table(7): represents Levels of stress among adolescents having gender differences . It was found that there was statistical significant difference between gender in study group and control group according to Orphanage Adolescent Stress Scale.

Fig(1): illustrates Comparison between study and control groups regarding degree of adolescent's stress according to Orphanage Adolescent stress scale in pre, post1, post2 and post3 . It was revealed that there was no statistical significant difference between adolescents in pre, post1, post2 and post3 according to Orphanage Adolescent stress scale in control group but there was a high statistical significant difference between adolescents in pre, post1, post2 and post3 in study group p value($<0.001^{**}$).

Discussion

Adolescents experience a spectrum of stress ranging from ordinary to severe. Stress is a psychological/physiological response to stimuli .The stimuli can be externally or internally generated. Stress can lead to feelings of anxiety, depression, irritability, poor concentration, aggression, physical illness, fatigue, sleep disturbance and poor coping skills such as tobacco, drug or alcohol use **Nangia&sareen, (2011) and Ramakrishnan&KalaiChandran, (2015)**. This study suggested that progressive muscle relaxation technique is effective in reducing stress. It helps orphan adolescents to relax and behave positively with their environment and change their point of view for all things

The findings of the current study showed that there was a high statistical significant lower mean score of stress in post test compared to pre test among study group in all domains and the total of orphanage adolescent stress scale as shown in tables (2-4)& figure(1) . This was consistent with **Nair&Meera., (2014)&Nikitha.etal,(2015)** who reported that there was a significant difference between mean pre test and post test scores on Stress of secondary school students. The post test mean score was significantly lower than pre-test scores this proved that Progressive Muscle Relaxation was effective in reducing stress in classroom situation for the total sample.

Also *Yazdani, et al 2010 & Nangia & Sareen, 2011* reported that there was a lower mean score of stress on post test among participating adolescents after practicing the progressive muscle relaxation technique. Consistently (*patel, 2014*) indicated that there was a significant reduction in stress after conducting progressive muscle relaxation technique. No one can avoid all stress, but can counteract the negative effects by learning how to induce the relaxation response, a state of deep rest. This could be attributed to the effect of progressive muscle relaxation technique in bringing systems back into balance, reducing stress hormones, slowing down muscles and organs, and increasing blood flow to the brain. The current study reported that there was a high statistical significant difference between study and control group regarding degree of adolescent stress in pre and post test as shown in tables (2-4). This was consistent with *Nikitha, et al, (2015)* they revealed that there was a Significant difference is also found between post test stress scores of intervention and control group.

This results may be explained that, Practicing Progressive muscle relaxation leads to a decrease in sympathetic nervous system activity which result was slowing heart rate, lowering blood pressure, slowing breathing rate, reducing activity of stress hormones, increasing blood flow to major muscles, reducing muscle tension and chronic pain, improving concentration and mood, lowering fatigue reducing anger and frustration and boosting confidence to handle problems. In addition to Progressive muscle relaxation technique effectively turns off the stress response. As a result, many of the adverse physical, mental and emotional conditions associated with chronic stress have been found to be reduced or eliminated with regular practice of PMR. It has been shown to be helpful in dealing with insomnia, post traumatic stress disorder, and increasing feelings of relaxation.

Regarding sex, the current result revealed that the mean score of stress among female was higher in post test1, post test 2, and post test3 compared to male among study group in according to Orphanage Adolescent stress scale as shown in table (7). This was disagreement with (*patel, 2014*) which indicated that there was no significant association between post test stress score of staff nurses according to sex. This was interpreted as females were more liable for stress than male because they more sensitive for any problem and they had not be commitment with practicing technique. In addition to, males were able to overcome their stressors and cooperative with me when I taught them how to practice the technique and follow my instruction regarding continuous practice of progressive muscle relaxation technique.

According to name of organization The present study revealed the mean score of stress was lower in Dar-ElHanan in the study group in post test1, post test 2, and post test 3 compared to other organization according to Orphanage Adolescent stress scale as shown in table (5). this is interpreted as the administrative persons in this organization give more freedom to orphan children and provide facilities to them such as allow children to work outside the organization so give them a chance to know and interact with other people while in Leliantrasher children work inside the organization so interaction with other people was so limited also dar- Elhanan provide recreational activities to children such as visiting cultural centers, clubs and practicing sport as football & bing bong. Also, children in this organization had a strong relationships with all social workers and the manager of the organization .in addition to children in this organization were cooperative with me during application of the program and follow up.

According to educational level The present study revealed that mean score of stress was lower in secondary students in the study group in post test1, post test 2, and post test 3 compared to preparatory students according to Orphanage Adolescent stress scale as shown in table(6). this was interpreted as secondary students use abstract thinking

and find more solutions for problems facing them. In addition to they were mature enough than preparatory student to understand the benefits of practicing the technique continuously that help them to feel more relaxed and look positively for many thing and help them to control their stressors.

Period of adolescence can be stressful for children and parents. Children are dealing with the challenges of going through puberty, meeting changing expectations and coping with new feelings. Most of the children meet these challenges successfully and grow into healthy adults while others have a harder time coping with all these problems **(Wilson & Hockenberry, 2007)**.

Orphans develop post-traumatic stress as a result of losing their parents, symptoms of which withdrawal from society as a whole; feelings of guilt; depression; aggression; as well as eating, sleeping and learning disturbances. So orphanages are one way of providing for their care, housing and education. Regarding to domain of emotional deprivation there was a high statistical significant difference in study group between pre test and post test regarding to Orphanage Adolescent Stress Scale as shown in table (2). this was interpreted to after practicing progressive relaxation technique the orphan children look positively for many thing and overcome the feeling of missing parents and family. This was clear as they become closer to me and to the supervisors of the organization and considered them as their family.

The future of our country depends on the mental health and strength of young people. So regarding to domain of future planning The current study indicated that there was a lower mean score in study group between pre test and post test according to Orphanage Adolescent Stress Scale. as shown in table (2).this was revealed to after practicing progressive relaxation technique the orphan children have goals in their life and think about their future in correct way by focusing on their study and they had a hope to be accepted from normal families when they need to marry from them.

Peer relationships play a vital role in adolescents social and emotional development. So regarding to domains of relation inside & outside the organization there was a lower mean score in study group between pre test and post test according to Orphanage Adolescent Stress Scale as shown in tables (3). This was revealed to after practicing progressive relaxation technique the orphan children became friendly with each other's and strong their relationships with their supervisors and became cooperative and had trust in their colleagues in the organization and overcome their violent behavior and overcome the feeling of unacceptability from the society and other people and never consider them as their enemies .

Adolescence considered as a period of heightened stress. As regarding stress symptoms domain there was a high statistical significance difference in study group in pre test and post test according to Orphanage Adolescent Stress Scale as shown in table (4) .this was interpreted as progressive relaxation works as effective form of relaxation. This was also consistent with A meta-analysis done by **Kraag, Zeegers, Kok, Hosman and Saad (2006)** also supported the findings of present study. They evaluated the effect of school programs targeting stress management in school children. A positive effects were found for stress symptoms .

Conclusion:

Based on the results of the present study, it could be concluded that degree of stress of orphan children in study group who practice progressive muscle relaxation technique were significantly lower than those in the control group who

don't practice the technique. Also, degree of stress of orphan children in study group in post test were significantly lower than pre test.

Recommendations:

Based on the results of the present study, the following can be recommended :

- 1-Social workers in orphanage institutions should use and teach different types of relaxation techniques e.g progressive muscle relaxation technique to promote psychological wellbeing of orphan children.
- 2- Orphanage institutions should include in their policies progressive muscle relaxation technique and other types of stress management strategies as a basic intervention care for orphan children.
- 3- Educational programs should be provided to social workers in orphanage institution about how to use and teach different stress management strategies to orphan children.
- 4- Audio visual material related to stress management strategies and different relaxation should be available in all orphanage institution for orphan children.
- 5- Applying progressive muscle relaxation technique for all orphan children to relieve their stress.

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