

**EFFECTIVENESS OF AUTOGENIC RELAXATION ON STRESS AND BIO PHYSIOLOGICAL PARAMETERS AMONG ADOLESCENTS - PILOT REPORT****MS.S.SUJITHRA****Saveetha College of Nursing, Saveetha University, Thandalam.***ABSTRACT**

Stress is the common psychiatric problems found in adolescent in present scenario, if untreated or undiagnosed can lead to future consequences both for the individual and for the society. Hence a self-help strategy is to be taught for adolescents to stabilize their level of stress by themselves. Adolescents at selected residential homes using true experimental research design are selected by simple random sampling technique for pre-test post-test control group design. The study was conducted among 30 adolescent at selected homes. It shows that, when comparing the level of stress during *pre-test* in experimental group majority(66.7%) of the adolescence had moderate stress and also the percentage of adolescence with severe stress were 13.3% and in control group also majority (86.7%) adolescence had moderate level of stress and also the percentage of adolescence with severe stress were 13.3% eventually .But, when comparing the level of stress during *post-test* in experimental group majority(66.7%) of the adolescence had moderate stress and no adolescent had severe stress whereas in control group majority (93.3%) adolescence had moderate level of stress and also the percentage of adolescence with severe stress were 6.7%.Hence the Autogenic Relaxation was found to be effective in reducing the level of stress among adolescent in residential homes.

KEYWORDS: Autogenic Relaxation; Level of stress; Adolescence; Residential home.**MS.S.SUJITHRA***Saveetha College of Nursing, Saveetha University, Thandalam.****Corresponding author**

INTRODUCTION

Adolescent is a period of "stress and storm"¹. When adolescence itself is considered as a stressful period then how about the adolescents who are in the orphanage. It is estimated that there are between 210 million orphans worldwide². In India about 38.06 million orphan children are between 14-18 years of age. In India, the total number of orphans constitute 16.5% of the child population in the country. There are 25.7 million orphans throughout India today. India has more orphans (25.7 million) than any other country in the world. Adolescent who live with their family can seek help from their parents, siblings, and neighbor and of the relatives³. Whereas the adolescent who live in orphanage are unable to share their problems, thereby their stress levels are bottled up inside and as the adolescent is not identified at the earliest this stress is carried to the adulthood becomes at risk for most of the psychiatric disorders and antisocial behavior in their later years of age. Adolescents are the backbone of the developing countries like India. There are approximately 1.2 billion adolescent all over the world i.e. 1 in 6 persons in the world is an adolescent in the age of 10-19 year⁴. Their need, thought and behaviors are different from that of the adult and children. Since realizing the importance of the adolescent period the World Health organization prepared the report on "Health for the world's adolescents" for addressing the health needs of adolescent between the age group of 10-19 year that was also presented to Member States at the 2014 World Health Assembly in follow-up to its 2011 Resolution, Youth and health risks⁵. Global level targets are aimed to focus towards the world young people, youth, and adolescent only for the past two decades. Adolescent have several health and health related behavioral problems that remain under diagnosed and under treated⁶. Out of which mental health problems like depression, suicide and stress disorders are common according to the DALY'S health report⁷. And also the mental health problems become apparent only during adolescence. If remain untreated, it disrupts the individual level of functioning, and also his contribution to the society. In spite of it he/she acts against the societal norms and indulge in antisocial behaviors like crime, violence, rape, assault, addictive behaviors etc. by the time they reach adulthood. This is the today's scenario about the adolescence who are residing with their parents/ guardian/well-wisher, were there is one or the other person to take care of them. Just assume the health of the adolescents who are residing under institutional residential care. UNICEF and other global policies define an orphan as the child who lost one or both parents. UNICEF states that there are 153 million orphans worldwide are single orphan hood who lost at least one parent, out of it 17.8 million are single orphaned, 2 million children are under institutional care⁸. out of it 95% orphans age is above five, mostly orphan hood common between the age group of 12-17⁹. Worldwide prevalence rate of child and adolescent mental disorder is 10-20%, out of it 50% of all lifetime mental disorders begin before the age of 14¹⁰. A number of self-help approaches to stress-prevention and resilience-building have been

developed, drawing mainly on the theory and practice of cognitive-behavioral therapy. One among such self-help approach is the Autogenic training. The technique involves the daily practice of sessions that last around 15 minutes which is simple and easy to practice at all ages. Practicing autogenic training for longer periods of time (i.e. 10 or more years) can affect the gene expression, which leads to additional positive effects. In the long-term the adolescent become a more rational, calmer person. He/she look at situations in their life differently, with less anxiety and a more positive outlook. Studies report that practicing autogenic relaxation brings cognitive improvements such as increased memory, improved concentration and behavioral changes including the ability to quit smoking, better relationship communication¹¹. Hence this made the researcher to choose this study as a self-help intervention towards managing stress for the adolescence and as an orphanage child he/she can handle the situations in a positive manner not only towards his wellbeing but also towards the other inmates of the orphanage home.

MATERIALS AND METHODS

Aim Assess the Effectiveness of Autogenic relaxation on stress and bio physiological parameters among adolescents at selected residential homes in Vellore district.

Objectives

1. To Assess the level of stress during pretest and posttest in experimental and control group.
2. To assess the bio physiological parameters during pretest and posttest in experimental and control group.
3. To determine the effectiveness of autogenic relaxation on stress among adolescents in the experimental group.
4. To correlate the level of stress with bio physiological parameters during pretest and posttest in experimental and control group.
5. To associate the level of stress and bio physiological parameters with selected demographic variables

Hypothesis

1. There is significant difference between the pretest and post test level of stress in experimental and control group.
2. There is significant difference between the pretest and post test bio-physiological parameters in experimental and control group.
3. There is significant association between level of stress with selected demographic variables.
4. There is significant association between bio-physiological parameter with selected demographic variables.
5. There is significant relationship between level of stress and bio-physiological parameters.

Methodology

Research Approach

Quantitative Research approach.

Research design

True experimental research design with pre-test post-test control group design.

Sample size

30 adolescent at selected orphanages for pilot study.

Sampling technique

Simple random sampling technique.

Tools and scoring

Perceived stress scale to assess the level of stress.

Ethical Consideration

Ethical approval was obtained from the Scientific Review board and Institutional ethical committee of Saveetha University. Informed consent was obtained from the Head of the Institutions of Orphanage and also from the parents/Guardian, and also written assent was obtained from the Adolescents residing at institutional homes.

Procedure

After explaining the study in detail the informed consent was obtained from the concerned authorities for the study and an assent was also obtained from the adolescents residing in the institution. Pre-test level of stress was assessed using perceived stress scale. An adolescent orphanage child who have mild stress and moderate stress, and who has no stress was included for the study. Adolescent with severe stress was referred to the psychiatrist. The pre-test biomarkers for stress (RBC count) was assessed for the findings. Autogenic relaxation technique was demonstrated by the investigator to the care taker of the orphanage for a period of 1 week using audio recorded CD. After learning the autogenic relaxation the care taker demonstrated the procedure following the guidelines from the audio recorded CD. Every day the adolescent orphanage children who have mild, moderate level of stress and children with no stress and who are willing to practice the autogenic relaxation are asked to assemble in the hall which has seating arrangements. The audio CD was played and the children's performed the autogenic relaxation technique by following the guidelines for 15-20 minutes before food. Likewise the Adolescent continued to do the relaxation technique for a period of one month. At the end of one month of duration of practice the biomarkers for stress (RBC count) was taken again and assessed for the findings.

Inclusion criteria

1. Adolescent orphanage in the age of 10-19 yrs.
2. Adolescent orphanage who are interested to participate.
3. Adolescent orphanage of both boys and girls.

4. Adolescent with mild, moderate level of stress and also without stress.

Exclusion criteria

1. Adolescent orphanage children who are unable to perform the relaxation technique due to physical deformities and psychiatric illness and developmental disabilities like(Mental retardation, Autism, Cerebral palsy)

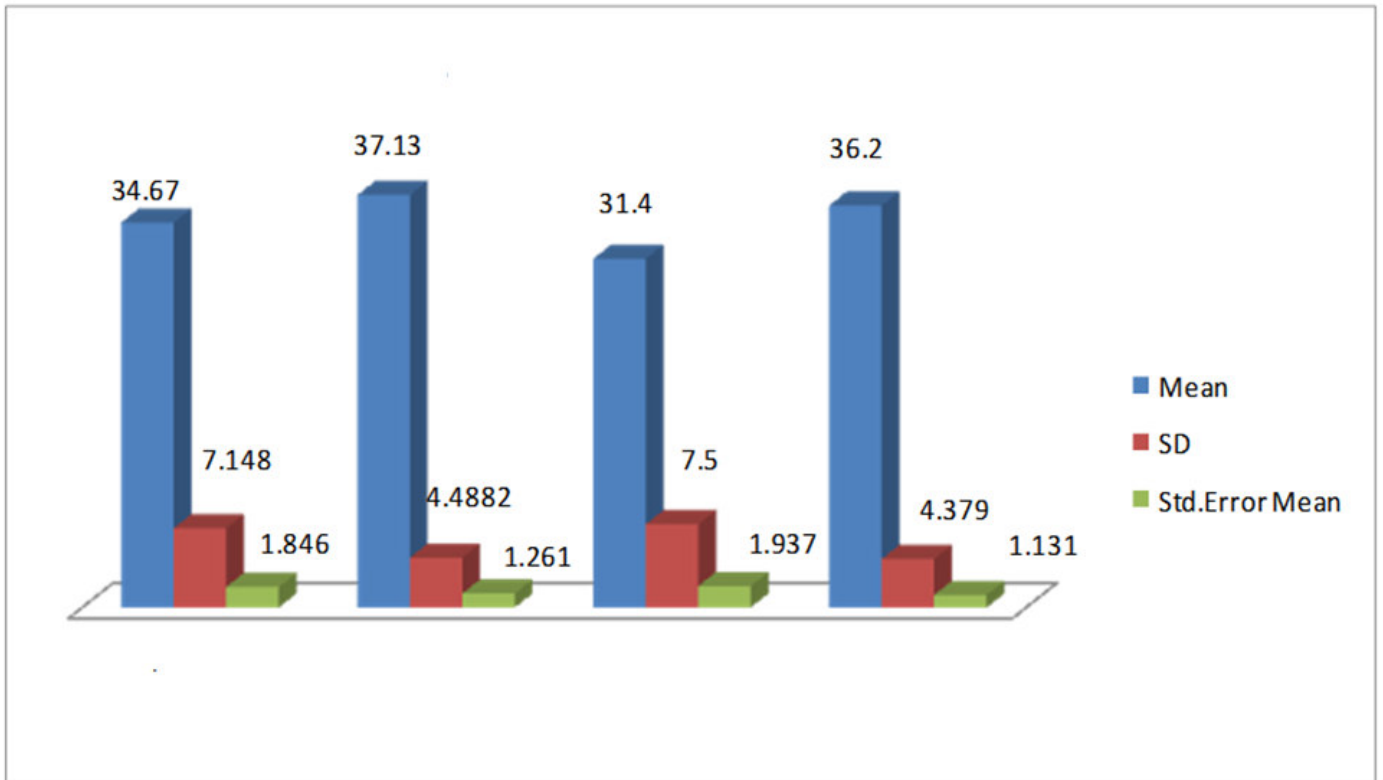
RESULTS

Majority of the age of adolescence in experimental group were between 16-19 years(40%) and in control group majority of the adolescence were between the age group of 10-12 years(40%).In experimental group most of them(60%) were male and in the control group most of them(60%) were female. With regard to the type of orphan hood in experimental group majority (46.7%) were paternal orphans and in control group also majority (40%) were paternal orphans. The caretaker in experimental group was mostly mother (46.7%) was the caretaker, when compared with the control group caretakers were mostly grandparents (46.7%).The cause of death of the parents in experimental group were mostly(40%)accidents due to alcohol use and in the control group most of the cause (46.7%) was due to chronic medical disorder. When considering the number of siblings in experimental group majority (73.3%) had more than three siblings whereas the control group had majority of two siblings (60%).When considering the number of years of residence in experimental group majority (53.3%) of them were living between 6-10 years whereas in control group majority (40%) of them were living between 11-15 years in the institution. Considering the group statistics on the level of stress in both experimental and control group during pre-test and post-test on Mean, Standard deviation and Standard error mean is shown in (fig-1).

DISCUSSION

With the earlier studies focused much on self-help strategies like yoga, meditation in urban school setting, this study emphasized on the simple self-help stress reducing strategy (i.e) Autogenic relaxation. If the adolescent learns the steps regularly he himself can practice whenever necessary. However in earlier studies autogenic relaxation was practiced to reduce anxiety and this is the first study to emphasise on stress reduction. The current study findings reveal clearly that the adolescent relaxed and enjoyed in doing the technique and therefore there was a reduction of level of stress in the experiment group who received the relaxation technique than who the adolescent in the control group.

Figure 1
Level of stress



Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper
STRESS - PRE TEST	Equal variances assumed	4.337	.047	-1.104	28	.279	-2.467	2.235	-7.045	2.112	
	Equal variances not assumed			-1.104	24.728	.280	-2.467	2.235	-7.072	2.139	
STRESS - POST TEST	Equal variances assumed	4.213	.050	-2.141	28	.041	-4.800	2.242	-9.393	-.207	
	Equal variances not assumed			-2.141	22.549	.043	-4.800	2.242	-9.444	-.156	

Experimental Group paired t-Test

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
		Lower	Upper						
Pair 1	STRESS - PRE TEST - STRESS - POST TEST	3.267	1.831	.473	2.253	4.281	6.910	14	.000

Control Group paired t-Test

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
		Lower	Upper						
Pair 1	STRESS - PRE TEST - STRESS - POST TEST	.933	3.011	.777	-.734	2.601	1.200	14	.250

When comparing the level of stress during *pre-test* in experimental group majority(66.7%) of the adolescence had moderate stress and also the percentage of

adolescence with severe stress were 13.3 and in control group also majority (86.7%) adolescence had moderate level of stress and also the percentage of

adolescence with severe stress were 13.3% eventually .But, when comparing the level of stress during *post-test* in experimental group majority(66.7%) of the adolescence had moderate stress and no adolescent fall in severe stress whereas in control group majority

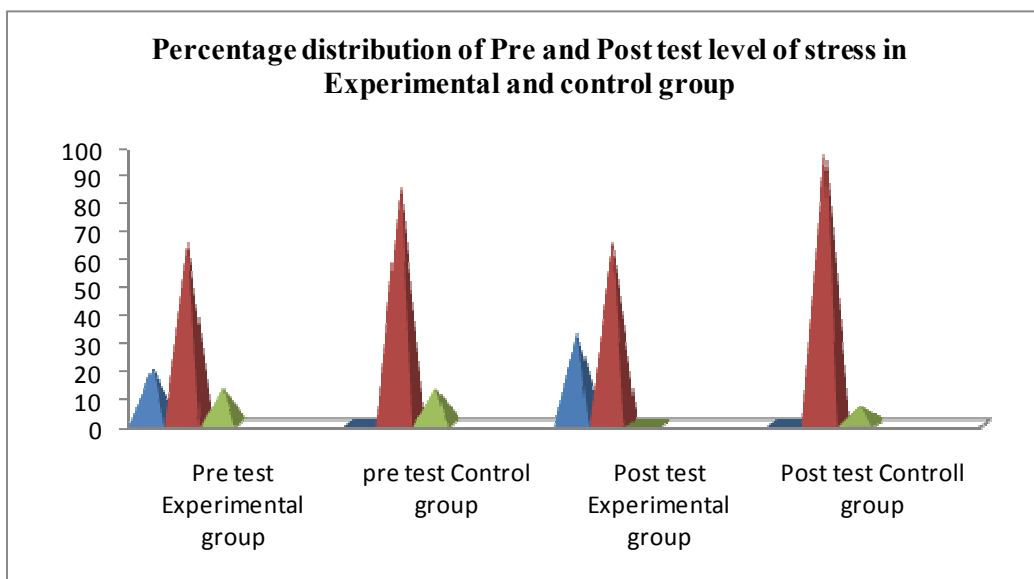
(93.3%) adolescence had moderate level of stress and also the percentage of adolescence with severe stress were 6.7%

Crosstab

			GROUP		Total
			EXPERIMENTAL GROUP	CONTROL GROUP	
LEVEL OF STRESS - PRE TEST	MILD	Count	3	0	3
		% within GROUP	20.0%	.0%	10.0%
	MODERATE	Count	10	13	23
		% within GROUP	66.7%	86.7%	76.7%
	SEVERE	Count	2	2	4
		% within GROUP	13.3%	13.3%	13.3%
Total	Count	15	15	30	
	% within GROUP	100.0%	100.0%	100.0%	

Crosstab

			GROUP		Total
			EXPERIMENTAL GROUP	CONTROL GROUP	
LEVEL OF STRESS - POST TEST	MILD	Count	5	0	5
		% within GROUP	33.3%	.0%	16.7%
	MODERATE	Count	10	14	24
		% within GROUP	66.7%	93.3%	80.0%
	SEVERE	Count	0	1	1
		% within GROUP	.0%	6.7%	3.3%
Total	Count	15	15	30	
	% within GROUP	100.0%	100.0%	100.0%	



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REFERENCES

1. Hall GS. Adolescence: Its Psychology and its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion, and Education. New York: D. Appleton and Company; 1904, pages 507-512.
2. WHO World Health Organization "Health for the world's adolescents" A second chance in the second decade -fact sheet Available from: http://www.who.int/maternal_child_adolescent/topics/adolescence/second-decade/en/.
3. ICPD Programme of Action. International Conference on Population and Development (ICPD). Cairo, United Nations Population Fund, 1994. <http://www.unfpa.org/publications/international-conference-population-and-development-programme-action>.
4. UN General Assembly Special Session on HIV/AIDS. New York, United Nations, 2001. Available from: http://www.unaids.org/sites/default/files/sub_manding/files/aidsdeclaration_en.pdf.
5. Resolution S-27/2: A World Fit for Children. World Summit for Children. New York, United Nations, 2002. Available from: http://www.unicef.org/specialsession/docs_new/documents/A-RES-S27-2E.pdf.
6. Towards an AIDS-free generation: children and AIDS. Sixth stocktaking report. New York, United Nations Children's Fund, 2013. Available from: http://www.unaids.org/sites/default/files/media_asset/20131129_stocktaking_report_children_aids_en_0.pdf.
7. Preventing early pregnancy and poor reproductive outcomes among adolescents in developing countries, Geneva, World Health Organization, 2011. http://www.who.int/maternal_child_adolescent/documents/preventing_early_pregnancy/en/
8. UNICEF, UNAIDS and WHO CHILDREN and AIDS: Fifth stocktaking report 2010. http://www.unicef.org/publications/index_57005.html
9. A joint report on New orphan estimates and a frame work for action: UNICEF: 2004. http://www.unicef.org/publications/index_22212.html
10. Kessler RC. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Arch Gen Psychiatry. 2005;62:593-602
11. Blakemore SJ. The social brain in adolescence. *Nature Reviews Neuroscience*, 2008.6: 267-277.