



A QUASI EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF GUIDED IMAGERY TECHNIQUE ON EXAMINATION ANXIETY AMONG ADOLESCENT STUDENTS IN SELECTED SECONDARY SCHOOLS, BENGALURU.

Mrs. Priya P M*

Lecturer, Dayananda Sagar College of Nursing Sciences, Dayananda Sagar University *Corresponding Author

Mr. Ramesh S

Associate Professor, Dayananda Sagar College of Nursing Sciences, Dayananda Sagar University

ABSTRACT

Guided imagery technique is a cognitive behavioural technique in which under the guided instructions a client is guided in imagining a relaxing scene or series of experiences. It is a gentle powerful technique more often used to promote relaxation and to provide therapeutic benefits. Adolescents are very often susceptible to emotional distress due to exam anxiety. The aim of the study was to assess the effectiveness of guided imagery technique on examination anxiety among adolescent students. A quasi-experimental research which includes a pre-test, guided imagery technique training and a post-test was conducted. A convenient sampling was used to select the 60 adolescent students and their knowledge was assessed by multiple-choice questionnaire and standardized test anxiety questionnaire developed by Nist and Diehl. The results revealed that the mean post-test anxiety level score (14.97) was lesser than the mean pre-test score (21.2). The obtained "t" value was 5.74 which was significant at $p < 0.05$ level. The study concluded that guided imagery technique is an effective intervention for reducing examination anxiety among adolescent students.

KEYWORDS : Examination anxiety, Guided imagery, Secondary schools, Adolescents

BACKGROUND

Examination anxiety is a type of performance anxiety. In such situations, sometimes student feel pressurized to perform excellent and becomes so worried whether he will be able to perform or not. Exam anxiety can also be labelled as anticipatory anxiety, situational anxiety or evaluation anxiety. Like other situations in which a person might feel performance anxiety, test anxiety can bring on "butterflies," a stomach-ache, or a headache. Some people might feel shaky or sweaty, or feel their heart beating quickly as they wait for the test to be given out. Anxiety as a disorder is seen in about 8% of children and adolescent's worldwide. There is a still larger percentage of children and adolescents in whom anxiety goes undiagnosed owing to the internalized nature of the symptoms.

Since a very limited number of studies have addressed examination anxiety among adolescents in India, and because of the seriousness of its adverse consequences, it was considered important to explore this issue further. Guided imagery technique is a mind-body intervention. Guided imagery helps students to activate background knowledge, and to preview a text in preparation for reading. Students use words and images from the text to generate multisensory visualizations of text content, and in doing so they become prepared to use multisensory visualization to aid in their comprehension. So the aim of the study is to assess the effectiveness of guided imagery technique on examination anxiety among adolescent students.

Research Objectives

1. To assess the level of examination anxiety before guided imagery technique among adolescent students in experimental and control group.
2. To assess the level of examination anxiety after guided imagery technique among adolescent students in the experimental group.
3. To determine the effect of guided imagery technique on examination anxiety among adolescent students in experimental group.
4. To compare the effect of guided imagery technique on examination anxiety among adolescent students in experimental group with control group.
5. To find out the association between the pre-test examination anxiety among adolescent students with their selected demographic variables in both experimental and control group.

METHODS

Research design

A Quasi Experimental, Nonequivalent control group- pretest posttest design was adopted for this study.

Study Setting

The setting is the general location and condition in which data collection takes place in the study. The investigator selected two private schools from Bangalore, Karnataka.

Population

The target population for the study was all adolescent students studying grade 10.

Sampling

Convenient sampling technique was used to select the 60 adolescent students studying grade 10 (30 in experimental control group and 30 in the control groups). The inclusion Criteria were both adolescent girls and boys who were appearing 10th standard board examination and were willing to participate in the study. The exclusion Criteria were Adolescent students who were having medical problems and were absent during pre-test.

Instruments

A self-administered questionnaire and a standardized tool, Nist and Diehl Test Anxiety Questionnaire were used as instruments.

Self-administered questionnaire contains 15 items which includes Demographic information (9 items) and Data pertaining to the factors influencing study performance (7 items). The same sets of tool were used for both pre-test, and post-test.

Standardized Test Anxiety Questionnaire developed by Nist and Diehl (1990) was used to determine the level of student's test anxiety which consist of ten items. The questionnaire items have 5 points Likert- like format with the following coding: Never (1), rarely (2), Sometimes (3), Often (4), and Always (5). Scores will range from 10 to 50. A low score (10-19 points) indicates no anxiety and Scores between 20 and 35 indicates healthy anxiety. Scores over 35 indicates unhealthy anxiety. Higher the scores, higher the unhealthy anxiety (score more than 35)

Data Collection

The initial step of the study was to conduct pre-test to assess the effectiveness of guided imagery technique on examination anxiety among adolescent students in selected secondary schools. 30 adolescent students from one school were taken in experimental group and 30 were adolescent students from second school were taken in control group. The guided imagery technique was taught only to the experimental group from 2nd day about fifteen minutes daily for fourteen days. Posttest was conducted after one week of the guided imagery technique before the examination day for both groups.

Data analysis

Data were analysed using the Statistical Package for Social Sciences (SPSS Version 21) The Frequency and percentage were used to present the demographic data of adolescent students. Range, mean, standard deviation and mean score percentage were used to assess the examination anxiety among adolescents students. Paired test was used to test the significant difference of pre and post-test level of examination anxiety in experimental and control group. Unpaired test was used to test the significant difference between the post-test examination anxiety level in between experimental and control group. Chi-square test was used to find out the association between pre-test levels of examination anxiety among adolescent students with their selected demographic variables.

Ethical Approval

The proposed study was conducted after the approval of the Institutional dissertation committee. .Permission to access the sample was obtained from the Principal of each school. Written informed consent was obtained from all the participants. The participants were explained about the purpose, method and the extent of the study. Assurance was given to them that anonymity of each individual would be maintained, with regard to the information collected. Confidentially was assured to the participants. The participants were informed about the right of participation and the right of withdrawal from the study any time.

Results

A number of 60 participants enrolled in this study. All the subjects belonged to the age of 16 years both in the experimental control group. In experimental group among 43.3% had healthy anxiety, 3.3% had no anxiety during pre-test whereas in post-test 96.7% had no anxiety and 3.3% had healthy anxiety after the intervention-guided imagery technique. In control group a 3.3% had unhealthy anxiety, 83.3% had healthy anxiety, 13.3% had no anxiety during pre-test and the result remains same in post-test also. There was a significant difference in the mean scores of examination anxiety between the pre-test and post-test of subjects in experimental group. The paired t-test was carried out to find out the significance difference and it was found to be significant (t=5.74 p<0.05) .The results prove that guided imagery technique is effective in the reduction of Examination anxiety.

Section 1:- Distribution of Subjects According to Demographic Information

Sl.no	Demographic variables	Categories	Experimental		Control	
			F	%	F	%
1	Age in years	13 years	-	-	-	-
		14 years	-	-	-	-
		15 years	-	-	-	-
		16 years	30	100.0	30	100.0
2	Gender	Male	16	53.3	16	53.3
		Female	14	46.7	14	46.7
3	Religion	Hindu	27	90.0	24	80.0
		Muslim	3	10.0	4	13.3
		Christian	-	-	2	6.7
		Others	-	-	-	-

4	Place of residence	Urban	8	26.7	9	30.0
		Semi urban	10	33.3	14	46.7
		Rural	12	40.0	7	23.3
5	Educational status of father	Primary education	3	10.0	3	10.0
		Secondary education	9	30.0	11	36.7
		PUC	13	43.3	12	40.0
		Graduate	4	13.3	3	10.0
		Post graduate	1	3.3	1	3.3
6	Educational status of mother	Primary education	6	20.0	6	20.0
		Secondary education	13	43.3	12	40.0
		PUC	8	26.7	10	33.3
		Graduate	1	3.3	1	3.3
		Post graduate	1	3.3	1	3.3
7	Occupation of father	Govt. employee	2	6.7	2	6.7
		Pvt employee	11	36.7	9	30.0
		Business or self employed	9	30.0	11	36.7
		Others	8	26.7	8	26.7
8	Occupation of mother	Govt. employee	-	-	-	-
		Pvt employee	7	23.3	8	26.7
		Business or self employed	21	70.0	22	73.3
		Others	2	6.7	-	-
9	Family income per month	≤Rs 10,000	6	20.0	6	20.0
		Rs.10001-20,00	12	40.0	14	46.7
		Rs.20,001-30,000	5	16.7	8	26.7
		≥Rs. 30,000	7	23.3	2	6.7

Section 2- Distribution of Subjects According to Data Pertaining to the Factors Influencing Study Performance

Sno	Demographic variables	Categories	Experimental		Control	
			F	%	F	%
10	Parental expectation for high scores	Above 90%	21	70.0	17	56.7
		Above 80%	8	26.7	12	40.0
		Above 60%	1	3.3	1	3.3
		Above 50%	-	-	-	-
		Any specific expectation	-	-	-	-
11	Reading Pattern	Daily basis	24	80.0	22	73.3
		During study holidays	3	10.0	5	16.7
		Only during exams	3	10.0	3	10.0
12	Time spent for viewing TV daily	< 1 hour	13	43.3	13	43.3
		1-2 hour	11	36.7	10	33.3
		3-4 hours	2	6.7	2	6.7
		More than 4 hours	4	13.3	5	16.7

13	Time spent for per day during examinations	1- 2 hour	10	33.3	4	13.3
		2-4 hours	9	30.0	14	46.7
		4-6 hours	8	26.7	9	30.0
		More than 6 hours	3	10.0	3	10.0
14	Does your teacher encourage you to perform better?	Yes, all the time	16	53.3	21	70.0
		Only sometimes	14	46.7	9	30.0
		No, not at all	-	-	-	-
15	Any life event giving to anxiety	Yes	7	23.3	9	30.0
		No	23	76.7	21	70.0
16	Attended any relaxation technique	Yes	9	30.0	2	6.7
		No	21	70.0	28	93.3

Section 3:- Distribution of adolescent students according to level of pre and posttest level of anxiety in experimental group and control group

Sno	level of anxiety	Experimental Group	Pre test		Post test		Control Group	Pre test		Post test	
			F	%	F	%		F	%	F	%
1	No anxiety	p	17	56.7	29	96.7		4	13.3	4	13.3
2	Healthy anxiety		13	43.3	1	3.3		25	83.3	25	83.3
3	Unhealthy anxiety		0	0	0	0		1	3.3	1	3.3
Over all			30	100	30	100		30	100	30	

In experimental group among the 30 subjects 13 (43.3%) had healthy anxiety, 17 (3.3%) had no anxiety, during pre-test whereas in post-test after intervention 29 (96.7%) had no anxiety, 1 (3.3%) had healthy anxiety. Majority of subjects 29 (96.7%) had no anxiety during post-test in experimental group after the interventions. In control group among the 30 subjects 1 (3.3%) had unhealthy anxiety, 25 (83.3%) had healthy anxiety, 4 (13.3%) had no anxiety during pre-test and the result remains same in post-test also.

Section 4: Range, Mean and SD of Pre and Post-test Examination Anxiety Score in Experimental and Control Group N=60

Sl.n	Variable	Pre test			Post test				
		Range	Mean	SD	Mean %	Range	Mean	SD	Mean %
1	Experimental	10-33	21.20	6.64	42.4	10-20	14.97	2.2	29.9
2	Control	15-38	25.77	5.58	51.54	15-38	24.73	5.3	49.3

In experimental group during pre-test test anxiety scores range run from 10-33 with mean and S.D 21.20±6.64 and with mean percentage of 42.4% whereas in post-test the range was 10-20 with mean and S.D 14.97± 2.23 and mean percentage of 29.94%.In control group the test anxiety score range from 15-38 with mean and S.D 25.77± 5.58 and with mean percentage 51.54 during pretest whereas test anxiety score range from 15-38 with mean and S.D 24.73± 5.31 and with mean percentage of 49.36% during post-test.

Section 5: The Outcome of Paired T-Test Analysis in Both Experimental and Control Group N=30

Sno	Group	Max score	Paired t-difference			t-test value	p-value
			Mean	SD	Mean%		
1.	Experimental	28	6.23	5.97	12.46	5.74*	p<0.05
2	Control	28	1.03	1.18	1.06	0.46NS	p>0.05

*Significant at p<0.05 level, 29 df. NS-Not significant at 5% level (p>0.05).

The paired t-test was carried out to find out the significance difference and it was found to be significant in experimental group. (t=5.74 p<0.05). But, in control group, it was found to be not significant (p<0.05) at 5% level.

Section 6: The Outcome of Unpaired t-test Analysis of Post-test Anxiety Scores Among subjects in between the groups N=60

Sno	Variables	Experimental		Control		Unpaired t-value	p-value
		Mean	SD	Mean	SD		
1	Anxiety	14.97	2.23	24.73	5.31	t=6.42	p<0.05

*Significant at p<0.05 level for 58df.

The unpaired t-test was carried out to find out the significance difference in examination anxiety among adolescent students between the groups and it was found to be significant (t=6.42 p<0.05), thus provides the evidence that guided imagery therapy was significantly effective in reducing examination anxiety among adolescent students.

Section 7: Association Between Level of Anxiety and Selected Demographic Variables

Sno	Demographic variables	Categories	Sample (30)		Examination anxiety				Chi square value	p-value
			F	%	≤Median		>Median			
					F	%	F	%		
1	Age in years	13 years	-	-	-	-	-	-	Invalid 2	p>0.05
		13 years	-	-	-	-	-	-		
		15 years	-	-	-	-	-	-		
		16 years	30		22	100	8	100		
2	Gender	Male	16	53.3	12	54.5	4	50.0	0.049, df=1, NS	p>0.05
		Female	14	46.7	10	45.9	4	50.0		
3	Religion	Hindu	27	90.0	20	90.9	7	87.5	0.076, df=1, NS	p>0.05
		Muslim	3	10.0	2	9.1	1	12.9		
		Christian	-	-	-	-	-	-		
		Others	-	-	-	-	-	-		
4	Place of residence	Urban	8	26.7	7	31.9	1	12.3	1.151, df=2, NS	p>0.05
		Semi urban	10	33.3	7	31.8	3	37.5		
		Rural	12	40.0	8	36.4	4	50.0		
5	Educational status of father	Primary education	3	10.0	3	13.6	0	0	12.157, df=4, S	P<0.05
		Secondary education	9	30.0	6	27.3	3	37.5		
		PUC	13	43.3	10	45.3	3	37.5		

		Graduate	4	13.3	3	13.5	1	12.5		
		Post graduate	1	3.3	0	0	1	12.5		
6	Educational status of mother	Primary education	6	20.0	6	27.3	0	0	6.52	p>0.05
		Secondary education	13	43.3	8	36.4	5	62.5	5, df=3, NS	
		PUC	8	26.7	6	27.3	2	25.0		
		Graduate	1	3.3	1	4.5	0	0		
		Post graduate	1	3.3	1	4.5	0	0		
7	Occupation of father	Govt. employee	2	6.7	1	4.5	1	12.5	0.66	p>0.05
		Pvt employee	11	36.7	8	36.4	3	37.5	1, df=3, NS/	
		Business or self employed	9	30.0	7	31.3	2	25.0		
		Others	8	26.7	6	27.3	2	25.0		
8	Occupation of mother	Govt. employee	-	-	-	-	-	-	8.03	p<0.05
		Pvt employee	7	23.3	4	18.2	3	37.5	4, df=2, S	
		Business or self employed	21	70.0	18	81.9	3	37.5		
		Others	2	6.7	0	0	2	25.0		
9	Family income per month	≤Rs 10,000	6	20.0	6	27.3	0	0	3.68	p<0.05
		Rs.10001-20,00	12	40.0	7	31.3	5	62.5	9, df=2, NS	
		Rs.20,001-30,000	5	16.7	4	18.2	1	12.5		
		≥Rs. 30,000	7	23.3	5	22.7	2	25.0		
10	Parental expectation for high scores	Above 90%	21	70.0	14	63.6	7	87.5	6.13	p<0.05
		Above 80%	8	26.7	8	36.4	0	0		
		Above 60%	1	3.3	0	0	1	12.5	df=2, S	
		Above 50%	-	-	-	-	-	-		
		Any specific expectation	-	-	-	-	-	-		
11	Reading Pattern	Daily basis	24	80.0	18	81.8	6	75.0	0.17	p>0.05
		During study holidays	3	10.0	2	9.1	1	12.5	0, df=2, NS	
		Only during exams	3	10.0	2	9.1	1	12.5		
12	Time spent for viewing TV daily	<1 hour	13	43.3	10	45.5	3	37.5	8.09	p<0.05
		1-2 hour	11	36.7	9	40.9	2	25.0	6, df=3, S	
		3-4 hours	2	6.7	0	0	2	25.0		
		More than 4 hours	4	13.3	3	13.6	1	12.5		
13	Time spent for per day during examinations	1- 2 hour	10	33.3	9	40.9	1	12.5	4.09	p>0.05
		2-4 hours	9	30.0	6	27.3	3	37.5	4, df=1, NS	
		4-6 hours	8	26.7	6	27.3	2	25.0		
		More than 6 hours	3	10.0	1	4.5	2	25.0		
14	Does your teacher encourage you to perform better?	Yes, all the time	16	53.3	11	50.0	5	62.5	0.36	p>0.05
		Only sometimes	14	46.7	11	50.0	3	37.5	8, df=1, NS	
		No, not at all	-	-	-	-	-	-		

15	Any life event giving to anxiety	Yes	7	23.3	4	18.2	3	37.5	1.224, df=1, NS	p>0.05
		No	23	76.7	18	81.8	5	62.5		
16	Attended any relaxation technique	Yes	9	30.0	8	36.4	1	12.5	2.027, df=1, NS	p>0.05
		No	21	70.0	14	63.6	7	67.5		

Examination anxiety was significantly associated with educational status of father (chi-square value= 12.157, df=4), occupation of mother (Chi-square value=8.034, df=2) , parental expectation for high score (Chi-square=6.134, df=1) and time spent for TV daily at 5% level (p<0.05) in experimental group.

DISCUSSION

The findings revealed that there was a significant difference in the mean scores of examination anxiety among adolescent students between the pre-test and post-test in experimental group. Paired “t” also showed a significant difference on examination anxiety among adolescent students between the pre-test and post-test of the experimental group. This showed that guided imagery was effective in reducing the level of examination anxiety among the adolescent students. There was an association found that the examination anxiety was significantly associated with educational status of father (chi-square value= 12.157, df =4), occupation of mother (Chi-square value=8.034, df=2) , parental expectation for high score (Chi-square=6.134, df=1) and time spent for TV daily at 5% level (p<0.05) in experimental group.

CONCLUSION

Guided imagery technique was effective in reducing the level of examination anxiety among the adolescent students. Nurses play a vital role in healthcare system. Staff nurses and student nurses practicing in hospitals as well as in community need to be equipped with the knowledge of early signs of examination oriented anxiety to prevent later psychiatric morbidity. Early identification and intervention prevents anxiety related physical and psychological problems. The findings give awareness to nurses, the presence of complementary therapy-guided imagery may be provided to all students as well as patients who have anxiety. The curriculum shall be made in such a way that the students must be oriented to different modalities which would help them deal with problems related to preparation and writing examination. Nursing Curriculum shall incorporate practical training on complementary therapies.

REFERENCES

- Hockenberry J. Wong s Essential of Paediatric Nursing.7th edition. Elsevier Publication:NewDelhi;2006 : 494
- Marlow D.R, Redding B.A. Textbook of paediatric Nursing. 6thedition.Elsevier Publication: Lajpat Nagar; Delhi;2006:1122
- Dr. V. Chandramohan, Pavithraraj. Anxiety among adolescents and Adults. International journal of Indian Psychology. Oct 2016 [cited 2018 Feb10]; 4(1). Available from: 1//www.ijip.in/Archive/v4i1/18.01.106.20160401.pdf
- Malhotra T. Examination Anxiety among senior secondary school students. Scholarly research journal for interdisciplinary studies:2015 April; [cited 2018 Jan 10]; 3(17):2-3.Avaliable from:www.academia.edu/.../exam anxiety among senior secondary school
- Sibnath D, Esben S, Jiandong S. Academic Stress, Parental Pressure, Anxiety and Mental Health among Indian High School Students. International Journal of Psychology and Behavioral Sciences. 2015 [cited 2016 Dec 30]; 5(1):26-34. Available from:10.5923/j.ijpbs.20150501.04
- Guided Imagery to help reduce Anxiety.2011 Oct 18 ; Available from :http://www.healthcentral.com/anxiety/c/1443/145670/imagery-anxiety/
- Mary R, Marslin G. Test Anxiety Levels of Board Exam Going Students in TamilNadu, India. BioMed Research International. 2014 Feb 25 [cited on 25-02-2017] ;1-9.Avail:able from: https://www.hindawi.com/journals/bmri/2014/578323/
- Bansali.R, Trivedi K. Is academic anxiety gender specific, a comparative study? Journal of Social Science. 2008 [cited 2018 Jan 16]; 17(1): 1-3. Available from: http://www.tandfonline.com/doi/abs/10.1080/09718923.2008.11892627
- Dr. Malhotra. T. Exam Anxiety among Senior Secondary School students. An international peer reviewed and referred scholarly journal for in disciplinary studies. [Cited 2018 Feb 12]. Available from: http:// www.academia.edu/1323689/exam anxiety among senior secondary students
- Yousefi.F, Talib M.A, Mansore. M, Juhari.R, Redzuan. The relationship

- between test- anxiety and academic achievement among Iranian adolescents. *Asian SocialScience*.2010 [cited 2018 Feb 28] ; 6(5).Available : <http://www.ccsenet.org/journal/index.php/ass/article/view>
11. Tugan S.E. Relationship between Test Anxiety and Academic Achievement. *Karaelmas Journal of Education Science*.2015 14 May [cited 2018 Mar 12]; 3:98-106.Available from: ebd.beun.edu.tr/index.php/KEBD/article/view/62/88
 12. Panneerselvam S, Govindharaj P Effectiveness of Guided Imagery in Reducing Examination Anxiety among Secondary School Students in South India *The International Journal of Indian Psychology*.2016 April [cited 2017 Feb 28].3(3):2349. Available from: <http://www.ijip.in>
 13. Senthil KR, Sasikala G. Effectiveness of guided imagery in reducing student examination anxiety. *Nightingale Nursing Times*.2011 Sep [cited 2018 April 9]; 7(6):57-9.