Effectiveness of Guided Imagery on Anxiety Among Patients with Osteoarthritis

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Abstract: Osteoarthritis is a degenerative joint condition, that causes the tissues of the joint to deteriorate over time and worsen with age along with psychological problems such as anxiety and depression. Guided imagery could improve the wellbeing of the patients apart from medications and surgery. The design used for the study was true experimental research. A total of 30 patients with osteoarthritis were selected using simple random sampling technique in which 15 in experimental group and 15 in control group. Beck Anxiety Inventory was used to assess the level of anxiety among patients with arthritis. For a duration of four weeks, Guided Imagery for 30 minutes twice weekly was administered to the experimental group and for the control group the old age home routine was administered which was followed by the posttest in both the groups. The study findings showed that the pretest and posttest mean anxiety score was 26.13 & 14.00 with standard deviation of 4.64 & 2.42 respectively in experimental group. There was a highly statistically significant difference between the pretest and posttest level of anxiety with the paired `t` value of 9.34 at p<0.001. There was a statistically significant difference in the posttest level of anxiety between experimental and control group with the independent 't' test value of 5.73 at p<0.001. There was no statistically significant difference in the pretest and posttest mean anxiety score in the control group.

Key words: Guided Imagery, Anxiety, Patients with Osteoarthritis, Elderly

INTRODUCTION

Osteoarthritis is a degenerative joint condition, that causes the tissues of the joint to deteriorate over time and worsen with age. With ageing populations and increasing rates of obesity and injury, the prevalence of osteoarthritis is expected to continue to increase globally. Overall, 9.36% of the Indian population aged 45 years or above had Arthritis. The prevalence was 7.49% and 11.03% in males and females respectively. Females are more at risk for arthritis as compared to males. Overweight and obesity was associated with an increased risks and Diabetic people had a higher risk of arthritis than non-diabetic people.

Globally, 595 million people had osteoarthritis in 2020, affecting 7.6% of the global population and making it the most common form of arthritis. According to World Health Organization (WHO) data, nearly 9.6 percent of men and 18 percent of women aged over 60 years suffer from Osteoarthritis worldwide. In India, Osteoarthritis is the second most common rheumatologic problem and it is the most frequent joint disease in the country with a prevalence of 22 per cent to 39 percent.

Along with physical problems the patients with arthritis also have psychological problems such as anxiety and depression. Reducing symptoms and enhancing joint function are the main goals of arthritis treatment. Arthritis can be treated with a number of different approaches such as medication, exercise, supportive devices, hot and cold therapy and surgery. Guided imagery is a therapy that can be used for the reduction of symptoms. It is a mind-body intervention that involves evoking positive mental imagery to help invoke a positive effect. This relaxation technique can be helpful for calming the body, relieving stress and combatting feelings of anxiety. This technique is sometimes called visualization or guided meditation. It has many benefits like reducing pain, stress, anxiety, depression and improves quality of sleep.

Kumari, D & Patil, J. (2023) did a longitudinal, interventional study to assess the efficacy of Guided Imagery intervention on patients with anxiety disorder and their quality of life in a state institute of mental health, psychiatric unit. A total of 20 patients

(outpatients) with anxiety disorder, diagnosed according to diagnostic criteria of research ICD-10 DCR were selected for the study. Patients were assessed using a sociodemographic and clinical data sheet, Hamilton anxiety scale, and World Health Organization QOL instrument, short-form (WHOQOL-BREF), Hindi version. The results revealed that patients with anxiety disorder in the experimental group improved as compared with the control group significantly. The mean QOL-BREF score was also improved after intervention in the intervention group. The study concluded that Guided Imagery intervention helps to reduce the severity of anxiety symptoms and improve the quality of life in patients with anxiety disorder.[6]

Nguyen, J & Brymer, E (2018) did a study to assess the effectiveness of nature-based Guided Imagery on anxiety reduction. The state-trait anxiety inventory (STAI) was used to recruit participants (n = 48, 18 men, 30 females, Mage = 34.54, SDage = 12.91, age range = 19 – 71 years) who had moderate levels of either trait or state anxiety. Anxiety levels before and after each Guided Imagery session were assessed. Participants participated in both a nature-based and a conventional non-nature-based Guided Imagery session. Post-state anxiety levels were significantly lower for both Guided Imagery conditions, according to a two-way analysis of variance for repeated assessments. The nature-based Guided Imagery significantly reduced anxiety more than the urban-based Guided Imagery. This study was the first to contrast a conventional (non-nature) guided imagery intervention with one based in nature.[7]

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of guided imagery on anxiety among patients with osteoarthritis in selected old age home at Chennai.

OBJECTIVES OF THE STUDY

1. To find the pre-assessment and post-assessment level of anxiety among patients with osteoarthritis in experimental and control group.
2. To determine the impact of guided imagery on anxiety among patients with osteoarthritis in experimental and control group.
3. To associate the post-assessment level of anxiety among patients with osteoarthritis with their selected demographic variables in experimental and control group.

NULL HYPOTHESES

H_1: There is no significant difference between the pre-assessment and post-assessment level of anxiety among patients with osteoarthritis in experimental and control group.

H_2: There is no significant difference in the post-assessment level of anxiety among patients with osteoarthritis between the experimental and control group.

H_3: There is no significant association between the post-assessment level of anxiety with their selected demographic variables among patients with osteoarthritis in experimental and control group.

MATERIALS AND METHODS

The study used a quantitative research approach. A true experimental design was chosen. The management provided the official written consent. Thirty osteoarthritic individuals who met the inclusion criteria participated in the trial. The Experimental Group was chosen from Amma Old Age Home in Chennai, while the Control Group was chosen from Grace Old Age Home in Chennai. The patients with osteoarthritis were divided into two groups: the experimental group (n = 15) and the control group (n = 15) using a simple random sampling procedure. After introducing oneself, a thorough explanation of the study's objectives was given to improve collaboration and secure informed consent.

Anxiety was assessed by Beck anxiety inventory developed by Beck, A.T., Epstein, N., Brown, G., & Steer, R.A. It is a 21-item scale which is scored with a 0 to 3 point likert scale with a total score of 63.

The score was interpreted as follows:

Score of 0-21	=	low anxiety
Score of 22-35	=	moderate anxiety
Score of 36 and above	=	severe anxiety

Using Beck's Anxiety Inventory for both groups, a pre-assessment was administered to determine the current degree of anxiety among osteoarthritis

patients. The experimental group received the Guided Imagery which included breathing, positioning, problem assessment, scene development and journey creation for 30 minutes twice a week on alternate days for four weeks. The control group received the old age home routine. The same instrument was used to assess a post-assessment to both groups after 4 weeks.

RESULTS AND DISCUSSION

Descriptive and inferential statistics were used to analyse the collected data. In experimental group, majority were >65 years of age, were males, Hindus in religion, completed secondary education, married, had hypertension as a comorbid illness, had >6 months of duration of illness, all were undergoing allopathy treatment, treatment for < 6 months, had no family history of osteoarthritis, majority were in the normal category of BMI, were not having the habit of physical exercise and none of the patients were using complementary therapies.

In control group, majority were >65 years of age, were females, majority were Hindus, had completed secondary education, married, had hypertension as a comorbid illness, had >6 months of duration of illness, all were undergoing allopathy treatment, all had treatment for < 6 months, had no family history of osteoarthritis, were in the normal category of BMI, were not having the habit of physical exercise and none of the patients were using complementary therapies.

The first objective was to find the pre-assessment and post-assessment level of anxiety among patients with osteoarthritis in experimental and control group

Table 1: Frequency and percentage distribution of pre-assessment and post-assessment level of anxiety among patients with osteoarthritis in experimental and control group.

N = 15+15

Level of Anxiety	Experimental Group (15)				Control Group (15)			
	Pre-assessment		Post-assessment		Pre-assessment		Post-assessment	
	N	%	N	%	N	%	N	%
Low 0-21	5	33.33%	13	86.67%	6	40.00%	8	53.33%
Moderate 22-35	10	66.67%	2	13.33%	9	60.00%	7	46.67%
Severe >35	0	0.00%	0	0.00%	0	0.00%	0	0.00%

The pre-assessment level of anxiety showed that there were 5 (33.33%) in experimental group and 6 (40%) in control group had low anxiety, 10 (66.67%) in experimental group and 9 (60%) in control group had moderate anxiety and none of them had severe anxiety in both groups. The post-assessment level of anxiety showed that there were 13 (86.67%) in experimental group and 8 (53.33%) had low anxiety, 2 (13.33%) in experimental group and 7 (46.67%) had moderate anxiety and none of them had severe anxiety in both groups.

The second objective was to determine the impact of guided imagery on anxiety among patients with osteoarthritis in experimental and control group

Table 2: Mean and Standard Deviation of pre-assessment and post-assessment level of anxiety among patients with osteoarthritis in experimental group.

N = 15

Variable	Experimental Group				Mean Difference	Paired t test
	Pre-assessment		Post-assessment			
	Mean	SD	Mean	SD		
Level of Anxiety	26.13	4.64	14.00	2.42	12.13	t=9.34 p=0.001***(S) DF=14

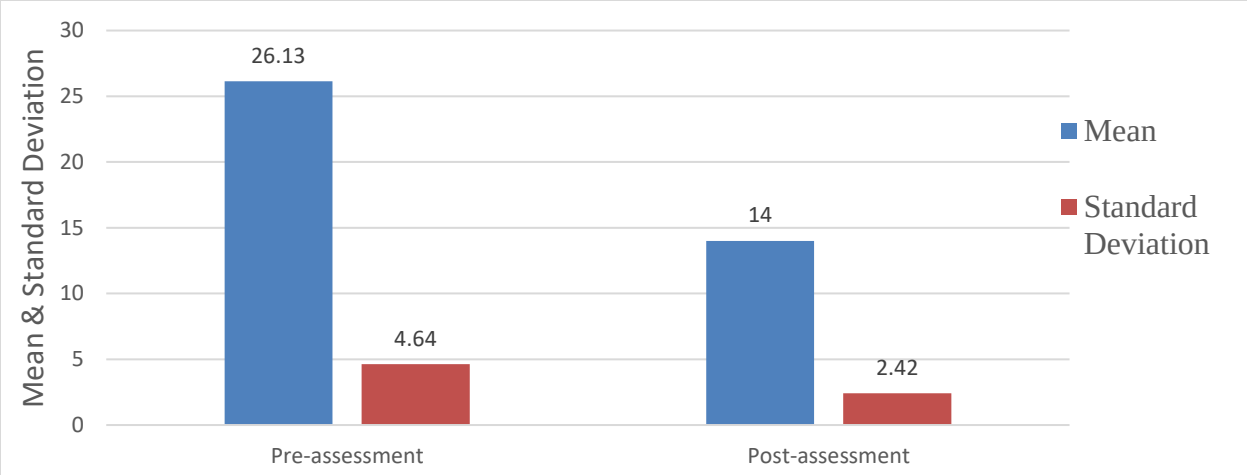

Figure 1: Mean and Standard Deviation of Pre-assessment and Post-assessment Level of Anxiety in Experimental Group

In experimental group, the mean level of anxiety was 26.13 in pre-assessment and 14.00 in post-assessment with the standard deviation of 4.64 in pre-assessment and 2.42 in post-assessment. There was a statistically significant difference between the pre-assessment and post-assessment level of anxiety with the paired t test value of 9.34 at $p<0.001$.

Table 3: Mean and Standard Deviation of pre-assessment and post-assessment level of anxiety among patients with osteoarthritis in control group.

N = 15

Variable	Control Group				Mean Difference	Paired t test
	Pre-assessment		Post-assessment			
	Mean	SD	Mean	SD		
Level of Anxiety	25.20	4.38	23.47	5.91	1.73	t=1.21 p=0.25(NS) DF=14

Figure 2: Mean and Standard Deviation of Pre-assessment and Post-assessment Level of Anxiety in Control Group

In control group, the mean level of anxiety was 25.20 in pre-assessment and 23.47 in post-assessment with the standard deviation of 4.38 in pre-assessment and 5.91 in post-assessment. There was no statistically significant difference between the pre-assessment and post-assessment level of anxiety in control group.

Table 4: Mean and Standard Deviation of post-assessment level of anxiety among patients with osteoarthritis between experimental and control group.

N = 15+15

Variable	Experimental Group Post-assessment		Control Group Post-assessment		Mean Difference	Independent t test
	Mean	SD	Mean	SD		
Level of Anxiety	14.00	2.42	23.47	5.91	9.47	t=5.73p=0.001***(S) DF=28

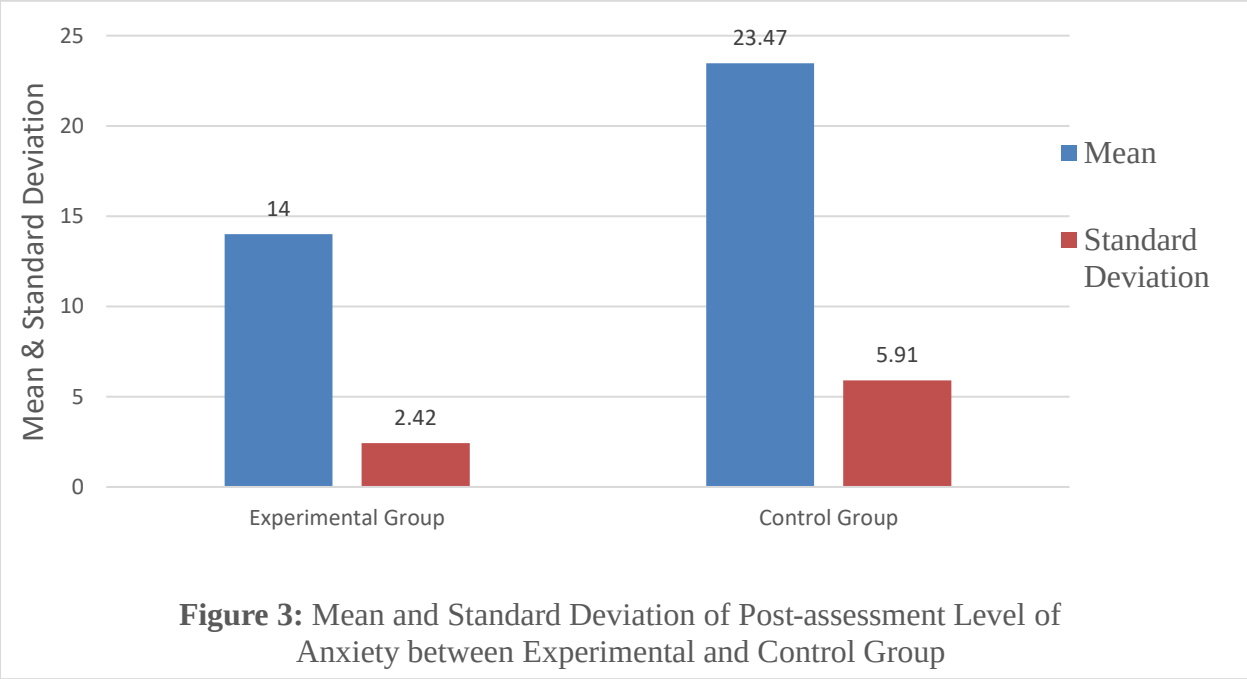

Figure 3: Mean and Standard Deviation of Post-assessment Level of Anxiety between Experimental and Control Group

There was a statistically significant difference in the post-assessment level of anxiety between experimental and control group with the independent t test value of 5.73 at $p<0.001$.

The third objective was to associate the post-assessment level of anxiety among patients with osteoarthritis with their selected demographic variables in experimental and control group

The experimental group's post-assessment anxiety level among osteoarthritis patients was significantly associated with education (chi square value of 10.31, $p<0.05$). Other demographic factors did not significantly associate with the post-assessment anxiety level among osteoarthritis patients in the experimental group. No significant association was seen between any of the demographic characteristics and the post-assessment anxiety level among osteoarthritis patients in the control group.

CONCLUSION

The aim of the current study was to evaluate the impact of a guided imagery on anxiety in patients with osteoarthritis in a selected old age home at Chennai. The results of the study indicated that the experimental group's anxiety levels on the pre-assessment and post-assessment differed statistically significantly ($p<0.001$). Additionally, it revealed a statistically significant difference between the experimental and control groups' post-assessment anxiety levels.

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