



A Study To Assess The Effectiveness Of Guided Imagery On Pain And Its Associated Behavioral Changes Among Post Orthopedic Surgery Clients In Selected Hospital At Kanyakumari District Tamil Nadu India.

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Abstract:

Pain in the post-operative period is highly frequent. Recent surveys indicate that post-operative pain still remains inadequately treated. In addition, it has been estimated that up to 5% of individuals undergoing surgery will develop severe persisting pain leading to chronic physical disability and psychosocial distress.

Statement of the Problem: A study to assess the effectiveness of Guided Imagery on Pain and its associated behavioral changes among Post orthopedic surgery clients in Selected Hospital, at Kanyakumari District.

Objectives of the Study: To assess the level of Pain and its associated behavioral changes among Post orthopedic surgery clients before and after Guided Imagery. To evaluate the effectiveness of Guided Imagery on Pain and its associated behavioral changes among Post orthopedic surgery clients. To find out the association between the Pain and its associated behavioral changes among Post orthopedic surgery clients with their demographic variables.

Research Methodology: The research design adopted for this study was quasi experimental one group pre and post test only design .The sample size was 60 and was drawn through purposive sampling method. The level of pain was assessed by using Numerical Pain Assessment Scale and behavior behavioral changes using modified FLACC scale was assessed guided imagery was provided for a range of 15-20 minutes a day.

Findings of the study: Regarding level of pain, most of the patients in pre-test had severe pain and most of them had moderate pain in post-test; regarding behavioral changes most of the patients in pre-test had severe behavioral changes and most of them had moderate behavioral changes in post-test. With regard to effectiveness of Guided Imagery on pain and its associated behavioral changes among post orthopedic surgery clients, the result showed that Guide Imagery was effective among post orthopedic surgery

clients. The obtained 't' values were significant, $P < 0.05$. It implies that there was a greater effect of Guided Imagery on pain and its associated behavioral changes among post orthopedic surgery clients. **Conclusion:** The main conclusion from this present study is that, most of the patients in pre-test had severe pain and most of them had moderate pain in post-test; regarding behavioral changes most of the patients in pre-test had severe behavioral changes and most of them had moderate behavioral changes in post-test.

Key words: Effectiveness, Guided Imagery, Pain, Behavioural changes, Orthopedic surgery.

Introduction:

A bodily sensation brought on by a particular stimulus is only one aspect of pain. The definition of pain is whatever the individual claims it is. According to this medical definition, pain is a private, individual sensation. According to this definition, pain is an unpleasant emotional and sensory experience connected to real or possible tissue injury. According to the International Association of Pain, or IASP (1994), "pain is an unpleasant sensory experience connected to actual and potential tissue damage." Since pain is one of the body's defense mechanisms that signal that a person is having problems, it is viewed as a blessing rather than a curse. Around the world, the most frequent cause for seeing a doctor is pain.

In both community and hospital settings, pain is a regular occurrence that is frequently not appropriately controlled. Despite their crucial role in effective pain management, nurses are frequently accused in the literature of being ignorant of pain. Nowadays, efficient pain management is a crucial component of contemporary surgical treatment. In addition to minimizing patient suffering, post-operative pain management can lower morbidity and speed up recovery.

Analgesia, relaxation breathing, meditation, guided imagery, hypnosis, music therapy, art therapy, acupuncture, aromatherapy, massage therapy, stimulation therapy, transcutaneous electric nerve stimulation, and other non-pharmacological and pharmaceutical methods are fortunately available for managing pain. Reducing or eliminating pain and discomfort with the fewest possible side effects is the aim of post-operative pain management. Guided imagery reduces pain in a number of ways. Initially, individuals can improve their pain tolerance by employing images to divert their attention from their discomfort. Second, imagery may produce a relaxation response that causes muscle relaxation and thereby relieves pain. Last the image can be a healing one; designed not only to relieve pain, but to possibly diminish the source of pain.

Need for the Study

The main issue throughout the postoperative phase is pain. The physiologic and psychological characteristics of the individual, the level of tolerance that follows, the location of the incision, the type of surgery, the magnitude of the surgical trauma, and the type of anesthetic agent employed all influence the degree and intensity of postoperative pain. Sharp, stabbing, and shooting pains are common after surgery. The respiratory, cardiovascular, gastrointestinal, endocrine, and immunological systems can all be impacted by unrelieved postoperative pain.

Pain frequently takes over the mind, obstructing all other feelings and thoughts. Numerous limitations on day-to-day activities and role performance are imposed by chronic pain. Sleep, mobility, employment, income, travel, leisure, and everyday activities are all impacted.

Marion.G., (2010) Most postoperative patients have unrelieved pain despite the use of analgesics. Nurses need additional effective modalities. Relaxation and music in addition to analgesics have been shown to reduce pain more than analgesics alone. Non Pharmacologic adjuvant to analgesics can ease pain without adding side effects.

Mehmetoz (2003), reported that a low cost guided imagery program can help to reduce surgical anxiety, reduce pain and the need for postoperative medication and shorten the hospital stay and possibly reduce surgical bleeding and speed up recovery. Lambert (2004), studied patients before undergoing a variety of surgeries, those who received guided imagery had shorter hospital stays and reported less pain.

One significant type of postoperative morbidity following surgery is postoperative pain. It was discovered that postoperative pain is considerably reduced by relaxing techniques. The visualization and imagination technique known as "guided imagery" has been shown to improve postoperative pain and lower postoperative problems such as anxiety and an inability to handle the stress of surgery. It is still a commonly utilized method for treating and preventing postoperative pain in patients. In order to determine the impact of guided imagery on pain in patients recovering from orthopedic surgery at Shalom Hospital in Swamiyarmadam, the researcher felt compelled to carry out a study.

Statement of the Problem:

A study to assess the effectiveness of Guided Imagery on Pain and its associated behavioral changes among Post orthopedic surgery clients in Selected hospital at Kanyakumari District Tamil Nadu India.

Objectives of the Study

- To assess the level of Pain and its associated behavioral changes among Post orthopedic surgery clients before and after Guided Imagery.
- To evaluate the effectiveness of Guided Imagery on Pain and its associated behavioral changes among Post orthopedic surgery clients.
- To find out the association between the Pain and its associated behavioral changes among Post orthopedic surgery clients with their demographic variables.

Hypotheses

H₁: There will be a significant difference between the mean pre and posttest level of Pain and its associated behavioral changes among Post orthopedic surgery clients.

H₂: There will be a significant association between the level of Pain and its associated behavioral changes among Post orthopedic surgery clients with their demographic variables.

Research Methodology:

The methodology section includes the research approach, research design, variables, settings, population, sample, sample size, sampling technique, sampling criteria, development of the tool, description of the tool, validity, pilot study, data collection procedure, plan for analysis and ethical consideration.

Research Approach:

Quantitative research approach is selected as the aim of the present study is to assess the effectiveness of Guided Imagery on Pain and its associated behavioral changes among Post orthopedic surgery clients.

Research design:

The research design adopted for the study is Quasi Experimental one group pre and post test design.

GROUP	PRE TEST	INTERVENTION	POST TEST
Experimental Group	O1	X	O2

Key:

- O1 - Pre test level of pain & associated behavioral changes
- O2 - Post test level of pain & associated behavioral changes
- X - Application of Guided Imagery

Setting

The study was conducted at Shalom Hospital, Swamiyarmadam Located at Pammam, Marthandam, Kanyakumari District, Tamilnadu.

Sample and sampling technique:

60 Post orthopedic surgery clients admitted in Shalom Hospital, Kanyakumari District were selected by purposive sampling method.

Data Collection Procedure

The data collection procedure was done for a stipulated period of 4 weeks in Selected Hospital at Kanyakumari. Permission to conduct the study was obtained from the Chief of the hospital. The samples were informed by the researcher about the nature and the purpose of the study. The informed written consent was obtained as per rule on the 1st day.

A total of 60 postoperative patients were selected using purposive sampling technique that fulfilling the inclusive criteria. After a brief explanation about the study an oral consent from each patient was obtained before starting the data collection. Pre test level of pain and behavioral changes was assessed. Guided Imagery was presented as a three dimensional view of a waterfall with music by using laptop with headphone. The guided imagery was provided for a range of 15-20 minutes 3 times a day and post test assessed after 5th day.

Results:**Section: I Description of Post Orthopedic Surgery Clients According To Their Demographic Variables**

Table: 1 Frequency and Percentage Distribution of samples according to their demographic variables.
(N = 60)

S.No	Demographic Variables	Frequency(n)	Percentage (%)
1.	Age		
	a)20-30Yrs	34	57%
	b)31-40Yrs	14	23%
	c)41-50Yrs	8	13%
	d)51-60	4	7%
2.	Sex		
	a)Male	22	37%
	b)Female	38	63%
3.	Education		
	a)No formal education	14	23%
	b)Primary education	14	23%
	c)Secondary education	18	30%
	d)Higher Secondary education	12	20%
	e)Graduates & above	2	4%
4.	Type of anesthesia		
	a)General anesthesia	26	43%
	b)Spinal anesthesia	34	57%
5.	Type of Surgery		
	a)Replacement procedures	10	17%
	b)General orthopedic surgeries	50	83%
6.	Family Support		
	a)Present	56	93%
	b)Absent	4	7%

It was inferred in table 1 that among 60 Post orthopedic surgery clients, majority of them belong to 20-30years, female, secondary education, Spinal anesthesia, General orthopedic surgery and Presence of family support.

Section: II Assess the Level Of Pain And Its Associated Behavioral Changes Among Post Orthopedic Surgery Clients Before And After Guided imagery

Table: 2Frequency and percentage distribution of the pretest and Post test level of pain among post orthopedic surgery clients
N=60

Level of Pain	Pre-test		Post-test	
	Frequency(n)	Percentage(%)	Frequency(n)	Percentage(%)
Mild	-	-	20	33%
Moderate	16	27%	40	67%
Severe	44	73%	-	-

The above table 2 shows that out of 60 patients, none had mild pain, 16(27%) of them had moderate pain and 44(73%) of them had severe pain in pre-test and in post-test 20(33%) of them had mild pain, 40(67%) of them had moderate pain and none had severe pain. It was inferred that most of the patients in pre-test had severe pain and most of them had moderate pain in post-test.

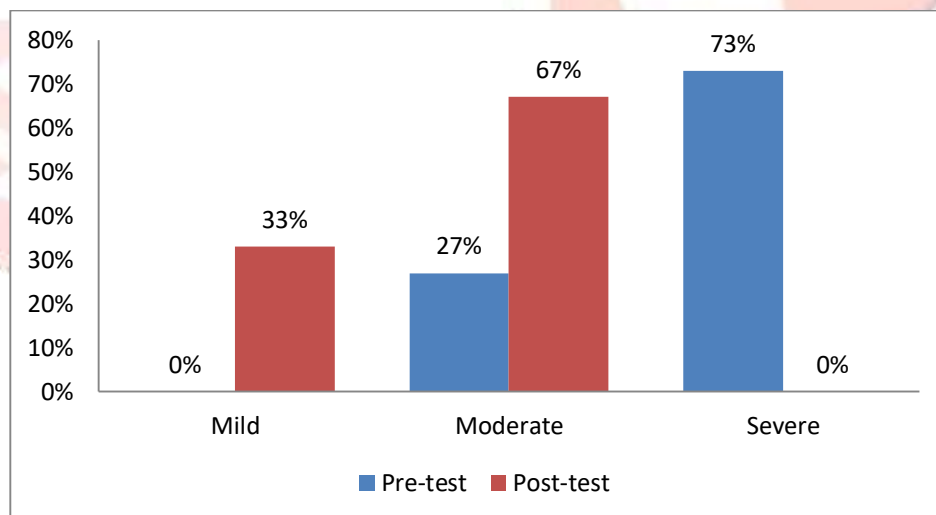


Figure-1 Percentage Distribution of pre and post test level of pain among Hospitalized Clients

Table: 3 Frequency and percentage distribution of the Pretest and Post test level of behavioral changes among post orthopedic surgery clients. N=60

Level of behavioral changes	Pretest		Posttest	
	Frequency(n)	Percentage(%)	Frequency(n)	Percentage(%)
Mild	-	-	18	30%
Moderate	16	27%	42	70%
Severe	44	73%	-	-

behavioral changes and none had severe behavioral changes.

It was inferred that most of the patients in pre-test had severe behavioral changes and most of them had moderate behavioral changes in post-test.

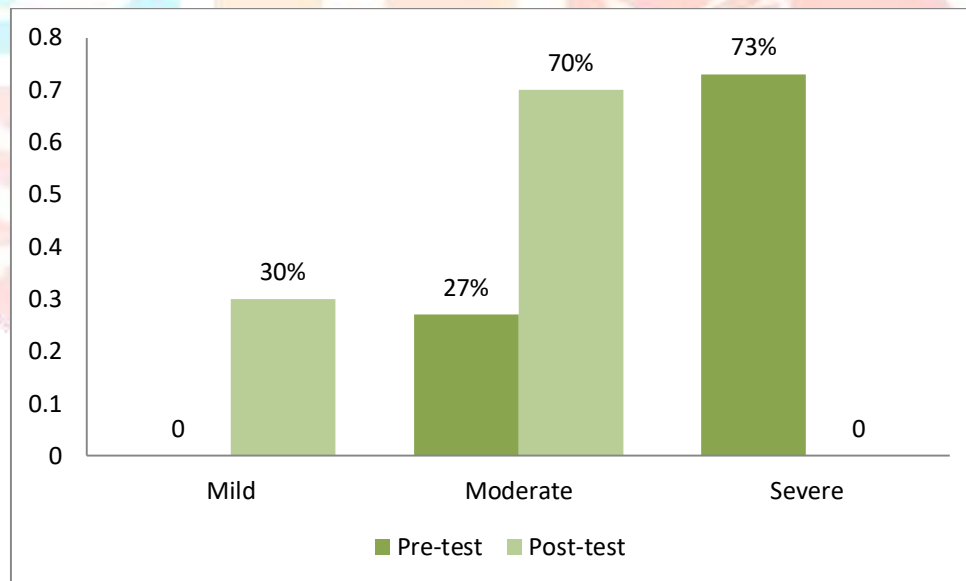


Figure- 2 Percentage Distribution of pre and post test behavior changes among Hospitalized Clients

Section: III Assess The Effectiveness Of Guided Imagery on Pain And Its Associated Behavioral Changes Among Post Orthopedic Surgery Clients.

Table: 4 Comparison of the level of pain among post orthopedic surgery clients before and after guided imagery. N=60

Aspect	Pre-test		Post-test		Paired 't' test Value
	Mean	Standard Deviation	Mean	Standard Deviation	
Level of pain	7.3	1.62	3.83	1.89	37.29* df=29 P<0.05

*Significant

Table: 4 shows that in pre-test, the mean value of level of pain was 7.3 with the standard deviation of 1.62 and post-test mean value of level of pain was 3.83 with the standard deviation of 1.89. The paired 't' test value obtained 37.29 was significant , $P<0.05$

It is inferred that, there is a highly significant decrease in the level of pain among post orthopedic surgery clients after Guided Imagery as measured by the post-test. Hence the stated hypothesis H_1 was accepted.

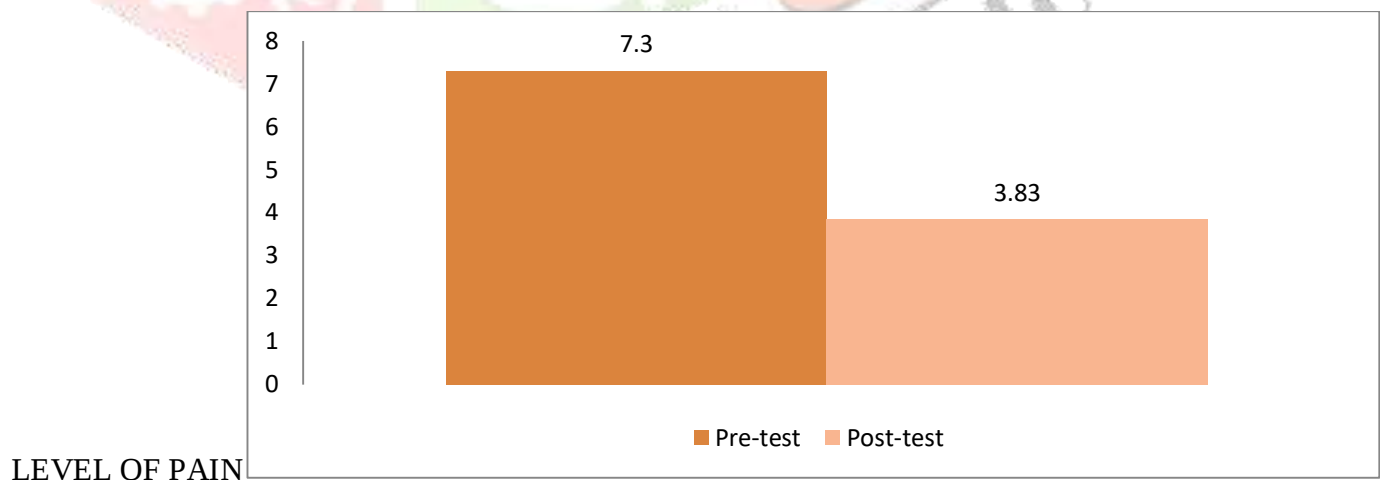


Figure- 3 Mean Distribution of pre and post test level of pain among Hospitalized Clients

Table: 5 Comparison of the Level of Behavioral Changes among Post Orthopedic Surgery Clients Before and After Guided Imagery N=60

Aspect	Pre-test		Post-test		Paired 't' test Value
	Mean	Standard Deviation	Mean	Standard Deviation	
level of behavioral changes	7.5	1.76	4	1.60	37.61* df=29 P<0.05

*Significant

Table: 5 shows that in pre-test, the mean value of level of behavioral changes was 7.5 with the standard deviation of 1.76 and post-test mean value of level of behavioral changes was 4 with the standard deviation of 1.60. The paired 't' test value obtained 37.61 was significant, $P < 0.05$

It is inferred that, there is a highly significant decrease in the level of behavioral changes among post orthopedic surgery clients after Guided Imagery as measured by the post-test. Hence the stated hypothesis H_1 was accepted.

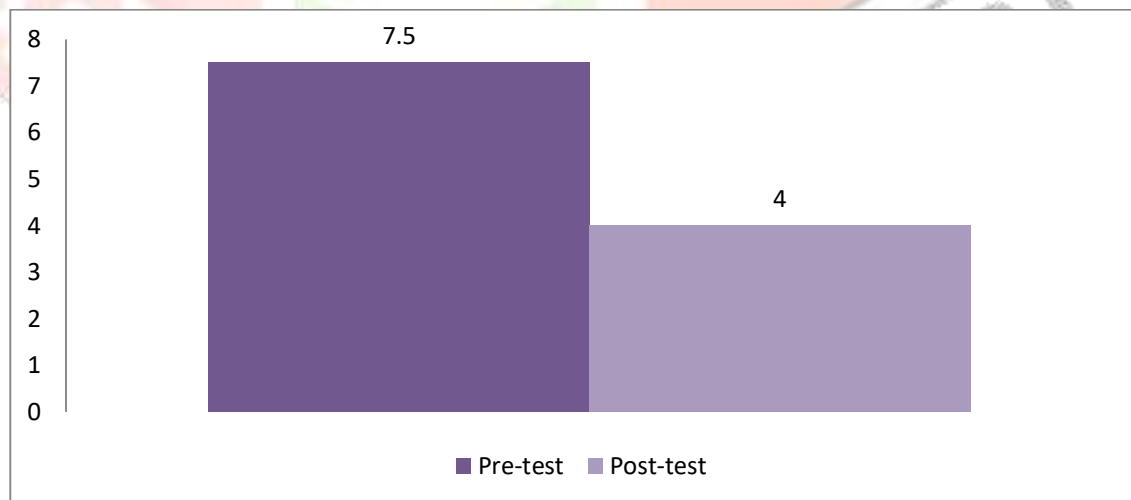


Figure- 4 Mean Distribution of pre and post test behavioral changes among Hospitalized Clients

Section: IV Association between the Post Test Scores on Pain and Its Associated Behavioral Changes among Post Orthopedic Surgery Clients with Their Demographic Variables.

Table: 6 Association between the demographic variables and the post test level of pain of post orthopedic surgery clients.

S.NO	Demographic Variables	Mild Pain		Moderate Pain		Chi-square
		n	%	n	%	
1.	Age					
	a)20-30	12	20	22	37	1.45
	b)31-40	6	10	8	13	P>0.05
	c)41-50	2	3	6	10	NS
2.	Sex					12.11
	a)Male	16	27	6	10	P<0.05
	b)Female	4	7	34	56	S
3.	Education					
	a)No formal education	8	13	6	10	
	b)Primary education	2	3	12	20	4.68
	c)Secondary education	8	13	10	17	P>0.05
	d)Higher Secondary education	2	3	10	17	NS
	e)Graduates & above	-	-	2	3	
4.	Type of anesthesia					1.7
	a)General anesthesia	12	20	14	23	P>0.05
	b)Spinal anesthesia	8	13	26	43	NS
5.	Type of Surgery					0.001
	a)Replacement procedures	12	20	24	40	P>0.05
	b)General orthopedic surgery	8	13	16	27	NS
6.	Family Support					1.08
	a)Present	20	33	36	60	P>0.05
	b)Absent	-	0	4	7	NS

S: Significant NS: Non Significant

Table 6 inferred that there was significant association only between the levels of pain of patients with their sex.

Discussion:

The first objective of the present study was to assess the level of Pain and its associated changes among Post Orthopedic Surgery Clients before Guided Imagery.

In pre test out of 60 patients, none had mild pain, 16(27%) of them had moderate pain and 44(73%) of them had severe pain in pre-test and in post-test 20(33%) of them had mild pain, 40(67%) of them had moderate pain and none had severe pain. It was inferred that most of the patients in pre-test had severe pain and most of them had moderate pain in post-test.

In pretest out of 60 patients, none had mild behavioral changes, 16(27%) of them had moderate behavioral changes and 44(73%) of them had severe behavioral changes in pre-test and in post-test 18(30%) of them had mild behavioral changes, 42(70%) of them had moderate behavioral changes and none had severe behavioral changes.

The second objective was to evaluate the effectiveness of Guided Imagery on Pain and its associated behavioral changes among Post Orthopedic Surgery Clients.

The pre-test, the mean value of level of pain was 7.3 with the standard deviation of 1.62 and post-test mean value of level of pain was 3.83 with the standard deviation of 1.89. The paired 't' test value obtained 37.29 was significant, $P < 0.05$

It is inferred that, there is a highly significant decrease in the level of pain among post orthopedic surgery clients after Guided Imagery as measured by the post-test. Hence the stated hypothesis H_1 was accepted.

The pre-test, the mean value of level of behavioral changes was 7.5 with the standard deviation of 1.76 and post-test mean value of level of behavioral changes was 4 with the standard deviation of 1.60. The paired 't' test value obtained 37.61 was significant, $P < 0.05$

It is inferred that, there is a highly significant decrease in the level of behavioral changes among post orthopedic surgery clients after Guided Imagery as measured by the post-test. Hence the stated hypothesis H_1 was accepted.

The study findings is supported by Jane Valerie(1999) who conducted an experimental study on effect of guided imagery intervention on pain among 45 orthopedic surgery patients. The findings revealed that guided imagery is effective in reducing pain and surgical stress.

The study findings is also supported by kwekkeboom (2003) who conducted one group pre test and post test design on effects of guided imagery on pain among 62 cancer patients. The findings revealed that the Guided Imagery was effective in reducing pain.

The third objective was to determine the association between the post test level of Pain and its associated behavioral changes among Post Orthopedic Surgery Clients with their demographic variables.

The present study findings revealed that in post test, there was significant association only between the levels of pain of patients with their sex($X^2=12.11$). There were no significant association between the level of pain with age, education, type of anesthesia, type of surgery and family support. Also there was no significant association between the levels of behavioral changes with the demographic variables. So the stated hypothesis H_2 was not accepted.

The study findings is also supported by Duggleby W(1994) who conducted an experimental study on cognitive status and post operative pain in older adults. The findings revealed that the demographic variables are unrelated to the pain of patients.

Conclusion

The study concludes that, most of the patients in pre-test had severe pain and most of them had moderate pain in post-test; regarding behavioral changes most of the patients in pre-test had severe behavioral changes and most of them had moderate behavioral changes in post-test. This shows the imperative need to understand the purpose of Guided Imagery regarding reduction of pain and it will improve the health thus relieve the pain of the patients.

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