EFFECTIVENESS OFJACOBSON'S PROGRESSIV MUSCLE RELAXATION ON PAIN AMONG PATIENTS RECEIVING CHEMOTHERAPY

Mrs. Saraswathy. S[1],

[1] *M.Sc (N), Assistant professor, TeerthankerMahaveer University, Moradabad,U.P.*

Abstract:

The study was aimed to evaluate the effectiveness of Jacobson's progressive muscle relaxation on pain among patients receiving chemotherapy. Study was conducted using quasi experimental pre test – post test control group research design, among 60 patients (30 control group and 30 experimental group) atoncology Ward, Government Rajaji Hospital, Madurai. Samples were selected using Non-probability purposive sampling technique and randomly assigned to control and experimental group. Data was collected using Demographic data, Clinical variables and Numerical pain rating scale was used to measure the pain level through self-administration method. Study findings revealed that, in post- test, the mean level of pain in experimental group (M-2.07, S.D-0.69) was lesser than the mean level of pain in control group (M-3,06,S.D-1). (P< 0.001).It indicated that Jacobson's progressive muscle relaxation exercise was effective in reducing the pain among patients receiving chemotherapy.

Keywords: Effectiveness, Pain, Jacobson's Progressive Muscle Relaxation

---

Introduction:

"HEALTHY LIVING: EVERY ONE A WINNER"
- World Health Organization.

Pain serves a biological function. It signals the presence of damage or disease within the body. Although there is no standard method that can be applied to all patients' pain control, pain management should begin with a preventive approach to pain, and both pharmacologic and non-pharmacologic methods should be used together for the most effective pain control.(Allred et al). As a non-Cancer is a leading cause of disease worldwide and GLOBOCAN estimates that 12.7 million new cancer cases occurred worldwide. Lung (1.6 million, 12.7% of the total for men and women), female breast (1.4 million, 10.9% of the total for women), colorectal (1.2 million, 9.7% of the total for men and women) and stomach 2 cancers (1 million, 7.8% of the total for men and women) were the most common, accounting for more than 40% of all cases diagnosed.

pharmacologic method, relaxation exercise helps to reduce pain and anxiety and thereby prevent complications (Yucel, 2000). The use of relaxation exercises will increase patient satisfaction with nursing care as well as providing effective pain control.

Cancer is a dreaded disease and patients suffering from it go under many psychological pressures including pain, fear, stress, tension, depression and anxiety. Patients undergoing conventional cancer treatment also face many emotional upheavals. There is a dire need of relaxation. There are many relaxation techniques used by cancer patients. Relaxation techniques are also used to induce sleep, reduce pain, and calm emotions.

India officially recorded over half a million deaths due to cancer in 2011 – as 5.14 lakhs (2009) and 5.24 lakhs (2010). Uthra Pradesh recorded 89,224 deaths due to cancer, while Maharashtra saw 50,989 fatalities. The Union health ministry says there are about 28 lakhs cases of cancer at any given point of time in India, with 10 lakhs new cases being reported annually. World Health Organization (WHO) says, the estimated cancer deaths in India are projected to increase to 7 lakhs by 2015.

The prevalence of cancer pain is high in the inpatient setting. Up to 46% of hospitalized cancer patients experience moderate to severe pain, and nearly 51% experience episodes of breakthrough pain despite the use of

analgesics. Although clinicians are available to help manage symptoms round the clock, quality improvement research indicates that pain management in the hospital setting remains inadequate and ineffective.

Chemotherapy drugs can have painful side effects. If the drugs cause nerve damage, patient may experience burning, numbness, tingling, or shooting pain most often in the fingers or toes. Mouth sores, headaches, muscle pains, and stomach pains can also result from some chemotherapy drugs.

Progressive Muscle Relaxation therapy (PMR) involves sequential tensing and relaxation of major skeletal muscle groups and aims to reduce feelings of tension, to lower perceived stress, and to induce relaxation. PMR is helped to decrease the arousal of the autonomic and central nervous system and to increase parasympathetic activity.

People may use relaxation techniques as part of a comprehensive plan to treat, prevent, or reduce symptoms of a variety of conditions including stress, high blood pressure, chronic pain, insomnia, depression, labor pain, headache, cardiovascular disease, anxiety, chemotherapy side effects, and others.

Statement of the problem:

A study to evaluate the effectiveness of Jacobson's progressive muscle relaxation on pain among patients receiving chemotherapy, oncology ward, Government Rajaji Hospital, Madurai.

Objectives of the study:

- To assess the pre-test level of pain among patients receiving chemotherapy at oncology ward in experimental and control group.
- To evaluate the effectiveness of Jacobson's progressive muscle relaxation on pain among patients receiving chemotherapy at oncology ward in experimental group.
- To determine the difference between post-test level of pain among patients receiving chemotherapy at oncology ward in experimental and control group
- To evaluate the association between post- test level of pain in relation to demographic variables among patients receiving chemotherapy at oncology ward in experimental group.
- **Hypotheses:**

Hypotheses:

H1: There will be significant difference in pre-test and post-test level of pain amongpatients receiving chemotherapy at oncology ward who has received Jacobson's progressive muscle relaxation exercise in experimental group.
H2: The mean post-test pain level of the experimental group will be significantly lesser than the mean post -test pain level of thepatients receiving chemotherapy at oncology ward in control group.
H3: There will be significant association betweenpost-test level of pain with selected demographic variables among patients receiving chemotherapy at oncology ward in experimental group.

Research Methodology:

Study was conducted using quasi experimental pre test – post test control group research design, among 60 patients (30 control group and 30 experimental group) atoncology Ward, Government Rajaji Hospital, Madurai. Samples were selected using Non-probability purposive sampling technique and randomly assigned to control and experimental group. Data was collected using Demographic data, Clinical variables and Numerical pain rating scale consists of 0-10 point (The extreme left end indicate No pain with a
score of 0, Mild pain being a score of 1-3, Score of 4-6 in Moderate pain and Extreme right end indicate severe pain with a score of 7-10.)was used to measure the pain level through self-administration method. The reliability of the tool was established by split half method with the r=0.707, which shows that the tool was highly reliable.

Results and discussion:

In control group, 30 subjects (100%) have moderate pain in I day pre test. 8 subjects (26.67%) have mild pain, 22 subjects (73.33%) have moderate pain in II day pre-test 79 and 16 subjects (53.33%) have mild pain, 14 subjects (46.67%) have moderate pain in III day pre- test.

In experimental group, 30 subjects (100%) have moderate pain in I day pre- test. 9 subjects (30%) have mild pain, 21 subjects (70%) have moderate pain in II day pre-test and 24 subjects (80%) have mild pain, 6 subjects (20%) have moderate pain in III day pre-test.

The pre-test level of pain among patients receiving chemotherapy at oncology ward in the experimental and control group

There was significant difference between the pre test and post test level of pain among experimental group in the I day. Paired t

test value is 10.01 (DF is 29). P value (<0.05). There was significant difference between the pre test and post test level of pain among experimental group in the II day of experiment. Paired t test value is 8.93 (DF is 29). P value (<0.05). There was significant difference between the pre test and post test level of pain among experimental group in the III day of experiment. Paired t test value is 29 (DF is 29). P value (<0.05).

TABLE 1: Difference between the pre test and post test level of pain among experimental group in day I of experiment.

Test	Mean	Std Deviation	Correlation	Correlation Sig	Paired "t" value	DF	Significant
Pre Test	4.9	0.8	0.865	< 0.05	10.01	29	< 0.05
Post Test	3.83	1.12					

Table 1 reveals that there was significant difference between the pre test and post test level of pain among experimental group in I day of experiment. Paired t test value is 10.01 (DF is 29). P value (<0.05).

TABLE 2: Difference between the pre test and post test level of pain among experimental group in day II of experiment.

Test	Mean	Std Deviation	Correlation	Correlation Sig	Paired T Test "t" value	DF	Significant
Pre Test	4	0.83	0.85	< 0.05	8.93	29	< 0.05
Post Test	3.27	0.78					

Table 2 reveals that there was significant difference between the pre test and post test level of pain among experimental group in the II day of experiment. Paired t test value is 8.93 (DF is 29). P value (<0.05).

TABLE 3: Difference between the pre test and post test level of pain among experimental group in day III of experiment.

Test	Mean	Std Deviation	Correlation	Correlation Sig	Paired T Test "t" value	DF	Significant
Pre Test	3.03	0.72	0.97	< 0.05	29	29	< 0.05
Post Test	2.07	0.69					

Table 3 reveals that there was significant difference between the pre test and post test level of pain among experimental group in the III day of experiment. Paired t test value is 29 (DF is 29). P value (<0.05).

Difference between post test level of pain among patients receiving chemotherapy at oncology ward in experimental and control group

There was significant difference between the post level of pain among control and experimental group of patients in day I of experiment. T- test value for experimental group is 24.81, for control group is 22.32 (DF= 29), P value is 0.0001 > 0.05. There was significant difference between the post level of pain among control and experimental group of patients in day II of experiment. T- test value for experimental group is 22.8, for control group is 23.26 (DF= 29), P value is 0.0001 > 0.05. There was significant difference between the post level of pain among control and experimental group of patients in day III of experiment. T- test value for experimental group is 16.37, for control group is 19.65 (DF= 29), P value is 0.0001 > 0.05.

TABLE 4: Difference between the post test level of pain among control and experimental group in day I of experiment.

Comparison of post test level of pain among experimental and control group for first day					
Group	**Mean**	**SD**	**t-value**	**df**	**sig**
Experimental	3.9	0.86	24.81	29	0.0001
Control	4.2	1.03	22.32	29	0.0001

Table 4 reveals that, there was significant difference between the post level of pain among control and experimental group of patients in day I of experiment. T value for experimental group is 24.81, for control group is 22.32 (DF= 29), P value is 0.0001 > 0.05.

TABLE 5: Difference between the post test level of pain among control and experimental group in day II of experiment.

Comparison of post test level of pain among experimental and control group for second day					
Group	**Mean**	**SD**	**t-value**	**df**	**sig**
Experimental	3.27	0.78	22.8	29	0.0001
Control	4.13	0.97	23.26	29	0.0001

Table 5 reveals that, there was significant difference between the post level of pain among control and experimental group of patients in day II of experiment. T value for experimental group is 22.8, for control group is 23.26 (DF= 29), P value is 0.0001 > 0.05.

TABLE 6: Difference between the post test level of pain among control and experimental group in day III of experiment.

Comparison of post test level of pain among experimental and control group for third day					
Group	**Mean**	**SD**	**t-value**	**df**	**sig**
Experimental	2.07	0.69	16.37	29	0.0001
Control	3.06	1	19.65	29	0.0001

Table 6 reveals that, there was significant difference between the post level of pain among control and experimental group of patients in day III of experiment. T value for experimental group is 16.37, for control group is 19.65 (DF= 29), P value is 0.0001 > 0.05.

Association between post test level of pain in relation to demographic variables among patients receiving chemotherapy at oncology ward

There was no association between the post test level of pain with selected demographic variables such as age, gender and educational status among patients receiving chemotherapy at oncology ward in experimental group in the first, second and third day of experimentation. (NS- Non Significant).

Conclusion:

Overall study findings proved that Jacobson's progressive muscle relaxation exercise reduces the level of pain among patients receiving chemotherapy at oncology ward. The cancer patients who received Jacobson's progressive muscle relaxation exercise had a significant improvement in reduction of pain level than control group. There was no association between post test level of pain and demographic variables such as age, gender and educational status and clinical variables such as medical diagnosis, stage of cancer, duration of illness, number of chemotherapy, analgesics received for pain, location of pain, characteristics of pain, frequency of pain and provoking factors of pain in experimental group.

References:

1. *Basavanthappa B.T. (2009). Medical Surgical nursing. Second edition. Jaypee brothers medical publishers.*
2. *Barabara. K. Timby. (2007). Introductory Medical-Surgical Nursing. London: Lippincott Williams & Wilkins.*
3. *Brunner and Suddarth. (2010). Text book of Medical Surgical Nursing. 11th Edition. JP Lippincott. Philadelphia.*
4. *Campos de Carvalho E, Martins FT, dos Santos CB. (2007).A pilot study of a relaxation technique for management of nausea and vomiting in patients receiving cancer chemotherapy.* Cancer Nursing. *30(2):163-174.*
5. *Kwekkeboom KL, Hau H, Wanta B, Bumpus M. (2008).Patients' perceptions of the effectiveness of guided imagery and progressive muscle relaxation interventions used for cancer pain.* Complement Therapy Clinical Practice.*14 (3):185-94.*