

Effectiveness Of Progressive Muscle Relaxation Therapy On Pain And Fatigue Among Cancer Patients Receiving Chemotherapy In Selected Hospitals, H.P.

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Abstract

Cancer is a large group of diseases that can start in almost any organ or tissue of the body when abnormal cells grow uncontrollably, go beyond their usual boundaries to invade adjoining parts of the body and or spread to other organs. Chemotherapy is widely used treatments for cancer patients to kill or shrink fast- growing cells in the body, but it also cause a various side effects which depend upon the type of drug, dosage and type of cancer.

Objectives:- The aim of the study was to evaluate the effectiveness of progressive muscle relaxation therapy on pain and fatigue among cancer patients receiving chemotherapy.

Methods: True-experimental (Randomized pre-test post-test only design) was adopted. Simple random sampling technique was used to select 40 cancer patients receiving chemotherapy in Regional cancer hospital, Shimla (H.P). Numerical pain rating scale and Fatigue assessment scale were used to collect the data from cancer patients. Progressive muscle relaxation therapy was provide to experimental group only for 2 times a day/ total 3 weeks duration where as control group only receive conventional treatment, after 21 days of intervention post-test was conducted from both the group.

Result: The results showed that the mean pre test score and standard deviation of pain level in experimental group 5.1+1.74 and post test score was 3.3+1.26 respectively mean pre test score and standard deviation of fatigue level in experimental group 24.3+4.47 and post test score was 19.4+2.74 which was highly significant at p value (<0.001) which means the pain and fatigue level of cancer patients is reduced. In control group little difference between pre and post test score of pain level and fatigue level among cancer patients. It also revealed that the post test level of fatigue showed significant association with gender, occupation and pre and post test level of pain and fatigue with type of cancer in experimental group. In control group post test level of pain found statistically significant association with family income at p value of 0.05.

Conclusion: The findings of the study concluded that progressive muscle relaxation therapy showed a significant effect on reducing the level of pain and fatigue among cancer patients receiving chemotherapy.

Keywords: Chemotherapy, pain, fatigue, cancer patient, progressive muscle relaxation.

1. INTRODUCTION

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Health is a resource for everyday life, not the objective of living; it is a positive concept. Health behaviors can be encouraged, such as regular physical exercise and getting enough sleep, while unhealthy behaviors such as smoking or high level of stress can be reduced or avoided. According to the WHO, the social and economic environment, the physical environment as well as a person particular features and actions, are considered the primary determinants of health. Cancer is a broad category of disorders that can begin in practically any organ or tissue of the body when abnormal cells develop uncontrollably, cross their natural boundaries to infect nearby body components, or spread to other organs. This latter process, known as metastasizing, is a significant factor in cancer related fatalities. there are two types of tumors: benign and malignant. The majority of benign tumors are not life threatening because they are not cancerous and do not grow and spread as widely as dangerous tumors. On the other hand, malignant tumors enlarge and disperse to many parts of the body. It is understood how cancer cells spread from the initial tumor site to various areas of the body is known as metastasis.

Cell division that is uncontrolled unplanned, disorganized uncoordinated, and unfavorable is a hallmark of the disease cancer. Unlike normal cell, cancer cells keep growing and dividing their whole lives, producing an increasing number of more harmful cells. Cancer patients deal with a variety of issues, the most prevalent of which are pain and fatigue, which almost all cancer patients experience.

According to WHO, cancer is a leading cause of death worldwide, accounting nearly 10 million death in 2020. Each year, approximately 400,000 children develop cancer. The most common cancers vary between countries. Cervical cancer is the most common cancer in 23 countries between 30 and 50% of cancers can currently be prevented by avoiding risk factors and implementing existing evidence- based prevention strategies. Pain, anxiety and fatigue are common symptoms among cancer patients affecting the quality of life. The prevalence rate is very high. After receiving chemotherapy patients having pain, anxiety and fatigue. These are common symptoms among cancer patients affecting the quality of life.

Cancer patients in hospitals have a relatively high prevalence of pain. Estimates suggest that up to 79% of cancer patients who are hospitalized report experiencing pain. Despite the use of analgesics up to 46% patients still report moderate to severe pain, and 51% patients report episodes of breakthrough pain and. the 5th vital sign Pain is crucial to monitor and manage in cancer patients as well. Cancer patients will experience less suffering overall and have a higher quality of life if their pain is kept to a minimum. Fatigue is also one of the most prevalent symptoms among cancer patients.

Relaxation of body and mind has a significant effect on the prognosis of the patient. With the relaxation of body and mind one individual can increase the particular dimension of personality, improve the good qualities and change unhealthy habits and attitudes. Edmund Jacobson developed the progressive muscle relaxation technique (PMRT) in the year 1920s as an alternative tool to assist patients to alleviate anxiety. It was proved that physical relaxation had a positive relationship with the mental and psychological relaxation.

Progressive muscle relaxation is a form of therapy had involves tightening ad relaxing your muscles groups, one at a time, in a specific pattern. The goal is to release tension from your muscles, while helping you recognize what that tension feels like.

Progressive muscle relaxation therapy used in various types of cancer patients like breast cancer, lung cancer, cervix cancer and others to reduce the pain and fatigue level. While inhaling, contract one muscle group for 5 seconds to 10 seconds, then exhale and suddenly release the tension in that muscle group, after 10 seconds move on the next muscle group.

Chemotherapy is the practice of using medications to destroy cancer cells. This type of cancer treatment works by preventing cancer cells from growing, dividing, and making more cells. Chemotherapy is a treatment option for a wide range of malignancies. Chemotherapy is the systemic medication. This means it travels through the bloodstream and reaches all parts of the body. Patients who get chemotherapy experience a variety of physical symptoms.

STATEMENT OF PROBLEM

A study to evaluate the effectiveness of progressive muscle relaxation therapy on pain and fatigue among cancer patients receiving chemotherapy in selected hospitals, H.P.

OBJECTIVES OF THE STUDY

1. To assess the pre and post interventional level of pain and fatigue among cancer patients receiving chemotherapy in experimental and control group.
2. To compare pre and post interventional level of pain and fatigue among cancer patients receiving chemotherapy in experimental and control group.
3. To find out the association between pre and post interventional level of pain and fatigue with selected socio demographical variables in experimental and control group.

2. REVIEW OF LITERATURE

Pradhan J. 2020 was conducted a true experimental study to evaluate the effect of progressive muscle relaxation therapy on the level of anxiety among hospitalized cancer patients. Non- probability purposive sampling technique was used and sample size was 50. Standardized Generalised Anxiety Disorder Questionnaire was used in this study. According to the finding of this study it was observed that the treatment group level of anxiety was an extremely statistical significance while the control group level of anxiety was not statistical significant. It also revealed that the level of anxiety showed a significance association with education and occupation.

Bhatia M. 2020 was conducted a study to evaluate the effectiveness of Progressive Muscle Relaxation Therapy on Physical Symptoms among cancer patients receiving chemotherapy admitted in Cancer Unit of Institute of Liver and

Biliary Sciences, Delhi. Quasi experimental with pre test post test control group design was used in this study and sampling technique was convenient with a sample size of 40. The result showed that the experimental group mean pre test insomnia score was 11 which was significantly reduced to 5.17 after the PMRT in with p value 0.02. in the experimental group there was a similar difference between mean pre-test and post- test grades of fatigue that was statistically significant at 0.01 level. the experimental group and comparison groups mean post test grades of fatigue and post-test scores of insomnia differed significantly from one another. The conclusion of this study is PMRT effective in decreasing the physical symptoms of insomnia and fatigue in cancer patients at the institute of Liver and Biliary Sciences .

3. RESEARCH METHODOLOGY

The research design adopted for this study was true experimental randomized design. Equal numbers of participants were allotted under control group and experimental group. The selection of participants was done through simple random sampling technique. The sample for this study comprised of patient of age group 36 - >50 years. Sample size was 40. Cancer patients allocated in two groups, experimental group contained 20 patients and control group contained 20 patients. In this study variables are age, gender, education, occupation, dietary habit, personal habits, monthly family income and stages of cancer, duration of disease, number of chemotherapy session underwent, type of cancer.

Numerical pain rating scale and Fatigue assessment scale were used to collect the data from cancer patients. Progressive muscle relaxation therapy was provide to experimental group only for 2 times a day/ total 3 weeks duration where as control group only receive conventional treatment, after 21 days of intervention post-test was conducted from both the group.

4. RESULTS

OBJECTIVE-1: To assess the pre and post interventional level of pain and fatigue among cancer patients receiving chemotherapy in experimental and control group.

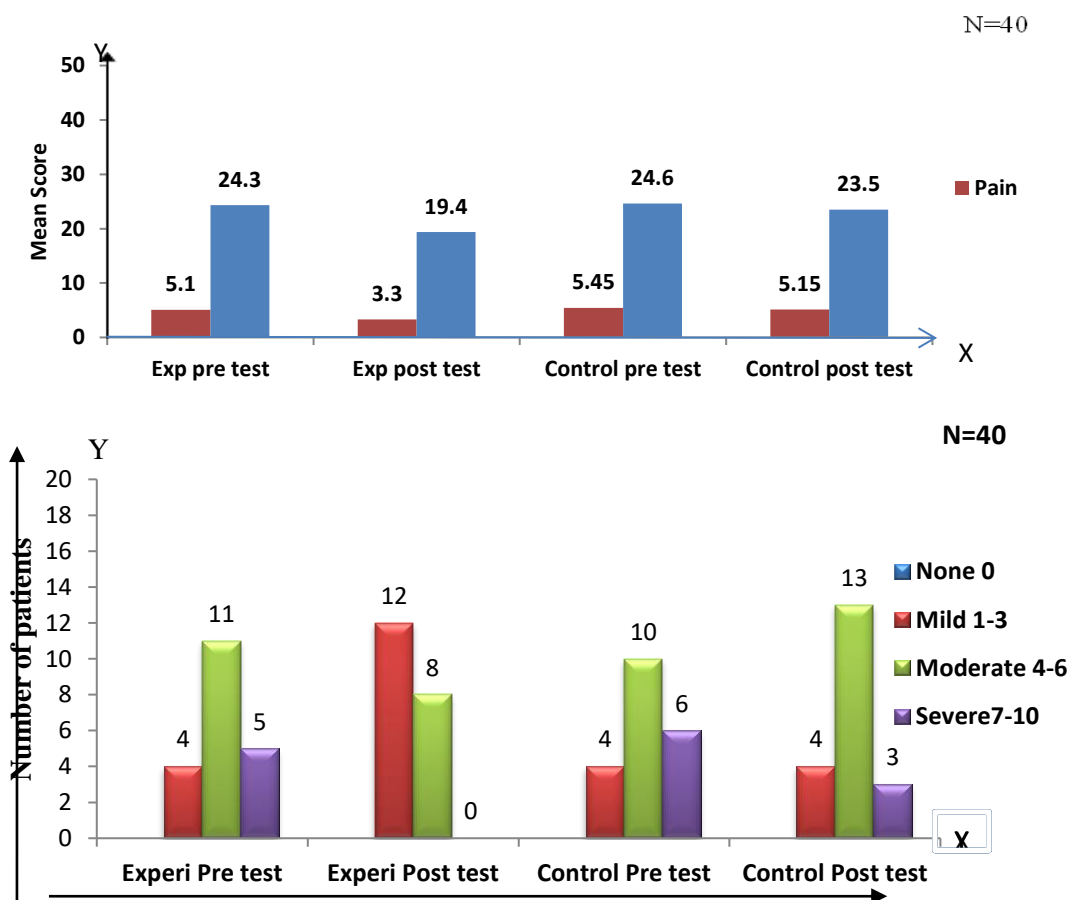


Figure 4.2: Criterion measure of pre and post level of pain in experimental and control group

Figure 4.2: depicts; as per numerical pain rating scale, cancer patients in experimental group pre test was 4(20%) and post test was 12(60%) had mild pain, pre test was 11(55%) and post test was 8(55%) had moderate pain, pre test was 5(25%) and post test 0% had severe pain. In control group pre test was 4(20%) and post test was 4(20%) had mild pain, pre test was 10(50%) and post test was 13(65%) had moderate pain, pre test was 6(30%) and post test was 3(15%) had severe pain.

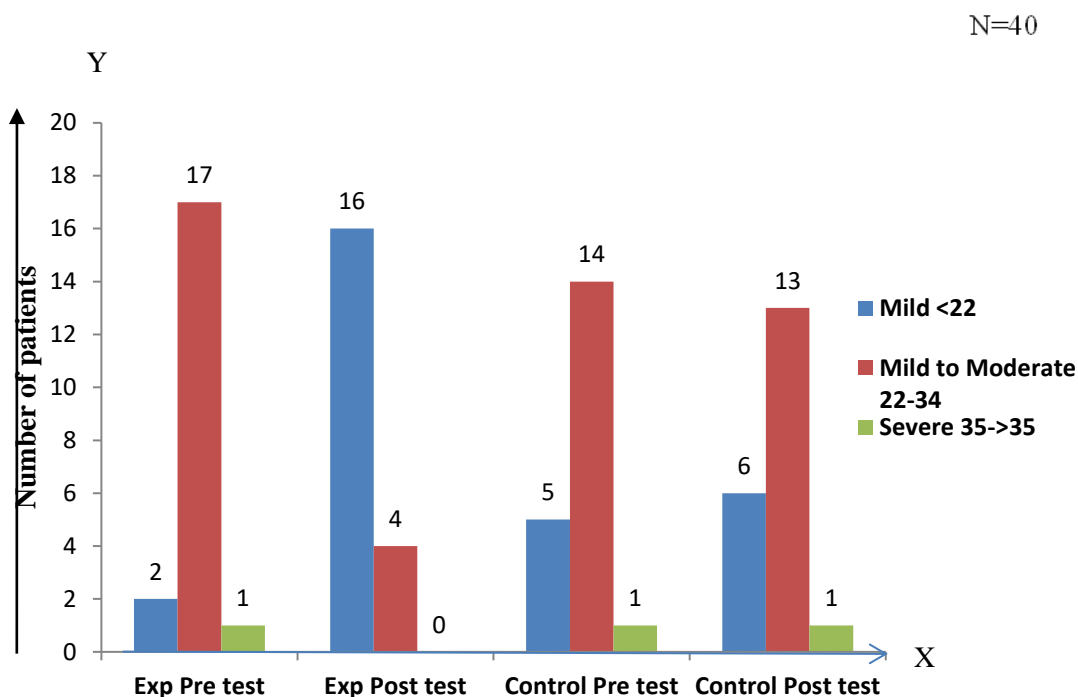


Figure 4.3: Criterain measure of pre and post level of fatigue in experimental group and control group

Figure 4.3: depicts, as per the fatigue assessment scale cancer patients in experimental group pre test was 2(10%) and post test was 16(80%) had normal fatigue, pre test was 17(85%) and post test was 4(20%) had mild to moderate fatigue, pre test was 1(5%) and post test was 0% had severe fatigue. In control group pre test was 5(25%) and post test was 6(30%) had normal fatigue, pre test was 14(70%) and post test was 13(65%) had mild to moderate fatigue, pre test was 1(5%) and post test was 1(5%) had severe fatigue.

OBJECTIVE-2: To compare the pre and post interventional level of pain and fatigue among cancer patients receiving chemotherapy in experimental and control group.

Group	Experimental group		t (a ¹ +b ¹)	Control group		t (a ¹ +b ¹)
	Pre-test	Post-test		Pretest	Posttest	
	Mean±SD	Mean±SD		Mean±SD	Mean±SD	
Pain Score	5.1± 1.74	3.3±1.26	**6.28	5.45± 1.70	5.15± 1.63	1.45
Fatigue Score	24.3±4.47	19.4±2.74	**9.96	24.6±5.06	23.5± 4.66	3.80
a+b	t	t		t	t	
	19.37	25.99		18.55	19.48	

5. DISCUSSION

Finding related to assess the Pre and post interventional level of pain and fatigue in experimental and control group

The finding of the present study showed that pre test mean score for pain in experimental group was 5.1 and SD was 1.74 and post test mean score was 3.3 and SD was 1.26. Pre test mean score in control group was 5.45 and SD was 1.70 and post test mean score was 5.15 and SD was 1.63. Pre test mean score for fatigue in experimental group was 24.3 and SD was 4.47 and post test mean score was 19.4 and SD was 2.74. Pre test mean score in control group was 24.6 and SD

was 5.06 and post test mean score was 23.5 and SD was 4.66. Hence the research hypothesis was accepted it means after the administration of progressive muscle relaxation therapy pain and fatigue level of cancer patients was improved.

Finding related to compare the pre and post interventional level of pain and fatigue in experimental group and control group.

The finding of the study showed that pre test level of pain in experimental group was 5.1 ± 1.74 , post test was 3.3 ± 1.26 and t- value was 6.28, pre test fatigue was 24.3 ± 4.47 , post test was 19.4 ± 2.74 and t- value was 9.969. Pre test level of pain in control group was 5.45 ± 1.70 , post test was 5.15 ± 1.63 and t-value was 1.452, pre test level of fatigue was 24.6 ± 5.06 , post test was 23.5 ± 4.66 and t-value was 3.804. In experimental group pre test pain level and fatigue level t- value was 19.37 and post test pain level and fatigue level t- value was 25.99. In control group pre test pain level and fatigue level t- value was 18.55 and post test pain level and fatigue level t- value was 19.48.

Hence it is inferred that progressive muscle relaxation therapy has high impact in reducing level of pain and fatigue among cancer patients in experimental group as compare to control group.

Finding related to association between pre and post interventional level of pain and fatigue with socio demographical variable in experimental and control group.

The findings of the study showed that the socio-demographic variables of the study participants in experimental group and control group. The ANOVA was used to find out the association with socio demographic variables, there were the significant association between post test level of fatigue with gender, occupation and significant association between pre and post test level of pain and fatigue with type of cancer in experimental group. In control group post level of pain found statistically significant association with monthly family income at p value of 0.05.

6. CONCLUSION

The present study was done to evaluate the effectiveness of progressive muscle relaxation therapy on pain and fatigue among cancer patients receiving chemotherapy in selected hospitals, H.P. The cancer patients were equally divided into two groups' i.e Experimental group and control group. Pre-test was conducted in both groups, intervention was given to experimental group only where as control group receive conventional treatment only. After few days of intervention post-test was conducted of both the groups. The study findings revealed that there was highly significant improvement in reducing intensity of pain and fatigue in experimental group after the intervention. Statistically significant association was found between post test level of fatigue with gender, occupation and significant association between pre and post test level of pain and fatigue with type of cancer in experimental group. In control group post test level of pain was found highly statistically significant association with monthly family income. The research hypothesis H_1 and H_2 was accepted in this study.

REFERENCES:

1. Health and well-being- World Health Organization (WHO) [Internet] (cited July 11, 2023) Available from <https://www.who.int/data/gho/data/majorthemes/health-and-well-being>
2. World health organization. Cancer (internet).global.(WHO) (updated 2022 Feb 03) Available from <https://www.who.int/news-room/fact-sheets/detail/cancer>.
3. Pathak P, Mahal R, Kohli A, Nimbran V. Progressive Muscle Relaxation: An adjuvant therapy for reducing pain and fatigue among hospitalized cancer patients receiving radiotherapy. *Int J Adv Nurs Stud*. 2013 Jul 1;2(2):58-65.
4. Pradhan J, Pradhan R, Samantaray K, Pahantasingh S. Progressive muscle relaxation therapy on anxiety among hospitalized cancer patients. *European Journal of Molecular & Clinical Medicine*. 2020;7(8):1485-8.
5. Batra A, Kalyani CV, Rohilla KK. Incidence and severity of self-reported chemotherapy side-effects in patients with hematolymphoid malignancies: A cross-sectional study. *Cancer Research, Statistics, and Treatment*. 2020 Oct 1;3(4):736-41.
6. Bhatia M, Verma M, Kumar R. Effectiveness of Progressive Muscle Relaxation Therapy on Physical Symptoms among Cancer Patients receiving Chemotherapy admitted in Cancer Unit of Institute of Liver and Biliary Sciences, Delhi. *Int J Sci & Healthcare Res*. 2020;5(4):221-32.
7. Gupta B, Kumari M, Kaur T. Effectiveness of progressive muscle relaxation technique on physical symptoms among patients receiving chemotherapy. *Nursing & Midwifery Research Journal*. 2016 Jan;12(1):33-40.
8. D Sagayamary RJ. A Study to assess the effectiveness of progressive muscle relaxation technique on the level of pain and fatigue among cancer patients receiving chemotherapy at Ashwin Hospital, Coimbatore (Doctoral dissertation, PPG College of Nursing, Coimbatore)