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Progressive muscle relaxation therapy on anxiety among hospitalized cancer patients.

Jhunilata Pradhan,
Assistant Professor, Faculty of nursing, Siksha O Anusandhan (Deemed to be University), Bhubaneswar, 751003, Odisha, India." Email address: pradhan.jhunilata@gmail.com (First & Corresponding Author)
Rubi Pradhan,
Assistant Professor, Faculty of nursing, Siksha O Anusandhan (Deemed to be University), Bhubaneswar, 751003, Odisha, India
Krishna kumari Samantaray,
Assistant Professor, Faculty of nursing, Siksha O Anusandhan (Deemed to be University), Bhubaneswar, 751003, Odisha, India.
Suchismita Pahantasingh,
Assistant Professor, Faculty of nursing, Siksha O Anusandhan (Deemed to be University), Bhubaneswar, 751003, Odisha, India.

Abstract: Objective- To evaluate the effect of "progressive muscle relaxation therapy" on the level of anxiety among hospitalized cancer patients. Methods- An quantitative true experimental study was conducted among the cancer patient admitted in the hospital. Non-probability purposive sampling was used to select 50 samples in two groups as a control and treatment group with 25 samples in each group. Pre-test of anxiety was assessed in each group by using a standardized Generalised Anxiety Disorder Questionnaire. The treatment group received progressive muscle relaxation therapy for 15 days where the control group was given the conservative treatment. Again post-test of anxiety was done from each group by using the same tool. The result- It was observed that there was an extremely statistical significance in the level of anxiety in the treatment group and no statistical significance in the level of anxiety in the control group. It also revealed that the level of anxiety showed a significant association with education and occupation. Conclusion- This study concluded that progressive muscle relaxation therapy can be used as an alternative tool to reduce the anxiety level among cancer patients.

Keywords- progressive muscle relaxation therapy, level of anxiety, cancer patient.

INTRODUCTION

Cancer is a very serious and deadly diagnosis and a person will be distressed when it will be diagnosed.[1] Patients who admitted with cancer and remain in hospital usually go through tedious physical and mental symptoms. Due to the existence of these symptoms the patient's delay and unwillingness in seeking hospitalization.[2] The complication of cancer processes and therapy is combined with emotional distress, therefore, many patients showed symptoms of anxiety and depression. Hospitalization for a long duration is a stressful and threatening experience for all patients and also is associated with more distress and nervousness from the time of hospital admission to a prolonged hospital stay.[3] The universal incidence of cancer rate is calculated as 18.1 million diagnosed as a new case and death as 9.6 million during 2018. It is also estimated that universally from total population 1 person

out of 5 men and 1 person out 6 women diagnosed as cancer during their total life and the mortality rate is 1 person in 8 men and 1 person in 11 women. A maximum number of people (43.8 million) are spending their life who are diagnosed as cancer for 5 years, known as 5 years prevalence.[4]

A cancer diagnosis can build the utmost interruption in almost any individual's life. It will also establish the risk to one's general sense of security and order of life. Though the major aspects of cancers are treatable, still most of the people showed anxiety that any cancer represents pain, suffering, and death. Holland (2002) concluded that cancer has the strongest negative stigma than other diseases.[5] 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.[6] Edmund Jacobson created 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.[7] Therefore the study purpose to evaluate the effect of "progressive muscle relaxation technique" on the level of anxiety among the patient admitted in hospital and diagnosed as cancer. Prolong period of hospitalization in chronic patients may lead to increasing levels of stress, anxiety and depression.[8] This type of mixed symptoms is quite usual for the patient diagnosed with cancer. Approximately two-thirds of cancer patients showed depression also have a significant level of anxiety, which may affect their treatment and prognosis.[9]

MATERIALS AND METHODS

Sample and setting

In this study quantitative research design with quasi-experimental pre-test and post-test design was adopted with 50 patients who were diagnosed as cancer admitted in IMS and SUM Hospital, Bhubaneswar, Odisha, INDIA. In the purposive sampling technique Sample was divided into two groups 25 in experimental and 25 in the control group. patients diagnosed with cancer stage I and Stage II were considered as eligible sample. In this study, Progressive Muscle Relaxation Technique was defined as constriction and relaxation of a specific group of muscles in a logical sequence. The therapy was started with deep breathing exercises followed by feet, abdomen shoulders and neck. From every study sample one written informed consent was taken. Risk minimization and benefit maximization was secured for all participant. The research committee of Sum Nursing College and IMS and SUM Hospital, Bhubaneswar, Odisha, approved the study.

Procedure

The study sample was divided into two groups. Pre-test on level of anxiety was taken from each group with a generalized anxiety disorder questionnaire. The treatment group received progressive muscle relaxation therapy for 20 minutes for 15 days. In the end again the level of anxiety was assessed from the sample by using the same scale from the two groups.

Data collection

Data was collected from the study sample include demographic (Age, Gender, Education, Type of family, Occupation and marital status.) and the level of anxiety was assessed by using a standardized tool (Generalised Anxiety Disorder Questionnaire).

Statistical analysis

A descriptive statistical analysis was done taking demographic variables in frequency and percentage. A paired t-test was done to evaluate the effect of muscle relaxation therapy in the treatment and control group separately and an unpaired t-test was done within the treatment and control group. A chi-square test was done to identify the association of level of anxiety with socio-demographic variables.

RESULT AND DISCUSSION

A total of 50 samples participated in the study where 25 were experimental and 25 were in the control group. The maximum number of samples was in the age group 30-40 yrs which is 48% and 52% both in the control and experimental group respectively. In the experimental group 72 % were male 40% completed graduate, 72% having nuclear family, 36% having own business, and 80% of the study sample were married. Where in the control group 60% were female, 36% completed graduate, 80% having nuclear family, 56% were homemaker and 64% study sample were married (Table 1).

It was observed by the paired "t" test the level of anxiety was extremely statistically significant ($p< 0.0001$) in the treatment group and no statistically significant ($p < 0.482$) in the control group (Table 2). Again, the study indicated by unpaired "t" test level of anxiety was extremely statistically significant ($p< 0.0001$) within the treatment and control group (Table 3). Further results indicated that the level of anxiety showed a significant association with education and occupation (Table 4).

A quasi-experimental study was conducted by Young –Jae Kim, Nam –Sook Seo (2010) with a purpose to assess the effect of "progressive muscle relaxation" on depression, anxiety, nausea, vomiting, and fatigue in cancer patients undergoing chemotherapy. Non-equivalent control group pre-test post-test design was adopted with two group 39 in the experimental group and 35 in the control group. The experimental group was given muscle relation therapy daily for 20 min for 3 weeks. The result of the study revealed that there was a significant reduction in the level of anxiety in the experimental group than the control group.[10]

Another pre-experimental study was conducted by Ajay Kumar Ghodela et al to evaluate the progressive muscle relaxation therapy on anxiety and depression on elderly people of old age homes. The study was conducted with one group pretest-posttest design and Non-probability convenience sampling technique was used to select 50 elderly of selected old age homes of Rajasthan. Hamilton Anxiety Rating Scale and the Geriatric Depression Scale were used to assess anxiety and depression, respectively. "Progressive muscle relaxation technique" (PMRT) was implemented as once a day for 10 days for 20–30 min. The study concluded that 28.0% elderly had moderate anxiety and 100% had depressive symptoms in the pre-test. After PMRT, anxiety and depression reduced significantly at $P < 0.05$. The study concluded that "progressive muscle relaxation" is effective to alleviate anxiety and depression among the elderly.[11]

CONCLUSION

Based on the findings the study concluded that Progressive Muscle Relaxation Therapy may reduce the level of anxiety among cancer patients and can be used as an alternative therapy for the patient admitted in hospital. The psychological wellbeing of cancer patients may have a positive impact on their better prognosis.

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Ethical statement: This study was approved by the institutional ethical committee and prior consent of the patient was taken before the data collection.

Conflict of interest: The authors declare that there is no conflict of interest.

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Table 1. Sample distribution according to demographic.

		Experimental		Control	
		frequency	percentage	frequency	percentage
Age(yr)	<20	1	4	1	4
	21-30	4	16	4	16
	31-40	12	48	13	52
	>40	8	32	7	28
Gender	Male	18	72	10	40
	Female	7	28	15	60
Education	Under matric	9	36	6	24
	matriculates	4	16	4	16

	Graduate and above	10	40	9	36
	illiterate	2	8	6	24
Type of family	Nuclear	18	72	20	80
	Joint	7	28	5	20
	extended	0	0	0	0
	Broken family	0	0	0	0
Occupation	Government	2	8	1	4
	Private sector	5	20	8	32
	Own business	9	36	2	8
	Home maker	9	36	14	56
Marital status	married	20	80	16	64
	unmarried	5	20	9	36

Table 2. Effect of progressive muscle relaxation therapy on anxiety by using the paired t-test.

Anxiety	MEAN OF D (post-pre-test)	SD	Paired t-Test	DF	P-Value	inference
Treatment group	5.56	5.62	4.946	24	0.0001	Extremely statistically significant
Control group	-0.52	3.641	-0.714	24	0.482	Not statistically significant

Table 3. Effect of progressive muscle relaxation therapy on anxiety by using unpaired t-test.

Item	Group	Mean	Sd	un paired t-test	Df	P-value	Inference
Anxiety	Treatment Control	5.28 11.6	5.333	7.889	24	0.0001	Extremely Statistically significant

Table 4. Association of anxiety with selected demographic variable

SL NO	Demographic variable	Chi-square value	DF	Inference
1	Age	5.62	2	NSS
2	Gender	0.15	1	NSS
3	Education	9.86	2	VSS
4	Family	0.43	3	NSS
5	occupation	11.7	4	SS