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Original Research Paper

Nursing

A STUDY TO ASSESS EFFECTIVENESS OF MUSIC ON ANXIETY AMONG PATIENTS RECEIVING CHEMOTHERAPY AT TERTIARY CARE HOSPITAL, KARAD

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ABSTRACT

Objectives: (1) Assess the anxiety level among patients receiving chemotherapy at tertiary care hospital, karad. 2) Determine the effectiveness of music on the anxiety level among patients receiving Chemotherapy at tertiary care hospital, karad.3) To find the association between level of anxiety and socio-demographic variables.

Methods: The research approach adopted for this study was an evaluative approach, where the research design was a one group pre-test, post-test research design. The study was conducted in the chemotherapy unit in Krishna Hospital, Karad. The sample consists of 60 patients undergoing chemotherapy treatment. A convenient sampling technique was used to select the sample. The Music intervention was given for the 20 minutes who are receiving chemotherapy and it was administered for continuous 3 days and post test was conducted on the 4th day. Every patients level of anxiety was assessed using Hamilton Anxiety Rating scale. The data were analyzed using descriptive and inferential statistics.

Results: The Mean Post-test anxiety score 30.87 is significantly lower than the Mean Pre-test anxiety score 37.08. The calculated t value is 20.54 was found significant at $P<0.001$ level. The study finding revealed that music was effective in reducing level of anxiety among patients receiving chemotherapy.

Conclusion: The study results shows that the music therapy was effective to reduce the level of anxiety among patients receiving chemotherapy.

KEYWORDS : Effectiveness, Music Therapy, Anxiety, Chemotherapy.

INTRODUCTION

Health is defined by WHO (1947) as a "State of complete physical, mental and social well being and not merely the absence of disease and infirmity.[1] Health is the ability of a biological system to acquire, convert, allocate, distribute and utilize energy with maximum efficiency.[2] Good health is imperative for all individuals to function as citizens, interact with others and be economically productive. Health can be affected due to many causes that may range from physical, social, and mental afflictions. One among them is the silent killer, cancer.

The face of health care, including scientific knowledge and care delivery systems, is ever changing, Likewise, the experience of cancer is changing for our clients and families. Today a person confronted with a new diagnosis often knows someone who has survived cancer; yet cancer remains a frightening unknown for many.[3]

The term cancer is used to refer to malignant neoplasm. Cancer is a disease of the cell in which the normal mechanisms for control of growth and proliferation have been altered. It is invasive, spreading directly to surrounding tissue as well as to new sites in the body.[4] The World Cancer day is observed on 4 February every year. Cancer is the second leading cause of death worldwide. [5] In 2015, about 90.5 million people had cancer. About 14.1 million new cases occur a year (Not including skin cancer other than melanoma). It caused about 8.8 million death (15.7% of deaths). The most common type of the cancer in males are lung cancer, prostate cancer, colorectal cancer, and stomach cancer. In females, the most common types are breast cancer, colorectal cancer, lung cancer and cervical cancer.[6]

Many people with cancer have symptom of anxiety. Anxiety may be described as feeling nervous, on edge, or worried. It is a normal emotion that alerts your body to respond to a threat. But intense and long-term anxiety is a disorder. It may interfere with your daily life and relationships. Acute anxiety occurs in short episodes that end quickly. Chronic anxiety remains over time. A cancer diagnosis may trigger these feelings like, Fear of treatment or treatment-related side effects, Fear of cancer returning or spreading after treatment, Uncertainty, Worry over losing independence, Concern about having relationships change, Fear of death.[7]

Everyone experiences some degree of anxiety on being confronted with illness, and certain physical and emotional symptoms associated with anxiety should be differentiated from the symptoms of the illness. illness sometimes leads to introspective thoughts about the meaning of life. The ill person may begin to realize that life is short and death inevitable. Such thoughts produce anxiety; foe some, this introspection can help uncover personal sources of strength and faith.[8]

Cancer has many side effects and most notable consequences are anxiety and depression. It is reported that 75% of patients at the final stage of cancer, experience anxiety. The previous studies in Iran indicated that 20% of cancer patients suffer from anxiety. Further more, cancer may cause feelings of displeasure, stay away from friends or family, lack of motivation and defeat intolerance, decreased libido, decease or increase in appetite and weight, decreased energy and cause fatigue, sleep disturbances, menstrual disorders, constipation, dry mouth, and headache.[9]

Chemotherapy is one of the treatment modalities for cancer patient. Chemotherapy= Chemo- Chemistry, Therapy-Treatment.[10] Chemotherapy helps to: Cure-In some cases the treatment can destroy cancer cells to the point that your doctor can no longer detect them in your body, Control- In some cases it may only be able to keep cancer from spreading to the Other parts of your body or slow the growth of cancer tumors. Ease Symptoms-It helps to ease the symptoms.[11]

Mechanism of Action: Antineoplastic drugs destroy tumor cells by interfering with the cellular function, metabolism and reproduction.[12] Some Short term side effects of chemotherapy includes Hair loss, Fatigue, Infertility, Lung Damage, Cognitive impairment, gastrointestinal damage and some long term side effects are Nervous tissue damage, Hematuria, Organ damage etc.[13]

There are so many complementary therapies to treat anxiety of the chemotherapy patients and one of them is music therapy like Raga Bhairavi which is the Indian classical instrumental music. The soft notes and their smooth rendering with pleasant touches.It's composition includes several Thumris, Bhajans, Ghazals, songs etc.

Music has been recognized since ancient times as having a positive effect on healing. The use of music in health care situations has been credited with reducing patient's anxiety and fear, promoting comfort and providing distraction and pleasure.[14]

According to the American Music Therapy Association " Music therapy uses music to address physical, emotional, cognitive, and social needs of patients of all ages and ability. Music therapy interventions can be designed to promote wellness, manage stress, alleviate pain, express feelings, enhance memory, improve communication and promote physical rehabilitation. Music therapy in oncology uses music in preventive, curative and palliative cancer care and is very helpful to a wide variety of patients who suffer from a large range of neoplasm. Music therapy in cancer care focuses on both physiological and psychological needs arising from side effects of cancer treatment and disease.[15]

One may not be able to completely cure cancer but as a nursing person one can be able to reduce anxiety at some extend using music like raga Bhairavi.

So the investigator is interested to Assess The Effectiveness Of Music On Anxiety Among Patients Receiving Chemotherapy At Tertiary Care Hospital, Karad.

PROBLEM STATEMENT

"A study to assess effectiveness of music on anxiety among patients receiving chemotherapy at tertiary care hospital, karad".

Objectives of The Study:

1) Assess the anxiety level among patients receiving chemotherapy at tertiary care hospital, karad.
2) Determine the effectiveness of music on the anxiety level among patients receiving Chemotherapy at tertiary care hospital, karad.
3) To find the association between level of anxiety and socio-demographic variables.

METHODS:

The one group pre-test, post-test research design was used to conduct the study among patients receiving chemotherapy in Krishna Hospital, Karad. Totally 60 chemotherapy receiving patients were allotted in the study by convenient sampling technique. The samples included in this study were who fulfilled the inclusion criteria with the age of 30-70 years both males and females, Speaks Marathi and able to write and read it and available at the time of data collection. Samples with sensory deprivation, not willing to participate, not able to read and write Marathi and not interested in listening music were excluded from the study.

Research Ethics Committee of the Krishna Institute of Medical Sciences Deemed University, Karad, had given permission before the data collection. After obtaining permission from the setting, the patients were asked their willingness to participate in the study and informed consent was obtained. After collecting the demographic data, the pre-test level of anxiety among patients receiving chemotherapy was assessed using a Hamilton anxiety rating scale. After the pre-test, the sample received music therapy for the 20 minutes and it was administered for continuous 3 days and at the end of the 4th day, the post-test level of anxiety was assessed by the same tool.

DESCRIPTION OF THE TOOL

The structured questionnaire comprised two sections covering the following areas.

Section A: Demographic variables- Consists of questionnaire to collect the demographic data which consists of 13 items that includes age, sex, religion, habit, educational status, occupation, marital status, monthly income, residency, number of childrens, type of family, family history of cancer, and when diagnosed with cancer.

Section B: Hamilton Anxiety scale for anxiety- The Hamilton anxiety rating scale consists of 14 items designed to assess the severity of a patient's anxiety. Each of the 14 items contains a number of symptoms, and each group of symptoms is rated on a scale of zero to four, with '0' being a no anxiety, '1' indicate mild anxiety, '2' indicate moderate anxiety, '3' indicate severe anxiety and '4' being the most severe. All of these scores are used to compute an overarching score that indicates a person's anxiety severity.

RESULTS

Description of sample characteristics:

Among all the study participants, 33.33% were within the age group of 41-65 years, and most of them, i.e., 66.67% were female. Nearly 88.33% belongs to Hindu religion. Most of samples with no any habit were 61.67%. As per education is concerned 53.33% of sample were having secondary educational qualification. Among total samples 66.67% were not working and about 98.33% were married. The data concerning the economic status revealed that 53.33% were having income below 5000 Rupees per month and it was found that 85% were from village residency. The majority of samples, i.e., 53.33% were having more than 2 childrens. In relation to the type of family, it shows that the 70% were belongs to nuclear family. Most of the samples 80% were belongs to No family history of cancer and 88.33% were diagnosed with cancer in between 0-24 Months. (Table no. 1).

Table 1: Frequency and Percentage distribution of socio-demographic variable (n=60)

Sr. No		Variables	Frequency	Percentage
1	Age In Year	a)30-40	6	10
		b)41-50	16	26.67
		c)51-60	18	30
		d)61-70	20	33.33
2	Sex	a)Male	20	33.33
		b)Female	40	66.67
3	Religion	a)Hindu	53	88.33
		b)Muslim	2	3.33
		c)Christian	0	0
		d)Other	5	8.33
4	Habit	a) Tobacco Chewing	21	35
		b)Smoking	2	3.33
		c)Drink	0	0
		d)None Of The Above	37	61.67
5	Educational Status	a)Primary	16	26.67
		b)Secondary	32	53.33

		c)Higher Secondary	5	8.33
		d)Degree Holder	7	11.67
		e)Uneducated	0	0
6	Occupation	a)Working	20	33.33
		b)Not Working	40	66.67
7	Marital Status	a)Married	59	98.33
		b)Unmarried	1	1.67
8	Monthly Income	a)Below 5000 Rs	32	53.33
		b)5000 - 10000 Rs	19	31.67
		c)10000- 20000 Rs	7	11.67
		d)Above 20000 Rs	2	3.33
9	Residency	a)City	9	15
		b)Village	51	85
10	Number Of Children	a)1	4	6.67
		b)2	21	35
		c)More Than 2	32	53.33
		d)None	3	5
11	Type Of Family	a)Nuclear Family	42	70
		b)Joint Family	18	30
12	Family History Of Cancer	a)Yes	12	20
		b)No	48	80
13	When Diagnosed With Cancer	a)0-24 Months	53	88.33
		b)25-48 Months	3	5
		c)49-72 Months	2	3.33
		d)73-96 Months	2	3.33

Level Of Anxiety Among Patients Receiving Chemotherapy

Table 2 indicates that most of the samples, i.e., 57 (95%) were having severe anxiety, 2 (3.33%) were having moderate anxiety and 1 (1.67%) were having mild anxiety in pre-test.

Table 2: Frequency and Percentage distribution of Pre-interventional scores among patient receiving chemotherapy. (n=60)

Grades	Scores	Pre-Test	
		Frequency	Percentage
Mild	<17	1	1.67
Moderate	18-24	2	3.33
Severe	25-30	57	95

Table 3 indicates that majority of samples, i.e., 48 (80%) were having severe anxiety, 10 (16.67%) were having moderate anxiety and 2 (3.33%) were having mild anxiety in post-test.

Table 3: Frequency and Percentage distribution of Post-interventional scores among patient receiving chemotherapy. (n=60)

Grades	Scores	Post-Test	
		Frequency	Percentage
Mild	<17	2	3.33
Moderate	18-24	10	16.67
Severe	25-30	48	80

Effect Of Music Therapy On Anxiety Among Patients Receiving Chemotherapy

Table 4 shows that the Mean and standard deviation Post-test anxiety score was 30.87 and 7.0 significantly lower than the Mean and standard deviation Pre-test anxiety score 37.08 and 7.26. The calculated t value is 20.54 was found significant at P<0.001 level.

Table 4: Mean, Difference of Mean, Standard Deviation and paired value of Pre-Test and Post- Test Anxiety Scores of patients receiving chemotherapy. (n=60)

Group	Mean		Mean Difference	Standard Deviation		Paired 't' value
	Pre-Test	Post-Test		Pre-Test	Post-Test	
Patients Receiving Chemotherapy	37.08	30.87	6.21	7.26	7.00	20.54 Significant P<0.001

Association Of Pre-Test Level Of Anxiety With Socio-Demographic Variables

Table 5 shows that there was no significant association between level of anxiety and socio-demographic variables at the level of p<0.0001.

Table 5: Association Between Pre-Test Level Of Anxiety And Selected Demographic Variables. (n=60)

Sr. No	Variables		Level Of Anxiety			Chi-Square Value	P- Value
			Mild	Moderate	Severe		
1	Age In Year	a)30-40	1	0	5	10.683	0.0987
		b)41-50	0	1	15		
		c)51-60	0	1	17		
		d)61-70	0	0	20		
2	Sex	a)Male	0	1	19	0.7500	0.6873
		b)Female	1	1	38		
3	Religion	a)Hindu	1	2	50	0.4171	0.9811
		b)Muslim	0	0	2		
		c)Christian	0	0	0		
		d)Other	0	0	5		
4	Habit	a)Tobacco Chewing	0	0	21	1.963	0.7426
		b)Smoking	0	0	2		
		c)Drink	0	0	0		
		d)None Of The Above	1	2	34		
5	Educational Status	a)Primary	0	0	16	5.997	0.4236
		b)Secondary	1	1	30		
		c)Higher Secondary	0	1	4		
		d)Degree Holder	0	0	7		
		e)Uneducated	0	0	0		
6	Occupation	a)Working	0	0	20	1.579	0.4541
		b)Not Working	1	2	37		
7	Marital Status	a)Married	0	3	56	0.05352	0.8170
		b)Unmarried	0	0	1		
8	Monthly Income	a)Below 5000 Rs	0	2	30	3.937	0.6852
		b)5000 - 10000 Rs	1	0	18		

		c)10000- 20000 Rs	0	0	7		
		d)Above 20000 Rs	0	0	2		
9	Residency	a)City	0	1	8	2.140	0.3431
		b)Village	1	1	49		
10	Number Of Children	a)1	0	0	4	3.631	0.7265
		b)2	1	0	20		
		c)More Than 2	0	2	30		
		d)None	0	0	3		
11	Type Of Family	a)Nuclear Family	1	2	39	1.353	0.5083
		b)Joint Family	0	0	18		
12	Family History Of Cancer	a)Yes	0	0	12	0.7895	0.6739
		b)No	1	2	45		
13	When Diagnosed With Cancer	a)0-24 Months	1	1	51	8.971	0.1752
		b)25-48 Months	0	1	2		
		c)49-72 Months	0	0	2		
		d)73-96 Months	0	0	2		

DISCUSSION

Results of this present study indicate that, the mean pre-test anxiety score was 37.08 and the mean post-test anxiety score was 30.87 the mean difference of pre-test and post-test anxiety score was 6.21. The reduction in the anxiety score was found statistically significant at the level of $p<0.001$. Thus, Music was found effective in the reducing the anxiety among patients receiving chemotherapy at tertiary care hospital.

The findings of different study of **I Syed, MS. Moosabba and A. Alphonsa** on effects of music therapy on anxiety, blood pressure and respiratory rate in patients undergoing chemotherapy, also indicate that, the mean (SD) pre-test anxiety score in Control group was 53-51(5.12)and mean (SD) pre-test anxiety score in Experimental group was 52.67(5.98) and the mean (SD) post-test anxiety score in Control group was 47.6 (4.72) and mean (SD) post-test anxiety score in Experimental group was 35.6(5.20). The mean difference in control group of pre-test and post-test anxiety score was 3.84 and the mean difference in experimental group of pre-test and post-test anxiety score was 14. The reduction in the anxiety score was found statistically significant at the level of $p<0.01$. Thus, Music was found effective in the reducing the anxiety among patients undergoing chemotherapy[16].

Mei-FengLin, Ya-Ju Hsieh, Yu-Yun Hsu, Susan Fetzer, Mei-Chi Hsu.(2011) conducted a study On " A randomized controlled trial of the effect of music therapy and verbal relaxation on chemotherapy- induced anxiety."Patients were randomized into 3 groups: the music therapy group received one hour single music session; the verbal relaxation group received 30 minutes of guided relaxation; the control group received usual care and anxiety measured using Spielberger state trait anxiety instrument. The results of this study showed that Patients with high state anxiety receiving music therapy was effective in reducing chemotherapy induced anxiety[17].

CONCLUSION

The aim of this study was to determine the effectiveness of music therapy on anxiety among patients receiving chemotherapy. The results of this study indicate that music therapy is effective to reduce the level of anxiety among patients receiving chemotherapy. It is suggested that more nursing studies should come up to find various non-pharmacological methods for reducing anxiety in patients receiving chemotherapy.

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