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STATUL FOR RESPARS	Original Research Paper	Medical Science		
Aternational	Effect of Music Therapy on Anxiety Among Patients Undergoing Coronaryangiography at Medical Trust Hospital, Kochi			
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	KEYWORDS :			

### INTRODUCTION:

Coronary artery disease (CAD) is the most common type of heart disease. It has assumed epidemic proportion in India. (Lucita, 2008.) According to WHO bulletins, 100 million Indians will have heart disease by 2010 and by 2020; India will supersede all other nations, which was only 1.2 million in 1990. A study undertaken at Calicut medical college in Kerala by Pavithran K and etal (1991) showed that 1<sup>st</sup> heart attacks among patients younger than 40 have increased 20 fold between 1971 & 1991. (Gundu, 2005)

Anxiety is a normal reaction to stress. Anxiety also impacts long-term outcomes for

cardiac patients (Stein, Hollander, Roth Baum 2010). Individuals who self-reported high levels of anxiety one month after myocardial infarction (MI), were more than twice as likely to experience recurrent MI or sudden cardiac death, after controlling for age and severity of coronary heart disease.(Strik, Denollet, Lousberg, & Honig, 2003).

Undergoing invasive procedures, such as coronary angiography, can increase anxiety for many patients. Robyn Gallagher, Trotter, & Dono-ghue, 2010 conducted a study to assess anxiety prior to coronary angiography, showed that many patients have moderate anxiety (mean-36.44, sd-11.23) before coronary intervention. (Wikipedia, the free encyclopaedia, 2012)

Music therapy, employing aspects of emotional-approach coping may enable individuals to address and express challenging emotions such as fear and loss within a supportive context. Individuals partaking in music therapy with emotional approach coping following a stressful invasive medical procedure demonstrated an overall increase in positive affective states, with a decrease in negative affective states (Bally , camphell , chesnik , tranmer , 2000 Jun)

Many experts suggest that it is the rhythm of the music or the beat that has the calming effect on us although we may not be very conscious about it. (Hendler, P.J.R.N.H.1982). They points out that in every person there is an artistic mind. Music replenishes us with energy by removing stress and anxiety. (Fairy child hub pages, (Cited 2008 Apr 27)). In the mid-1800s, Florence Nightingale recognized the power of music in hospital wards to aid in the healing process for soldiers injured in the Crimean War. Nightingale also noted the effects of different types of music. She observed that wind instrument pieces with continuous sound or air generally had a beneficial effect on patients. She also observed that instruments that do not produce continuous sounds had the opposite effect. Nightingale believed it was the responsibility of nurses to control the patient's environment in order for healing to take place.

Among the first stress-fighting changes that take place when we hear a tune is an increase in deep breathing. The body's production of serotonin also accelerates. Music was found to reduce heart rates and to promote higher body temperature - an indication of the onset of relaxation.

A study was conducted by Palakanis KC, De Nobile JW, Sweeney WB, Blankenship CL (1994) to find out the effect of music therapy in re-

ducing the anxiety of patients who undergo sigmoidoscopy surgery. (Palakanis KC, Denobile JW, Sweeney WB, Blankenship CL, 1994). The results revealed that those patients who listened to self-selected music tapes during the procedure had significantly decreased State-Trait Anxiety Inventory scores, heart rates, and arterial pressures when compared to the control subjects. The researchers therefore concluded that music is an effective anxiolytic (relaxing agent) which can be beneficial for patients having to undergo flexible sigmoidoscopy surgery.

Martha D Buffum (2006) conducted a study on 170 patients, given 15mts of self-selected music to reduce pre procedural anxiety (Buffum, 2006). Patients who listened to music reduced their anxiety while those who did not listen to music did not. Pulse achieved a statistically significant reduction in the experimental group.

The above studies prove that the period before coronary angiography is most likely a time of anxiety & music therapy helps to relieve anxiety on those patients. Hence investigator was interested to conduct a study to assess the effect of music therapy on anxiety among patients undergoing coronary angiography.

### Objectives

The major objectives of the study are to:

- assess the level of anxiety among patients posted for coronary angiography before and after music therapy.
- determine the effect of music therapy on anxiety among patients posted for coronary angiography
- assess the effect of musical therapy on vital signs
- find the association between pre-test score of anxiety level among patients posted for coronary angiography and demographic variables.

### Methodology

Settings of the study: Medical Trust Hospital, Ernakulam.

Research approach : A quantitative approach

Research design : Quasi experimental pre-test post-test control group design Sample : 30 patients each for experimental & control

group

Sampling technique: Non probability convenience sampling

Data collection instrument: thermometer, sphygmomanometer, stethoscope, modified anxiety assessment tool.

### **Data collection**

The study was conducted after the approval of ethics committee and permission from the concerned authorities was obtained. Data was collected during the period between 06/02/12 to 04/03/12 with a 60 samples selected by using non probability consecutive sampling technique. The study was conducted in Medical Trust Hospital, Ernakulam. The informed consent was taken prior to the study from the subjects and the nature of the study was explained to the participants. The subjects were made comfortable and music was administered after assessing the vital signs and anxiety level by means of Digital thermometer, sphygmomanometer and Modified Anxiety Assessment Tool. After administering music therapy for 20 minutes post therapy anxiety and vital signs were checked. The investigator did not have any problems during the data collection process.

### **Data analysis**

### **Organization of study findings**

### The data were analysed, interpreted and organized under the following headings.

Section 1: Baseline characteristics of the sample.

Section 2: Percentage distribution of samples based on anxiety. Section 3: Effectiveness of music therapy on anxiety among patients

who are undergoing coronary angiography.

Section 4: Effectiveness of music therapy on vital signs.

Section 5: Association of mean pre-test anxiety score of patients and selected variables.

### Section1: Baseline characteristics of the sample.

Distribution of sample according to age shows that highest percentage 90.5% of male in the age group, 51-60 years. The highest percentage of females 35.3% were found in the age group 61-70 years Distribution of sample according to sex shows that highest percentage (90.5%) of males, on religion shows that nearly half (43%) were Hindus, educational status reveals that the highest percentage (38.3%) of sample had completed SSLC and on previous history of hospitalisation due to cardiac problems shows that the highest percentage (75%) of sample got admitted first time due to cardiac problems.

## Section 2: Frequency and Percentage distribution of subjects based on level of anxiety.

			(N=60)
SL No.	Level of anxiety	Frequency	Percentage
	Minimum	40	66.6%
:	Mild	20	33.3%
3	Moderate	0	0
4	Severe	0	0

The data presented in table 4, shows that the highest percentages (66%) of samples are having minimum level of anxiety. (33.3%) of subjects are having mild level of anxiety. No subjects were scored to have moderate or severe level of anxiety

Section 3: Effectiveness of music therapy on anxiety among patients undergoing coronary angiography.

Table 3: Significant difference between post-test anxiety scores of control group and experimental group

				<u>(N</u> =60)
Sl. No. value	Group	Mean	Standard	ʻť'
			Deviation	
1.	Control Group	41.56	14.76	4.74**
2.	Experimental -	26.6	8.98	
	-Group			

### \*\*Significant at 0.05 level

The data represented in the table 7, shows that the post means anxiety score of control group was ( $41.56 \pm 14.76$ ) was higher than the post mean anxiety score of experimental group ( $26.6 \pm 8.98$ ). The 't' value (4.74, P<0.05) computed from post-test anxiety scores of control and experimental group was higher than the table value ( $t_{co}$ =2.001717,  $P \le 0.05$ ) and hence the test is significant at  $P \le 0.05$ . Here H<sub>3</sub> is accepted, that is the music therapy is effective in reducing anxiety of experimental group than control group.

### Section 4: Effectiveness of music therapy on vital signs

### Table 4: Significant difference between pre-test and posttest vital signs scores of Experimental group

1. Systolic Blood pressure	3.6	6.32	3.27 **
2. Diastolic Blood pressure	2.6	5.83	2.5 **
3. Pulse rate	1.7	4.47	2.11 **
4. Respiration	2.1 **	3.14	3.706

\*\*Significant at 0.05 level

The data represented in the table 8, shows that the paired 't' value computed from post-test systolic blood pressure score is (3.27,P<0.05), diastolic blood pressure scores is (2.5,P<0.05), pulse rate scores is(2.11,P<0.05) and respiratory rate scores(3.706,P<0.05) which is greater than the table value ( $t_{29}$ =2.04523,P<0.05) and hence the test is significant at P<0.05. The result showed that the music therapy is effective in reducing blood pressure, pulse, and respiratory rate of experimental group.

# Section 5: Association between the pre-test anxiety score of patients undergoing coronary angiography and selected demographic variables.

The chi-square test was used to find the association between selected variables and anxiety. The chi test value shows that there is no significant association between selected variables (age, sex, religion, education and knowledge about angiography) at P < 0.05.

### Conclusion

Individuals undergoing coronary angiography are likely to experience elevated anxiety pre procedurally, with highest anxiety levels occurring in the waiting period immediately prior to the procedure. This study evaluated the use of music therapy, with a specific emphasis on emotional-approach coping, immediately prior to coronary angiography in order to impact peri-procedural outcomes. Music therapy is effective in reducing pre-procedural anxiety

### Recommendations

On the basis of the findings of the study, following recommendations have been made:

- A similar study can be replicated on a large sample with similar demographic characteristics.
- A similar study can be replicated to determine effect of introduction of music therapy in conjunction with patient education on anxiety in patients undergoing coronary angiography.
- A comparative study on the effect of patient selected music and investigator selected music for reducing pre procedural anxiety can be conducted.

#### References

- Lucita, M. (2008.). Cardio Vascular Nursing, Nursing Management for Positive Outcome. (2nd edition ed.). India: Reed Elsevier India publications.
- Gundu, H. R. R. (2005). Coronary Artery Disease: Risk Promoters. (2nd edition ed.). New Delhi: Path Medical Publishers.
- Stein,Hollander,Rothbaum,DJ.,E,B.O. (2010). Textbook of Anxiety Disorders. Retrieved 26July,2016, fromhttp://www.books.google.co.in/books?isbn=1585622540/
- Strik , denollet , lousberg, honig , JJ.J. R.A. (2003 ). Comparing symptoms of depression and anxiety as predictors. NCBIJ, 42(10),1801-7.
- Wikipedia, the free encyclopaedia. (2012). Acknowledging your sources(Anxiety page). Retrieved April 2012, from http://en.wikipedia.org/wiki/anxiety
- Burn's , N. . ((2006). ). Nursing Research . (7th edition ed.). Philadelphia: : Lippincott William & Wilkins .
- Polite,beck,D.F.,..C.T.. (2008). NursingResearch.8th editioned.). Philadelphia: Lippincott William & Wilkins.
- Bally, camphell, chesnik, tranmer, K., D., K., J.E. (2000 Jun). Effect of Patient-Controlled Music Therapy during coronary angiography on pre procedural pain and anxiety distress syndrome. Retrieved (cited2003April), from http://ccn.aacnjournals. org/content/23/2/50.full.pdf

- Fairy child hubpages . ( (Cited 2008 Apr 27)). Using music to Beat Stress . Retrieved (cited 2003 April), from http://ccn.aacnjournals.org/content/23/2/50.full.pdf
- Buffum , M.D. ((2006) ). A music intervention to reduce anxiety Journal of Vascular Nursing (Internet) . Retrieved (cited 2006 Sept), from http://.www.linkinghub.elsevier. com
- Hendler, P.J.R.N.H. (1982). Principles and Clinical Applications-American Institution. Retrieved from 26 July. 2016, from ttp://www.stress.org/archives/HP.pdf.
- Palakanis kc, denobile jw, sweeney wb, blankenship cl , K.C., J.W., W.B., C.L. (1994). Effect of music therapy on state anxiety in patients undergoing sigmoidoscopy. Retrieved (Cited 1994 May), from http://www.ncbi.nlm.nih.gov/pubmed/8181411