

A Randomized Control Trial On The Effects Of Back Massage Therapy On Anxiety In Patients Admitted For Cardiac Catheterization

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Abstract

Cardiac Catheterization Is A Medical Technique That Is Used To Assess Patients That Are Suspected Of Having Coronary Artery Disease. Invasive Procedures, On The Other Hand, Induce Anxiety. It Can Trigger A Panic Attack In Anxiety Sufferers. Pharmacologic Agents Are Now Used To Alleviate Stress And Anxiety In Heart Patients; However, These Approaches May Have Certain Side Effects. Massage Therapies Can Influence Neural Activity At The Segmental Level Of The Spinal Cord, Modulating The Activities Of Subcortical Nuclei That Affect Mood By Causing Local Biochemical Changes In Muscles That Control Local Blood Flow And Oxygenation. It Can Also Stimulate The Release Of Neurotransmitters Including Endorphins And Serotonin In The Central Nervous System, Relieving The Anxiety. Thereof, The Aim Of This Study Was To See How Massage Therapy Affects Anxiety In Patients Undergoing Cardiac Catheterization

Key Words: Cardiac Catheterization, Anxiety, Massage Therapy

Materials And Methods:

Research Design:

A Single-Blind Randomized Control Trial

Variable Under Study:

Back Massage Therapy Was Used As An Independent Variable In This Analysis. Anxiety Was The Dependent Variable

Research Setting:

Cardiac Ward Of A Corporate Teaching Hospital In Northern Karnataka

Population:

The Patients In This Study Were Admitted To The Cardiac Ward Of A Corporate Teaching Hospital In Northern Karnataka For Cardiac Catheterization.

Sample Size And Sampling Technique:

The Study Used A Sample Size Of 30 Patients. The Research Used A Non-Probability Sampling Method.

Criteria For Sample Selection:

Criteria For Inclusion: Patients Who Were Scheduled For Cardiac Catheterization At A Corporate Hospital And Were Willing To Participate .**Exclusive Criteria:** Patients Those Were Uncooperative And Not Willing To Participate.

The Anxiety Level Was Assessed Using A Modified Zung's Self-Rating Anxiety Scale.

Data Collection Procedure:

A Simple Random Sampling Technique Was Used To Pick The Subjects. The Experimental And Control Groups' Pre-Intervention Anxiety Levels Were Assessed Using The Modified Zung's Self-Rating Anxiety Scale, Respectively. Back Massage Was Used As An Intervention For The Study Group. After The Application Of Intervention, Back Massage Therapy In The Experimental Group, A Post-Test Was Conducted To Measure Post-Intervention Anxiety Levels Using The Modified Zung's Self Rating Anxiety Scale In Both The Groups. Data Was Collected And Tabulated, And Descriptive And Inferential Statistics Were Used To Interpret It.

Conclusion: Massage Therapy Is An Important Treatment For Anxiety, According To The Results Of The Report.

Background:

Cardiac Catheterization Is A Diagnostic Procedure Used In Evaluation Of Patients Suspected With Coronary Artery Disease. One Or More Catheters Are Inserted Through Peripheral Blood Vessels In The Arm Or Leg With X-Ray Guidance. This Procedure Collects Data Such As Adequacy Of Blood Supply Through Coronary Arteries, Blood Pressures, Blood Flow Between Chambers Of The Heart, And X-Rays Of The Heart's Ventricles Or Arteries. A Cardiac Catheterization Is Used To Diagnose And Treat Patients Who Have Heart Disease¹, Which Is A Life-Threatening Condition That Killed 365,914 People In The United States In 2017². The Most Definitive Diagnostic And Therapeutic Intervention For The Treatment Of Patients With Cardiac Disease Is Cardiac Catheterization, But Such Invasive Procedures Cause Anxiety³.

Anxiety Of The Patient Is An Important Factor To Consider, Particularly When A Severe Invasive Procedure Is Performed On An Organ Such As The Heart, And The Immediate Aim Is To Minimize Anxiety⁴. Anxiety Has Been Linked To High Levels Of Stress, Which Can Cause Delays In Recovery And Lengthen Hospital Stays⁵. Anxiety Is A Broad Concept That Encompasses A Variety Of Conditions That Trigger Nervousness, Anxiety, Anticipation, And Worry. These Conditions Have An Impact On How People Feel And Act, And They Can Cause Physical Symptoms. Mild Anxiety Is Perplexing And Disturbing, While Severe Anxiety May Be Crippling And Has A Significant Effect On Everyday Life. It's Also Linked To Restlessness, Exhaustion, Concentrating Difficulties, And Muscle Tension⁶. Heart Palpitations, Tachycardia, Muscle Weakness And Stress, Exhaustion, Nausea, Chest Pain, Shortness Of Breath, Headache, Stomach Aches, Or Tension Headaches Are All Physical Symptoms Of Anxiety. Blood Pressure, Heart Rate, Perspiration, And Blood Flow To The Main Muscle Groups All Increase As The Body Prepares To Deal With A Danger. Pallor, Sweating, Shaking, And Pupillary Dilation Are All External Symptoms Of Anxiety. Anxiety Sufferers Can Experience A Panic Attack As A Result Of This⁷. In Order To Relieve Stress And Anxiety In Heart Patients, Pharmacologic Agents Are Now Used; However, These Approaches Can Have Certain Side Effects⁸.

Massage Is One Of The Most Widely Used Complementary And Alternative Medical (CAM) Treatments. "Manual Soft Tissue Stimulation And/Or Applying Pressure To The Body" Is What Massage Entails. Massage Entails Manually Or With Mechanical Aids Working And Acting On The Body With Controlled, Unstructured, Stationary Or Moving Stress, Motion, Or Vibration⁹. The Metabolic Rate Of The Body Slows Down, Breathing Becomes More Routine, And The Heart Rate Returns To A Normal Range After A Massage. It's Easy To See How Massage-Induced Relaxation Could Be Beneficial For Anxiety¹⁰. Massage Therapies Can Cause Local Biochemical Changes In Muscles That Regulate Local Blood Flow And

Oxygenation, Influencing Neural Activity At The Segmental Level Of The Spinal Cord, And Thus Modulating The Activities Of Subcortical Nuclei That Affect Mood And Pain Perception. It Can Also Stimulate The Release Of Neurotransmitters Including Endorphins And Serotonin In The CNS, Increasing The Pain Threshold¹¹.

Pre-Incident Levels Of Endorphins, Serotonin, And Dopamine Can All Support. An Individual Can Feel Anxious And Nervous Before An Incident, Which Can Lead To An Increase In Stress And Tension. A Massage Will Help To Prepare For An Incident By The Amount Of Positive Hormones In The Body. Relaxation Is Backed By An Increase In The Beneficial Hormones Endorphins, Serotonin, And Dopamine. An Increase In Relaxation Reduces The Feelings Of Anxiety And Nervousness, Decreasing Stress And Tension. Increasing Relaxation And Decreasing Stress And Tension Can Help A Person Perform To Their Best Ability During The incident¹²

Massage Therapy Is The Most Popular Alternative Medicine Approach Used By Nurses, And It Ranks Third In Terms Of Patient Care And Satisfaction¹³. Massage Therapies Is The Systematic And Scientific Stimulation Of Soft Tissues And Muscles To Improve And Sustain Function, Recovery, And Therapeutic Benefits Such As Muscular And Mental Relaxation¹⁴. The Metabolic Rate Of The Body Slows Down, Breathing Becomes More Natural, And The Heart Rate Returns To A Normal Range When The Person Gets A Massage¹⁵. Several Studies Have Shown That Massage Has Beneficial Effects In Reducing Stress, Anxiety, And Depression, As Well As Strengthening The Nurse-Patient Relationship¹⁶. However, Different And Often Conflicting Findings Have Been Found In Research On The Effect Of Massage. Massage Has Been Shown To Be Effective In Reducing Anxiety In Heart Failure Patients In Some Studies, But Massage Has Not Been Shown To Cause Any Changes In This Variable In Other Studies¹⁷

In Summary, The Aim Of This Study Was To See How Massage Therapy Affects Anxiety In Patients Undergoing Cardiac Catheterization.

Materials And Methods:

Research Design:

A Single-Blind Randomized Control Trial Was Chosen For This Study Because It Includes Evaluating The Efficacy Of Back Massage Therapy In Reducing Anxiety Among Cardiac Patients Undergoing Cardiac Catheterization.

Variable Under Study:

Back Massage Therapy Was Used As An Independent Variable In This Analysis. Anxiety Was The Dependent Variable In This Analysis.

Research Setting:

The Current Research Took Place In The Cardiac Ward Of A Corporate Teaching Hospital In Northern Karnataka

Population:

The Patients In This Study Were Admitted To The Cardiac Ward Of A Corporate Teaching Hospital In Karnataka For Cardiac Catheterization.

Sample Size And Sampling Technique:

The Study Used A Sample Size Of 30 Patients Who Were Admitted To The Cardiac Ward For Cardiac Catheterization. The Research Used A Non-Probability Sampling Method. Random Sampling At Its Most Basic. 15 Were Labeled "E" For The Experimental Group And 15 Were Labeled "C" For The Control Group.

Criteria For Sample Selection:

Criteria For Inclusion: Patients Who Were Scheduled For Cardiac Catheterization At A Corporate Hospital And Were Willing To Participate .**Exclusive Criteria:** Patients Those Were Uncooperative And Not Willing To Participate.

The Anxiety Level Was Assessed Using A **Modified Zung's Self-Rating Anxiety Scale**. The Tool's Reliability Was Determined Using The Split Half Process. The Reliability In This Analysis Was Found To Be 0.83.

Data Collection Procedure:

The Institutional Ethical Committee And The Hospital Authority Gave Their Formal Approval. A Simple Random Sampling Technique Was Used To Pick The Subjects. Each Subject Gave Their Informed Consent. The Experimental And Control Groups' Pre-Intervention Anxiety Levels Were Assessed Using The Modified Zung's Self-Rating Anxiety Scale, Respectively. Back Massage Was Used As An Intervention For The Study Group. After The Application Of Intervention Back Massage Therapy In The Experimental Group, A Post-Test Was Conducted To Measure Post-Intervention Anxiety Levels Using The Modified Zung's Self Rating Anxiety Scale In Both The Groups. Data Was Collected And Tabulated, And Descriptive And Inferential Statistics Were Used To Interpret It.

Table 1: Mean Pretest Score, Mean Post Test Score And Standard Deviation For Anxiety Assessment Of Cardiac Patients In Experimental And Control Group.

	Experimental Group		Control Group	
	Pretest Scores	Post Test Scores	Pretest Scores	Post Test Score
Mean	68.73	45.40	67.86	67.86
SD	3.69	3.13	3.11	6.00

Table 1: The Mean Pre-Test Anxiety Scores Of Cardiac Patients Prior To Cardiac Catheterization In The Study Community Were 68.73, And The Mean Post-Test Anxiety Scores Were 45.4. The Mean Pretest Scores Of Anxiety Experienced By Patients Posted For Cardiac Catheterization In Control Group Was 67.86 And Mean Post Test Scores Was 67.86.

Table 2: Mean Difference, Standard Error And Paired' Test Values Of Anxiety Scores Of Cardiac Patients Prior To Cardiac Catheterization In Experimental And Control Group

Paired 'T' Test						
	Mean Difference	Standard 'P' Value	'T' Value Cal	T' Value Tab	Df	P Level Of Significance

		Deviation				
Experimental	23.33	3.10	28.71	2.145	14	<0.05
Control	0.00	4.98	0.00	2.145	14	>0.05

Table -2: The Obtained Paired 'T' Value In The Experimental Community Was 28.71, Which Was Important At The $P < 0.05$ Stage. Back Massage Therapy Was Found To Be Effective In Reducing Anxiety. The Obtained Paired 'T' value In The Control Group Was 0.00, Which Was Not Important At The $P > 0.05$ Stage.

Table 3: Comparison Of Anxiety Scores Between The Experimental And Control By Using Unpaired T Test.

Unpaired 'T' Test					
	Mean Difference	Standard Error	Cal 'T'	Tab 'T'	P' Value
Pre Test Scores	0.87	1.81	1.38	2.048	>0.05
Post Test Scores	22.46	1.17	19.19	2.408	<0.05

Table 3: A Comparison Of The Mean Pretest Anxiety Scores Between The Experimental And Control Groups Using An Unpaired 'T' Test Yielded A $P > 0.05$, Indicating That There Was No Substantial Difference. For The Experimental And Control Classes, The Mean Post-Test Anxiety Scores Were $P < 0.05$. This Implies That A Highly Significant Difference, I.E. A Decrease In Anxiety Among Patients, Was Observed. The Intervention (Back Massage Therapy) Given To The Experimental Community Resulted In A Reduction In Anxiety Among Patients Scheduled For Cardiac Catheterization.

Discussion:

The Aim Of This Study Was To See How Effective Back Massage Therapy Was At Reducing Anxiety In Patients Undergoing Cardiac Catheterization In The Cardiac Wards Of A Corporate Teaching Hospital In Northern Karnataka. In The Present Study According To Table 1: The Mean Pre-Test Anxiety Scores Of Cardiac Patients Prior To Cardiac Catheterization In The Study Community Were 68.73, And The Mean Post-Test Anxiety Scores Were 45.4. The Mean Pretest Scores Of Anxiety Experienced By Patients Posted For Cardiac Catheterization In Control Group Was 67.86 And Mean Post Test Scores Was 67.86. The Study Results Backed Up The Importance Of A Back Massage Therapy Program, According To Smith's Research¹⁸. It Can Be Inferred That Improvements In The Intervention Group's Anxiety Levels Were Influenced By The Back Massage Intervention.

According To Table 2: The Obtained Paired T' Value In The Experimental Community Was 28.71, Which Was Significant At The $P < 0.05$ Stages. Back Massage Therapy Was Found To Be Effective In Reducing Anxiety. The Obtained Paired' Value In The Control Group Was 0.00, Which Was Not Important At The $P > 0.05$ Stage. The Results Of The Study Corroborate Those Of Ting W, Namerow PB, Who Found That Massage Therapy Significantly Reduced Anxiety In Patients Undergoing Cardiac Catheterization¹⁹.

According To Table 3: A Comparison Of The Mean Pretest Pain Scores Between The Experimental And Control Groups Using An Unpaired T Test Yielded A $P > 0.05$, Indicating That There Was No Substantial Difference. For The Experimental And Control Classes, The Mean Post-Test Anxiety Scores Were $P < 0.05$. This Implies That A Highly Significant Difference, I.E. A Decrease In Anxiety Among Patients, Was Observed. The Intervention (Back Massage Therapy) Given To The Experimental Community Resulted In A Reduction In Anxiety Among Patients Scheduled For Cardiac Catheterization. Srimatisubramaniam Conducted A Report That Was Similar To This One. Massage Therapy Has Been Shown In Several Studies To Relieve Anxiety. Both Forms Of Massage Are Helpful In Reducing Anxiety. Massage Therapy Strategies Like Kneading, Rubbing, Squeezing, And Patting Various Muscle Groups Have The Same Anti-Anxiety Effects²⁰.

Conclusion:

Massage Therapy Is An Important Treatment For Anxiety, According To The Results Of The Report. It Aids In The Relief Of Anxiety As Well As Providing Physical And Psychological Benefits. Furthermore, It Is A Cost-Effective, Simple-To-Use System

Conflict Of Interests

The Authors Declare No Conflict Of Interests

Author's Contributions:

Dr.Milka Madhale And Reetha Murugesan Prepared Proposal And Were Involved In The Data Collection, Analysis, Interpretation And Drafted The Manuscript. Hazaratali Panari Was Involved In Data Collection, Analysis And Statistical Output. Saranya Semban And Jonahan Borges Were Involved In Data Collection, Analysis And Interpretation Of Statistical Outputs. All Authors Read And Approved The Final Manuscript.

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