

Role of Meditation in Anxiety among CHD Patients



Prachi Sharma

Research Scholar,
Deptt. of Psychology,
Faculty of Social Sciences,
Dayalbagh Educational Institute,
Agra

P.K. Mona

Associate Professor & Head,
Deptt. of Psychology,
Faculty of Social Sciences,
Dayalbagh Educational Institute,
Agra

Abstract

The present study is aimed to examine the "Anxiety among Coronary Heart Disease Patients (Meditation Group & Non- Meditation Group)". In the present study sample consisted of 100 coronary heart disease patients, age range from 30 to 60 years who have at least one infarction or have recurrent infarction at least one year prior to the commencement of the present research. 50 cases were on conventional treatment (control group) and the remaining 50 were practicing yoga-based meditation along with conventional treatment (meditation group). Patients were selected from S.N. Medical College and other renowned hospital of Agra. These subjects will be assigned to the two groups randomly. The patients, whose age were below 30 years, was excluded because of unidentifiable causes and those above 60 years to avoid the effect of aging, i.e. degenerative processes, senility and other predominant psycho-social factors specific to that age. All the patients were matched in terms of age, marital status, education and religion. Only those patients were taken who belong to upper socio-economic status and education at least up to the first degree level. State- Trait Anxiety Inventory developed by Spielberger (1983) was used for measuring depression among Meditation and Non- Meditation group. Result indicates, the calculated t value of State Anxiety (Pre Score) is 1.58 which is not significant at .05 level. The calculated t value of t State Anxiety (Post Score) is 7.78 which is significant at .01 level. The calculated t value of Trait Anxiety (Pre Score) is .096 which is not significant at .05 level, and The calculated t value of Trait Anxiety (Post Score) is .036 which is not significant at .05 level.

Keywords: Anxiety, Heart Disease Patients, Meditation (Group I) & Non-Meditation (Group II).

Introduction

The widely known psychological risk factors in the aetiopathogenesis of coronary heart disease are stress, anxiety and depression. These may antedate heart attacks and even persist after myocardial infarction.

Coronary heart disease (CHD) is a general term that refers to illness caused by atherosclerosis, the narrowing of the coronary arteries, the vessels that supply the heart with blood. When these vessels become narrowed or closed, the flow of oxygen and nourishment to the heart is partially or completely obstructed. Temporary shortage of oxygen and nourishment frequently cause pain, called angina pectoris that radiates across the chest and arm. When severe deprivation occurs, a heart attack (myocardial infarction) can result.

CHD is also a disease of modernization, due at least in part to the alterations in diet and reduction in activity level that have accompanied modern life. Risk factors for CHD also include high blood pressure, diabetes, and cigarette smoking, obesity, high serum cholesterol level, and low level of physical activity (American Heart Association, 2004)

Anxiety refers to feeling of apprehension and unease. Anxiety has somatic, physiological and cognitive components. Somatic component refers to digital tremors, palpitations and sweaty palms. The physiological component refers to tachycardia, hyperventilation, muscular tension and an irritable bladder. The cognitive component is that of worry which refers to undue fear of something untoward happening.

Anxiety can lead to emotional, psychological, and even physical problems, including heart disease, high blood pressure, chest pains, or irregular heartbeats. Medical researchers aren't sure exactly how anxiety increases the risk of heart disease.

The word Yoga comes from the Sanskrit word "Yuj" meaning to yoke, join or unite. This implies joining or integrating all aspects of the individual - body with mind and mind with soul-to achieve a happy,

balanced and useful life, and spiritually, uniting the individual with the supreme.

In India, Yoga is considered one of the six branches of classical philosophy and is referred to throughout the Vedas - ancient Indian scriptures and amongst the oldest texts in existence. The Upanishads are also broadly philosophical treatises which postdate the Vedas and deal with the nature of the "soul" and universe.

According to the Yoga Sutras of Patanjali, the ultimate aim of Yoga is to reach "Kaivalya" (emancipation or ultimate freedom). This is the experience of one's innermost being or "soul" (the Purusa). Then one becomes free of chains of cause and effect (Karma) which tie us to continual reincarnation.

The most important benefit of yoga is physical and mental therapy. To get the maximum benefits of yoga one has to combine the practices of yogasanas, pranayama and meditation. Regular practice of asanas, pranayama and meditation can help such diverse ailments such as diabetes, blood pressure, digestive disorders, arthritis, arteriosclerosis, chronic fatigue, asthma, varicose veins and heart conditions. Laboratory tests have proved the yogi's increased abilities of consciously controlling autonomic or involuntary functions, such as temperature, heartbeat and blood pressure. Through the practice of yoga, we become aware of the interconnectedness between our emotional, mental and physical levels. Gradually this awareness leads to an understanding of the more subtle areas of existence.

Meditation or contemplation involves focusing the mind upon a sound, phrase, prayer, object, visualized image, the breath, ritualized movements, or consciousness in order to increase awareness of the present moment, promote relaxation, reduce stress, and enhance personal or spiritual growth. Meditation can benefit people who are ill or overwhelmed by stress. It also promotes well-being in healthy people. In general, people who meditate regularly experience less anxiety and depression. They also report more enjoyment and appreciation of life, as well as better social relationships. Meditation produces a state of deep relaxation and a sense of balance, or equanimity. The Transcendental Meditation technique is a form of mantra meditation that, according to the TM organization, is effortless when used properly. The mantra is a sound that is thought (but not spoken) during meditation and as a vehicle that allows the individual's attention to travel naturally to a less active, quieter style of mental functioning. The technique is practiced morning and evening for 15–20 minutes each time. (Hunt, 2003).

Meditation has entered the mainstream of health care as a method of stress and pain reduction. As a method of stress reduction, meditation has been used in hospitals in cases of chronic or terminal illness to reduce complications associated with increased stress that include depressed immune system. There is growing agreement in the medical community that mental factors such as stress significantly contribute to a lack of physical health, and there is a growing movement in mainstream

science to fund research in this area. There are now several mainstream health care programs which aid those, both sick and healthy, in promoting their inner well-being, especially mindfulness-based programs such as Mindfulness-based Stress Reduction (MBSR).

Purpose

To compare the level of Anxiety among CHD patients. (With and without meditation).

Hypothesis

There exists no significant difference in the level of anxiety among CHD patients (non mediation and meditation Group).

Justification of Problem

It is a fact that some emotionally stressful situation precedes myocardial infarction. Persistent emotional arousal may have an adverse, direct or indirect, effect on physical and mental health. Several other factors such as severe fatigue, anxiety, anger, hopelessness and loneliness have also been proposed to be precursors of sudden cardiac death. It has also been reported that cardiovascular reactivity is more pronounced in borderline hypertensive and hypertensive subjects. Green (2009) reported that 33 to 50 percent patients who die from an initial myocardial infarction might have been significantly anxious for some time prior to the infarction. Patients with anxiety are also at increased risk for mortality during and after cardiac surgery. These patients experience not only the suffering and despair associated with anxiety are also at increased risk for further morbidity and mortality due to their heart disease.

Definition of Terms Used

Meditation

Meditation is a mental exercise in which we direct our mind to think inwardly by shutting our sense organs to external stimulations. It is a Vedic exercise which can be used as a powerful instrument to restrain sense organs, control autonomic nervous system and also to attain super consciousness.

Anxiety

Anxiety is a psychological and physiological state characterized by somatic, emotional, cognitive, and behavioural components.

Sample

The total sample for the present study was consisted on 100 coronary heart disease patients, age range from 30 to 60 years who have at least one infarction or have recurrent infarction at least one year prior to the commencement of the present research. 50 cases on conventional treatment (control group) and the remaining 50 was practicing yoga-based meditation along with conventional treatment (meditation group). Patients were selected from S.N. Medical College and other renowned hospital of Agra. These subjects were assigned to the two groups randomly. The patients, whose age below 30 years, were excluded because of unidentifiable causes and those above 60 years to avoid the effect of aging, i.e. degenerative processes, senility and other predominant psycho-social factors specific to that age. All the patients will be matched in terms of age, marital status, education and religion. Only those patients were taken who belong to upper socio-

economic status and will have education at least up to the first degree level.

Design

Ex-post facto research design was used.

Measures

For measuring Anxiety, the State- Trait Anxiety Inventory developed by Spielberger (1983) was used. It comprises separate self-report scales for measuring state and trait anxiety. The S- Anxiety scale (STAI Form Y-1) consists of twenty statements that evaluate how respondents feel right now, at this moment." The T- Anxiety scale (STAI Form Y-2) consists of twenty statements that assess how people generally feel. Scoring- Each STAI item is given a weighted score of 1 to 4. A rating of 4 indicates the presence of a high level of anxiety for ten S-Anxiety items and eleven T-Anxiety items (e.g., "I feel frightened", "I feel upset"). A high rating indicates the absence of anxiety for remaining ten S-Anxiety items and nine T-Anxiety items ("I feel calm", "I feel relaxed"). The scoring weights for the anxiety-present items are the same as the blackened numbers on the Mean score of Group-1 and Group-2 is 49.3 and 46.6 respectively. The calculated t value is 1.58 which is not significant at .05 level critical value of .05 is 1.96, indicating Group-1 (Non meditation) Group-2 (Meditation) is not differ with each other in their level of anxiety test form. The scoring weights for the anxiety-absent items are reversed, i.e., responses Mean score of Group-1 and Group-2 is 49.3 and 46.6 respectively. The calculated t value is 1.58 which is not significant at .05 level critical value of .05 is 1.96, indicating Group-1 (Non meditation) Group-2 (Meditation) is not differ with each other in their level of anxiety marked 1, 2, 3 or 4 are scored 4, 3, 2 or 1, respectively. The anxiety-absent items for which the scoring weights are reversed on the S-Anxiety and T-Anxiety scales are:

S-Anxiety- 1, 2, 5, 8, 10, 11, 15, 16, 19, 20

T-Anxiety- 21, 23, 26, 27, 30, 33, 34, 36, 39

The obtain scores for the S- Anxiety and T- Anxiety scales, simply add the weighted scores for the twenty items that make up each scale, taking into account the fact that the scores are reversed for the above items. Scores for both the S- Anxiety and the T- Anxiety scales can vary from a minimum of 20 to a maximum of 80.

Meditation Procedure

The subject in the meditation group was first introduced to meditation practice. On reporting to the laboratory, they were given training session, they were asked to sit comfortably in a relaxed manner on a mattress spread on the floor of a room. The subjects were required to have straight back without rigidity, ears in line with shoulders and the tip of the nose in line with the navel (Patel, 1993). They were also telling to sit with eyes closed. The subjects were instructed to take a deep breath slowly, hold it for a few seconds, exhale it slowly, and then repeat the procedure 10 times. They were required to use the same procedure 10 times with each of the nostrils, inhaling and exhaling with the same nostril. Afterward, the same procedure was repeated but by inhaling with one nostril and exhaling with other. Finally, the subjects were required to concentrate on their nostril breathing (e.g. abdominal muscles moving inward

with every inhale and outward with every exhale), without thinking anything, for 20 minutes. All through the subjects are required to make sure that their breathing is regular, slow and rhythmical. Toward the end, they were asked to have a few deep breaths and then get up for routine work. The training and practice under the supervision of the instructor continued till the subjects were able to do meditation at home. These subjects were also requested to do the meditation practice at home twice a day several hours apart (e.g., in the morning before breakfast and again in the evening after supper) for about 25-30 minute each time. They were also requested to make sure that the distractions of noise, light and activity of other people are minimal. Moreover, meditation was also to be practiced after emptying the bladder and bowel. Regularity of home practice was monitored by telephonic contacts.

Result and their Interpretation

Table 1

Showing the Result of 't' Test for State Anxiety (Pre score)

Group	N	Mean	t
Group-1 Non meditation	50	49.3	1.58*
Group-2 Meditation	50	46.6	

Mean score of Group-1 and Group-2 is 49.3 and 46.6 respectively. The calculated t value is 1.58 which is not significant at .05 level critical value of .05 is 1.96, indicating Group-1 (Non meditation) Group-2 (Meditation) is not differ with each other in their level of anxiety.

Post Test

Group	N	Mean	t
Group-1 Non meditation	50	46.3	7.78**
Group-2 Meditation	50	35.05	

Mean score of Group-1 and Group-2 is 46.3 and 35.05 respectively. The calculated t value is 7.78 which is significant at .01 level, critical value of .01 level is 2.58, indicating Group-1 (Non meditation) Group-2 (Meditation) differ with each other in their level of anxiety. Result also shows that group-1 (Non meditation) of CHD patients scored higher on state anxiety than group 2 (Meditation) of CHD patients indicates that patients of group 1 is more anxious than group-2.

Table- 2

Showing the result of 't' test for Trait Anxiety (Pre score)

Group	N	Mean	t
Group-1 Non meditation	50	44.69	.096
Group-2 Meditation	50	46.43	

Mean score of Group-1 and Group-2 is 44.69 and 46.43 respectively. The calculated t value is .096 which is not significant at .05 level, critical value of .05 is 1.96, indicating Group-1 (Non meditation) Group-2 (Meditation) is not differ with each other in their level of anxiety.

Post score

Group	N	Mean	t
Group-1 Non meditation	50	42.2	0.36
Group-2 Meditation	50	41.5	

Mean score of Group-1 and Group-2 is 42.2 and 41.2 respectively. The calculated t value is .036 which is not significant at .05 level, critical value of .05 level is 1.96, indicating Group-1 (Non meditation)

Group-2 (Meditation) is not differ with each other in their level of anxiety.

Thus it is found that anxiety is one of the significant contributing factors in the development of heart disease. Meditation is being increasingly behavior modification technique for anxiety among CHD patients. Yoga based intervention produces beneficial effects on anxiety risk factors or associated with heart disease.

Kathleen (2010) found that transcendental meditation is to ease symptoms of anxiety, in turn reducing heart disease risk and improve health outcomes for individuals at high risk for morbidity and mortality from anxiety that can lead to heart disease.

Conclusion

It can be concluded that there exists significant difference in the level of state anxiety among Coronary Heart Disease patients (non mediation and meditation Group) and it also concluded that there exists no significant difference in the level of trait anxiety among Coronary Heart Disease patients (non mediation and meditation Group).

Limitation and Suggestions

1. The study has been conducted on a limited sample of patients taken from Agra only. A more exhaustive study needs to be conducted on a wider sample selected from various geographical areas. Before generalizing the results of the study, cross-cultural research is suggested.

2. In future researches it should be ascertained whether longer intervention can give still better results.
3. Multiple research assessment approach can also be used in future research in the area to get more reliable results.

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