# RESEARCH

# Effectiveness of Meditation on Stress Among Clients with Heart Diseases at Selected Hospitals, Hyderabad, Andhra Pradesh

**Mehta Anita[*1] Trikhatri Chanak[1], Saha Abhilasha[2]**

[1]Department of Medical Surgical Nursing, National Medical College and Teaching Hospital, Birgunj, Nepal
[2]Department of Child Health Nursing, National Medical College and Teaching Hospital, Birgunj, Nepal

## ABSTRACT

### Background:
Cardiovascular disease is any disorder that affects the heart's ability to function normally. It is one of the leading causes of death in world. According to the world Health Organization, estimate 17 million people worldwide die of CVD each year. Stress is dangerous to the heart. Stress hormones speed up the heart rate, constrict blood vessels, and make the heart and blood vessels more likely to overreact in the event of a future stressful event. Stress is also linked to high blood pressure, blood clots, and in some cases, even stroke. The overall aim of the study was to assess the effectiveness of mediation on stress among clients with heart diseases.[1,2]

### Methods:
Quantitative approach with quasi experimental non equivalent control group design was adopted to accomplish the objectives. Non probability convenience sampling technique was used to select the sample of 60 clients with heart disease with stress in which 30 in each experimental and control group. The data were collected using Interview method.

### Results:
The results showed that the pre test level of stress before the intervention i.e. meditation was 23.7 mean with standard deviation 5.54 and it was decreased to 14.6 mean with standard deviation 4.60 and the paired 't' value was 6.94. This shows that there was a significant relationship between pre and post test level of stress among the clients with heart diseases.

### Conclusion:
The study attempted to assess the effectiveness of meditation on stress among the clients with heart diseases and found that meditation was effective in reducing the level of stress among the clients with heart diseases.

### Key Words:
Clients with Heart disease, Effectiveness, Meditation, Stress,

**\*Corresponding Author:** Anita Mehta
Department of Medical Surgical Nursing, National Medical College and Teaching Hospital, Birgunj, Nepal.
Email: anitamehta.mahato@gmail.com

## INTRODUCTION
Cardiovascular system is one of the most important systems whose functioning reflects the existence of life. The vital role of the cardio-vascular system in maintaining homeo-stasis depends on the continuous and controlled movement of blood through the thousands miles of capillaries that permits every tissue and reach every cell in the body. Numerous control mechanisms help to regulate and integrate the

diverse functions and component parts of the cardiovascular system in order to supply blood to specific body areas according to need.[1-3]

World Health Organization report Global on Cardiovascular diseases prevention and control states that cardiovascular diseases (CVD's) are leading cause of death and disability in the world. Although a large proportion of Cardiovascular Disease is preventable, they continue to rise mainly because preventive measures are inadequate. An estimated 17.3 million people died from Cardiovascular Diseases in 2008. Over 80% of Cardiovascular Disease deaths take place in low and middle- income countries. By 2030, almost 23.6 million die from Heart Diseases. It is believed that it may remain the single leading cause of death by 2030.[4,5]

Stress is one of the most common causes of heart disease and aggravating the situation. In this modern society people lives under very stressful situation and has many diseases. About 600,000 people die of heart disease in the United States every year that's 1 in every 4 death. Coronary Heart Disease is the most common type of heart disease killing more than 385000 people annually. Every year about 935,000 Americans have a heart attack 3,25,000 happen in people who have already had a heart attack. 1.17 million in 1990 and 1.59 million in 2010 and to 2.30 million in US.[6]

Stress is implicated in the pathogenesis and progression of heart failure. Stressful situations increase hospital readmission. Stress increases circulating catecholamine; activate the renin-angiotensin system, decrease ventricular fibrill-ation threshold, and increase blood pressure and heart rate. Depression and stress are common in hospitalized Cardiovascular Diseases patients and lead to poorer outcome. Mental stress appears to induce myocardial ischemia more frequently.[7]

Several strategies have been shown to help reduce the stress such as exercise-breathing exercises, progressive muscle relaxation (PMR), participating in mindfulness based stress reduc-tion (yoga and meditation), aromatherapy, laughter therapy, and engaging in a cognitive behavioral therapy program.[8]

Meditation techniques are increasingly popular practices that may be useful in preventing or reducing elevated blood pressure. Landmark studies and recent literature concerning the use of meditation for reducing blood pressure in pre-hypertensive and hypertensive individuals. Meditation is a technique that turns on the body's own pharmacy to repair and maintain itself.[9]

## MATERIALS AND METHODS

The research approach selected for the study was Quantitative approach with Quasi Experimental non equivalent Control Group Design. The study was conducted among 60 clients with heart disease with stress (30 samples in each group) at Prime Hospitals and St. Theresa's Hospital. Samples were selected for the study by using Convenience sampling technique. Researcher first screened the level of stress by using modified perceive stress scale (semi structured interview schedule) among clients with heart diseases (HTN, CAD, AP, and MI). Then interpretation was done and the client was selected with moderate and severe stress for the study as sample. The data were collected using Interview Method. This consists of two sections; Section A: Demographic variables, Section B: Modified Perceived Stress Scale. Reliability of the tool was elicited through internal homogeneity by using Karl Pearson correlation coefficient and it was found to be reliable r = 0.85. Pilot study was conducted on 10 clients with heart disease with stress at Apollo Hospital, Hyderabad. Hence the tool was found reliable. Intervention i.e. mediation to the experimental group for 20 minute twice a day for two weeks. After two week post test was done by using perceived stress scale on the both group.

## RESULT

The data were analyzed using descriptive and inferential statistics. The results have been organized and presented as given below:
Data analyzed by descriptive statistics shows that in experimental group out of 30 samples majority of the samples 11 (36.67%) were in the age group of 56yrs & above, where as in control group majority of the samples 8 (26.67%) were in each age groups of 36-45yrs, 46-55yrs and 55yrs and above. With regard to gender, in experimental group both male & female were equal i.e. 15 (50%) whereas in control group, majority of samples 16 (53%) were males. Regarding the type of family in experimental majority of the
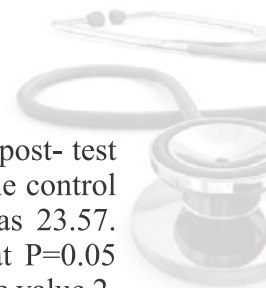
samples 12 (40%) were in joint family whereas among control group majority of samples 12 (40%) belongs to nuclear family. With regard to religion, in experimental samples majority of samples 10 (33.33%) were in Hindu & Muslim similarly control group majority of the samples 13 (43%) were Hindu. With regard to educational status in experimental group majority of the samples 9 (30%) were having primary education whereas in control group majority of the samples 9 (30%) were having intermediate education.

**Table 1: Test of significance showing difference between mean and standard deviation of pre and post test level of stress among the client's with heart diseases in experimental group.**

(n=30)

| Test | Mean | Standard deviation | paired 't' | P Value |
|------|------|--------------------|-----------|---------|
| Pre – test | 23.7 | 5.54 | 6.94 | 0.05 * |
| Post – test | 14.6 | 4.60 | | |

*Significant at the level of 0.05 significance

**Table 2: Test of significance showing difference between mean and standard deviation of post test level of stress among the client's with heart diseases in experimental and control group.**

(n=60)

| Test | Mean | unpaired 't' | P Value |
|------|------|-------------|---------|
| Experimental Group | 14.6 | 7.67 | 0.05 * |
| Control Group | 23.57 | | |

*Significant at the level of 0.05 significance

## DISCUSSION

The aim of this study was to evaluate the effectiveness of meditation on stress among clients with heart diseases and stress at Prime Hospitals and St. Theresa's Hospital, Hyderabad, Andhra Pradesh.

The result of the study revealed that, in the experimental group, the pre- test level of stress mean was 23.7 and post- test level of stress was 14.6 and the calculated value was 6.94 at P=0.05 level of significance is greater than the table value 2.5. Therefore, Null Hypothesis ($H0_1$) was rejected, that there was significant effectiveness of meditation on stress among the clients with heart diseases.

In addition, in the experimental group post- test level of stress mean was 14.6 and in the control group the post- test level of stress was 23.57. Since the calculated value was 7.67 at P=0.05 level of significance is greater than table value 2. Hence Null Hypothesis ($H0_2$) was rejected, which elicits meditation was effective.

The finding of the present study suggest that, there was no significant association of pretest level of stress with selected demographic variables among the clients with heart diseases in experimental group and control group.

The above findings of the study is supported by an experimental study conducted by Verma N in 2009 to assess the effectiveness of meditation on stress among 73 chronically ill patients with MI & Hypertension in selected hospitals of Mangalore. Out of that, 35 were selected and meditation was given for 2 weeks. The study results shown that mean pretest score was 52.4 and mean posttest score was 38.14. There was a significant reduction in stress score. The study concluded that meditation could be implemented in nursing homes, rehabilitation centers and community health centers.

From the findings of the study it is evident that students can improve their knowledge in managing the stress among the clients with heart diseases. Education plays an important role in improving the health status of clients with heart diseases. If students are taught about the different alternative measures like yoga and music therapy in stress management among the clients with heart diseases, it can improve the patient's health status.

There is a need for protocol for assessing the level of stress and associated problems. The study was limited to sample population as the clients with heart disease like- hypertension, Coronary heart disease, Angina Pectoris and Myocardial infarction and clients who are traced with stress in pre-assessment.

## CONCLUSION

Stress affects an increasing number of populations in this rapid fasting growing era. In recent years, scientific literature has demonstrated numerous improvements in physical, vocational and emotional outcomes from meditation practice for stress. This practice

has gained interest from the health care professional. Numerous studies have suggested that meditation could improve many indicators of psychological aspect, physiological functioning and quality of life of the clients with stress. The present study assessed the effectiveness of meditation on stress among the clients with heart diseases. The findings of the study revealed that there was a marked decrease in mean level of stress scores ie. from 23.7 to 14.6, which was statistically significant. Hence, the study shows a positive benefit of meditation on stress reduction among the clients with heart diseases.

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