

THE EFFECT OF ACUPRESSURE ON ANXIETY IN PATIENTS WITH CARDIAC PROBLEMS

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Abstract:

Introduction: Cardiac complication can produce anxiety. Anxiety is mental disorder that characterized by feeling of nervousness. **Aim:** This study aimed to assess the effect of acupressure on anxiety among patient who suffered from cardiac disease. **Material and Method:** Quantitative research approach with true-experimental pre-test post-test control group research design was used to conduct the study. Probability simple random sampling technique was adopted to select 30 cardiac patient from selected hospital Vadodara. Sample was divided into two group experimental and control 15 sample in each. Generalized Anxiety Disorder-7 scale used to assess the level of anxiety, respectively acupressure was implemented and continue once a day for 15 days for 5-7 min. **Result:** The study found that in pre-test 60% of patient had severe anxiety. After acupressure reduced anxiety significantly at $p < 0.05$ in experimental group. **Conclusion:** The study concluded the acupressure is effective in reducing level of anxiety among cardiac patient.

Keyword: Acupressure, Anxiety, Cardiac problems, Effect

Introduction: -

When somebody is anxious, their heart can puts some extra pumping to the body for complete the need of body blood. It can cause extra load to the cardiac system. Symptoms of anxiety can be among person with existing cardiac disease. Anxiety may have a connection with the following heart problems and cardiac risk factors: speedy heart rate it can lead sudden cardiac arrest, can High blood pressure – If chronic, can lead to coronary disease, weakening of the heart muscle, and heart failure. Decreased heart rate variability – May result in higher incidence of death after an acute heart attack.¹

Mainly 20-30% of heart patients feel raised levels of anxiety. In year 2017 there are 197 million population suffering from any mental disorder in India 2017, from that 46 million have depression and 45 million have anxiety disorder.²

Cardiovascular diseases (CVDs) are the one of the first cause of death worldwide. Every year approximately 17.9 million people are death due to heart problems. Cardiac disorder are a group of diseases of the heart and blood vessels. It contain coronary heart disease, congestive cardiac failure, rheumatic heart disease and other conditions. Due to heart attack and strokes there are majority four out of five death occurs and one third people loss their life who have age of under 70 years. The annual report of the India shows 2.26 million (1990) to 4.77 million (2020) higher rate compared. Heart disease prevalence rate in India was increased 1.6% to 7.4% in rural area and 1% to 13.2% in urban area.³

Anxiety is a mental disorder that characterized by feeling of nervousness, worry or panic, that can be minimum or serious. Every people has some tension and worry at some times in life. Anxiety is one of the major symptoms of quite a some conditions, like scare disorder, terrors, phobia, post-traumatic stress disorder and social anxiety disorder⁴

Anxiety is normally treated with medication, Non-medicine or a mixer of both. Acupressure is one of the most popular alternative medicine for improving the patients mental stability. It involves encouraging pressure points in your body, either on your own self or with the assistant of a professional person.⁵

Acupressure is reliable, low-cost and has the least impediments. A movement of energy which is required for the body is moving across 12 pathways or meridians of the whole parts of the body suggest by the Chinese traditional medicine. In acupressure, pressure apply through provide massage by circular motion on the particular point. This procedure is works by encouraging the secretion of neurotransmitters and adrenocorticotrophic hormones though mechanism of endorphin mediated. ⁶

HYPOTHESIS

H₀₁- There will be no any significant difference between experimental group and control group in post-test scores of anxiety among cardiac patients.

H₀₂- There will be no any significant association between anxiety among cardiac patients with their selected socio-demographic variable.

Material and Methods:-

Quantitative research approach with true-experimental pre-test post-test control group research design was used to conduct the study. The hospitals as study setting were selected on the basis of availability of number of patients, giving permission to conduct the study and convenience in term of distance. Probability simple random sampling technique was adopted to select 30 cardiac patient from selected hospital Vadodara. Sample was divided into two group experimental and control 15 sample in each. Acupressure therapy was independent and level of anxiety among cardiac patients was the depended variable. Generalized Anxiety Disorder-7 scale used to assess the level of anxiety, respectively acupressure was implemented and continue once a day for 15 days for 5-7 min ⁷. Ethical approval for conducting the study was taken from Sumandeep Vidyapeeth Institutional ethics committee (SVIEC), Vadodara. Administrative approval and permission were taken from concern authorities of selected hospital, Vadodara. The consent form was prepared for the study participant regarding their willingness to participate in the research study. The research tool for data collection its consists two sections:

Section 1: Demographic Data

This section includes socio demographic variables such as age, gende, education , marital status, Cardiac problem, Duration of problem.

Section 2: Generalized Anxiety Disorder 7-item (GAD-7) scale use to assess anxiety level.

Generalized Anxiety Disorder 7-item (GAD-7) scale use to assess anxiety level of the cardiac patient. The GAD-7 was developed by Robert L. Spitzer, MD, and colleagues and published in 2006. It is standardized tool. The GAD-7 is one of the most frequently used diagnostic self-report scales for screening, diagnosis and severity assessment of anxiety disorder. This scale consist of 7 items that would help to assess the anxiety level of patient. GAD-7 total score for the seven items ranges from 0 to 21. 0–4: minimal anxiety. 5–9: mild anxiety. 10–14: moderate anxiety. 15–21: severe anxiety^{8,9}.

Intervention: -

The researcher underwent formal training of acupressure from subject expert. Researcher provide acupressure therapy on Hall of impression and Heavenly gate point. Intervention was continue for 15 days for 5-7 min once in a day provided by researcher in selected hospital Vadodara.

Method of data collection: -

On day 1, interview method used to assess pre-test level of anxiety among cardiac patient by using GAD-7 scale in experimental and control group. It took 10-15 min for each patient. Then Acupressure therapy was given to experimental group by researcher for 5-7min once a day and continue for 15 days. Then on last Day, interview method was used to assess the post-test level of anxiety by using same scale to assess the effect of acupressure on anxiety. Statistical analysis was done through descriptive and inferential statistics using SPSS-20 (statistical Package for the Social Sciences, India) and the level of significance < 0.05 was considered as the level of significance.

Result: -

Table 1: - shows the majority of patient were 11(36.7%) in the age group of 51-60 years, were 16(53.3%) male and 14(46.7%) were female, majority of patient were 13(43.3%) were completed their secondary education, majority of patient were 24(80.1%) married, Majority of patient were 11(36.7%) cardiac arrest and 10 (33.3%) MI, majority of patient were 26(86.7%) had duration of problems 1 year or below.

Table 1: - Frequency and percentage distribution of demographic variables of subject (n=30)

Demographic variables	Frequency	Percentage(%)
Age(in years)		
a. 21-30	01	3.3
b. 31-40	03	10.0
c. 41-50	06	20.0
d. 51-60	11	36.7
e. 61-70	08	26.7
f. 71-80	01	3.3
Gender		
a. Male	16	53.3
b. Female	14	46.7
Education		
a. Illiterate	05	16.7
b. Primary	07	23.3
c. Secondary	13	43.3
d. Higher secondary	04	13.3
e. Graduation	01	3.3
Marital status		
a. Married	24	80.1
b. Unmarried	06	19.9
Cardiac problem		
a. Cardiac arrest	11	36.7
b. MI	10	33.3
c. CCF	06	20.2
d. Cardiomyopathy	03	10.0
Duration of problem		
a. 0-1year	26	86.7
b. 1 -3year	03	10.0
c. 3 year and more	01	3.3

Table 2:- Shows the comparison of Post-test score of Anxiety level among Cardiac Patient between Control group and Experimental group revealed the in Control group mean Post-test score of level of Anxiety was 3.26 ± 0.593 and in Experimental group mean Post test score of level of Anxiety was 2.00 ± 0.534 with mean difference 1.26. The Post-test score of Level of Anxiety in Control group and Experimental group was compared using Unpaired t-test revealed that ($t=6.141$, $df=28$, $p=0.000$) indicate Acupressure therapy was effective in reduce the level of Anxiety among Cardiac Patient in Experimental group as compared to control group.

Table 2:- Mean, SD, Mean Difference, 't' value, df, 'p' value of control and experimental group(n=30)

Level of Anxiety	Mean	SD	Mean D	't' value	Df	'p' value
Control Group	3.26	0.593	1.26	6.141	28	0.000*
Experimental Group	2.00	0.534				

***p<0.05 level of significance**

Table 3: shows that in experimental group pre-test majority 11(73.3%) had severe anxiety, where as in post-test majority 11(73.3%) had mild anxiety. In control group pre-test majority 8(53.5%) had moderate anxiety, 7(46.7) had severe anxiety where as in post test majority 9(60%) had moderate anxiety, 5(33.3%) had severe anxiety.

Table 3:- Pre-test and Post-test score of level of anxiety among Cardiac Patient in experimental and control group

Level of Anxiety	Experimental group				Control group			
	Pre-test		Post-test		Pre-test		Post-test	
	F	%	F	%	f	%	f	%
Minimal Anxiety	00	00	02	13.3	00	00	00	00
Mild Anxiety	00	00	11	73.3	00	00	01	6.7
Moderate Anxiety	04	26.7	02	13.3	08	53.3	09	60.0
Severe Anxiety	11	73.3	00	00	07	46.7	05	33.3

Table 4: shows the association between Pre-test score of level of Anxiety among Cardiac Patient with selected Demographic variables in Control group and Experimental group which was tested by using chi-square test. The result reveals that there is no any significance association between level of Anxiety and demographic variable as the χ^2 (chi-square) value is less than table value.

Table 4: Association between level of anxiety and sociodemographic variables (n=30)

Sl. No	Variable	(f)	Df	Table value	χ^2	Level of significance
1	Age(in years)	30	15	24.996	14.509	NS
2	Gender	30	3	7.815	4.109	NS
3	Education	30	12	21.026	20.138	NS
4	Marital status	30	9	16.919	8.144	NS
5	Cardiac problem	30	9	16.919	9.368	NS
6	Duration of problem	30	6	12.592	9.136	NS

Level of significance:-0.05

χ^2 =Chi-square

Hence, It can be concluded that acupressure therapy was effective in reduce the level of anxiety among patient with cardiac problems, so hypothesis H_{01} Fail to accept and H_{02} is accepted, i.e.posttest level of anxiety is lower than pre-test level of anxiety in experimental group among cardiac patients after intervention of acupressure therapy.

Discussion

The findings of the present study showed that acupressure could decrease anxiety level of the patient who suffered from cardiac diseases. In addition, the results revealed a significant difference between the experimental groups and the control group regarding the level of anxiety. Thus, cardiac patients have decrease anxiety due to effect of acupressure.

Kober et al. showed that acupressure while transferring the patients to hospital was effective in reducing anxiety level¹⁰. Fassoulaki et al. indicated that acupressure was effective in reducing anxiety and elevating mood¹¹. The mechanism of acupressure has not been identified up to now; however, the type of used touch and pressure seems to have a considerable effect beyond a simple touch. Acupressure causes physiologic, systemic, and local changes in the body and creates calmness and balance throughout body and mind. It also reduces the symptoms of stress. In addition, Wang et al. investigated the effect of acupressure on anxiety and reported that acupressure had reduced anxiety level of the intervention group¹². Although the main mechanism of acupressure has not been known yet, several studies have shown that this method leads to release of neurotransmitters such as serotonin, which can affect individuals’ tranquility^{13,14}. Furthermore, Lewith et al. believed that the interventions used in the studies on complementary medicine could change the rate of fear, anxiety, bronchoconstriction, heartbeat, blood pressure, and skin temperature. The reduction of anxiety might be due to the effectiveness of the intervention, self-hypnosis, or even the feeling of security resulting from the presence of the researcher as one of the healthcare staff¹⁵. Present study also shows that alternative medicine could reduce the anxiety among people who have cardiac problems. Up to this date, nurses and midwives have investigated various interventions on the effect of acupressure on the different problems and have employed various interventions to prevent anxiety disorders¹⁶.

Results of the study by Marzieh Batvani et al. in 2018 which evaluated the effect of Acupressure as a nonmedicinal method could be effective on the relative improvement of physiologic indices of

myocardial infarction patients immediately after and 30 min after the intervention, whereas no significant changes were observed in the control group regarding physiologic indices¹⁷.

In this present study Acupressure therapy is the choice of alternative therapy to reduce the level of anxiety symptoms used in cardiac disease. Previous study also shows that acupressure is effective in decrease anxiety among people who are affected with psychological symptoms, reduce the stress and decrease physical symptoms like blood pressure , heart rate, respiration rate etc.^{18,19}.

Implications and recommendations

Acupressure therapy can be implemented as a part of alternative therapies and should be practice by nurses to teach the patient who had physical and psychological symptoms of anxiety and stress due to chronic disease. Findings of the study will act as a catalyst to carry out more extensive research in a large sample and in other chronic disease conditions and such work encourage evidence-based practice. Alternative therapies or non-medicine management of anxiety should be emphasized in nursing curriculum and training.

Conclusions

The study concluded that most of the patient experienced mild to moderate level of anxiety when admitted in the hospital. Acupressure therapy was effective in reduce the level of anxiety among cardiac patients. The study is limited to cardiac patients of selected hospitals of Vadodara, Gujarat, India. This study involved the small sample of cardiac patient and comparison between control and experimental group. It is very difficult to ascertain whether the observed anxiety is due to their cardiac problems or some other reason.

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Ethical consideration

A formal ethical approval received from institutional ethical committee. Informed consent was obtained from participants and assured for anonymity.

Conflicts of interest

There are no conflicts of interest.

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