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Review Article

The effect of progressive muscle relaxation technique on physical parameters and anxiety among patients with myocardial infarction

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ABSTRACT

Introduction: The main aim of the study is to assess the effect of progressive muscle relaxation therapy on physical parameter and anxiety among patient with myocardial infarction admitted at selected hospitals of Durg (C.G). The study was conducted at B.M Shah Hopsital and K. Gurunath Cardiac Hospital for patient with myocardial infacrtion.

Materials and Methods: Quasi experimental pretest posttest control group design was adopted for this study. Convenient sampling technique was used to select the study participants. The patient with myocardial infarction was assigned to experimental group (n=23) and the other to the control group (n=23). Progressive muscle relaxation therapy was given for 20 minutes once daily in the morning between 6-8AM for 7 days. Physical parameter and anxiety measurements were taken from the first day and 7^{th} day and was documented.

Result: The study showed a significant reduction of physical parameters mean blood pressure from 5.75 to 5.5 mm of Hg, for pulse 5.5 to 5, for respiration 7 to 5.7, and SPO2 7 to 5.8. calculated 't' value was greater than the table value at 0.001 level of significance. Level of anxiety before and after progressive muscle relaxation among the experimental group was 50and 44.5. respectively. Standard deviation was 7.0, 6.6 and the calculated 't' value was 3.4. While comparing with table value, it showed that the calculated 't' value was greater than the table value at 0.001 level of significance.

Conclusion: Hence it is concluded that progressive muscle relaxation therapy is an effective measure to maintain the level of physical parameters and reduce the level of anxiety among patient with myocardial infarction at selected hospitals of Durg (C.G).

1. Introduction

Heart attack is formally referred to as acute myocardial infarction. A heart attack is a potentially fatal disease that develops when the blood supply to the heart muscle is suddenly interrupted, resulting in tissue injury.[1] A obstruction in one or more of the coronary vessels frequently causes this. Plaque, a material primarily composed of fat, cholesterol, and cellular waste products, can accumulate and cause an obstruction. Numerous alterations in a person's physical, psychological, and social parameters will result from myocardial infraction. Sweating, nausea, puking, and fainting can accompany chest discomfort, but they can also happen without any pain at all. The most typical signs of myocardial infarction in women are tiredness, weakness, and loss of breath. Breathlessness is a frequent sign, and in some cases the only symptom, of cardiac damage that restricts the left ventricle's ability to pump blood. Breathlessness can be caused by either low blood oxygen levels or pulmonary edema.[2] Other signs and symptoms include fatigue, dizziness, palpitations, irregular heartbeat or blood pressure, loss of awareness, and abrupt

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demises.

2. Need of the Study

Additionally, patients in the therapy group's written assessments of the Progressive muscle relaxation method showed a high level of emotional happiness with it as a way to lessen stress in their lives.[3]

Using a randomized distribution technique, samples were divided into two group controls. Patients who have had a myocardial infarction administer the gradual muscular relaxation method twice daily for three days. As a consequence, patients with myocardial infarction who use the progressive muscle relaxation method experience substantially lower respiratory rates and minor changes to the other vital signs.[4]

The data were split into two groups: intervention and control. From the perspectives of age, sex, and level of worry, both are comparable. Patients with myocardial infraction are administered the progressive muscular relaxation method over the course of three days. As a consequence, patients with myocardial infraction who were admitted in the CCU experienced significantly less worry and systolic and diastolic blood pressure.[5]

The researcher believed that in order to avoid further complications that are brought on by variables affecting anxiety, myocardial infarction patients should keep their bodily parameters and conquer their anxiety.[6] These people can learn relaxation methods in addition to taking medication to more effectively lower their high levels of worry. The researcher discovered that progressive muscle relaxation method is more successful at decreasing worry than other techniques.[7] This inspired the researcher to perform this study in an effort to lower tension levels among myocardial infarction patients and stop further complications.[8]

2.1. Statement of the problem

"A study to assess the effect of progressive muscle relaxation technique on physical parameters and anxiety among patients with myocardial infarction at selected hospitals, Durg (C.G)."

3. Objectives

1. To assess the level of physical parameters of patients with myocardial infarction.
2. To assess the level of anxiety of patients with myocardial infarction
3. To assess the effect of progressive muscle relaxation techniques on physical parameters and anxiety among patients with myocardial infarctions.
4. To find the correlation between physical parameters and anxiety among patients with Myocardial infarction
5. To find out the association between pre test score of patients of myocardial infarction with selected socio demographic variables.

3.1. Research approach

A "quasi experimental research approach" was used

3.2. Research design

Pre-test-post-test control group design was used

3.3. Setting of the study

The current research was carried out at two institutions, K. Gurunath Cardiovascular Hospital and B.M. Shah Multi Specialty Hospital in Supela Bhilai. K Gurunath cardiac hospital has 10 beds, while B M Shah multispecialty hospital has 55 spaces for patients with a variety of specialties.

3.4. Sample

The sample of the present study is 46 myocardial infarction patients at selected hospitals of Durg (C.G).

3.5. Sampling technique

Among myocardial infarction cases, a representative group was chosen using non-probability-convenient selection.

3.6. Inclusion criteria

1. Patients who are present at the time of data collection
2. Patients who are willing to participate in the study.

3.7. Exclusion criteria

1. Patients with other co-morbid diseases and unconsciousness.

4. Result

4.1. Assessment on level of physical parameters among patients with myocardial infarction

This section deals with the level of physical parameters includes Blood pressure, Pulse, Respiration and Spo2 among patients with myocardial infarction. The level of physical parameters was categorized as mild, moderate and severe. In terms of systolic blood pressure, mild hypertension is 120-139mm of Hg, moderate is 140-159mm of Hg and severe is ≥160mm of Hg. In terms of diastolic blood pressure, mild hypertension is 80-90mm of Hg,

Table 1: Percentage distribution of subjects according to age (N=46)

S.No.	Age (in years)	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Below 30	6	26	9	39.3
2.	31-40	9	39.2	8	34.7
3.	41-50	4	17.4	3	13
4.	Above 50	4	17.4	3	13
	Total	23	100	23	100

Table 2: Percentage distribution of subjects according to gender (N=46)

S. No .	Gender	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Male	9	39.2	12	52.1
2.	Female	14	60.8	11	47.9
	Total	23	100	23	100

Table 3: Percentage distribution of subjects according to education (N=46)

S. No .	Education	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Illiterate	6	26	8	34.7
2.	Secondary	7	30.4	7	30.5
3.	Graduate	5	21.8	4	17.4
4.	Post Graduate	5	21.8	4	17.4
	Total	23	100	23	100

Table 4: Percentage distribution of subjects according to religion (N=46)

S. No .	Religion	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Hindu	15	65.3	10	43.4
2.	Muslim	2	8.7	4	17.4
3.	Christian	3	13	5	21.8
4.	others	3	13	4	17.4
	Total	23	100	23	100

Table 5: Percentage distribution of subjects according to type of food (N=46)

S. No .	Type of food	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Vegetarian	11	47.8	15	65.2
2.	Mixed diet	12	52.2	8	34.8
	Total	23	100	23	100

Table 6: Percentage distribution of subjects according to type of family (N=46)

S. No .	Type of family	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Single	8	34.8	12	52.1
2.	Nuclear	8	34.8	3	13
3.	Joint	4	17.4	4	17.4
4.	Extended	3	13	4	17.4
	Total	23	100	23	100

Table 7: Percentage distribution of subjects according to occupation (Male) (N=46)

S. No .	Occupation (Male)	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Labour	6	26	8	34.7
2.	Private	9	39.1	5	21.7
3.	Self	6	26	6	26
4.	Government	2	8.6	4	17.3
	Total	23	100	23	100

Table 8: Percentage distribution of subjects according to occupation (Female) (N=46)

S. No .	Occupation (female)	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Housewife	9	39.1	12	52.1
2.	Private	6	26	4	17.4
3.	Self	6	26	4	17.4
4.	Government	2	8.6	3	13
	Total	23	100	23	100

Table 9: Percentage distribution of subjects according to Habitat (N=46)

S. No .	Habitat	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Urban	14	60.8	16	69.5
2.	Rural	9	39.1	7	30.4
	Total	23	100	23	100

Table 10: Percentage distribution of subjects according to family monthly income (N=46)

S. No .	Family monthly income	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Below Rs 5,000	9	39.1	6	26
2.	Rs 5,001-10,000	4	17.4	7	30.4
3.	Rs 10,001-15,000	6	26	8	34.7
4.	Above Rs 15,001	4	17.4	2	8.6
	Total	23	100	23	100

Table 11: Percentage distribution of subjects according to personal habits (N=46)

S. No .	Personal habits	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Betel chewing	7	30.4	10	43.4
2.	Smoking	6	26	9	39.1
3.	Alcohol	7	30.4	2	8.6
4.	None	3	13	2	8.6
	Total	23	100	23	100

Table 12: Percentage distribution of subjects according to recreational activity (N=46)

S. No .	Recreational activity	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Gardening	9	39.1	10	43.4
2.	Listening music	9	39.1	5	21.7
3.	Reading books	3	13	4	17.4
4.	Others	2	8.6	4	17.4
	Total	23	100	23	100

Table 13: Percentage distribution of subjects according to source of Information (N=46)

S. No .	Source of information	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Friends	8	34.7	13	56.5
2.	Previous exposure	6	26	4	17.4
3.	Media	5	21.7	3	13
4.	No information	4	17.4	3	13
	Total	23	100	23	100

Table 14: Percentage distribution of subjects according to availability of Government Health Services (N=46)

S. No .	Availability of Government health services	Experimental group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Yes	11	47.8	16	69.5
2.	No	12	52.1	7	30.4
	Total	23	100	23	100

moderate is 90-99mm of Hg and severe is ≥100mm of Hg, where as in pulse rate the normal pulse rate is 72-80, mild pulse rate is 80-90b/min, moderate pulse rate is 90-100b/min and severe pulse rate is >100b/min, for respiration the normal rate is 16-24/min, mild is 24-30b/min, moderate respiration is 30-50b/min, and severe respiration is more than ≥50b/min. Collected data were organized, analyzed and presented using descriptive statistics.

4.2. Over all analysis of pretest and post test anxiety score of experimental and control group among myocardial infarction patients

The shows that in experimental group, in pre-test, 12(52.1%) are having severe anxiety, 11(47.8%) are having moderate anxiety, Whereas in post test 17(73.9%) patients are having mild anxiety, 6(26%) were having no anxiety level where as in control group pre-test, 14(60.8%) are having severe anxiety, 9(39.1%) are having moderate anxiety, Whereas in post test 10(43.4%) patients are having severe and moderate anxiety, and 3(13%) were having mild anxiety level.

Paired 't' test was used to assess the level of anxiety among patients with myocardial infarction before and after the intervention. It was identified that, the mean level of anxiety before and after progressive muscle relaxation among the experimental group was 50and 44.5 respectively. Standard deviation was 7.0, 6.6 and the calculated 't' value was 3.4. While comparing with table value, it showed that the calculated 't' value was greater than the table value at 0.001 level of significance. Thus the research hypothesis, 'There will be a significant difference in the level of anxiety among patient with myocardial inafraction in experimental group before and after progressive muscle relaxation technique was accepted.

Unpaired 't' test was used to compare the level of physical parameters after the intervention among the

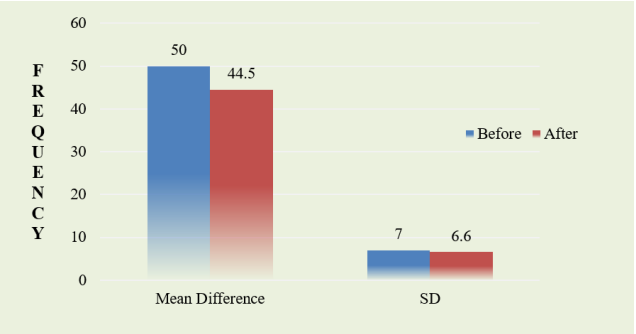

Fig. 1: Comparison of anxiety score among patients with myocardial infarction in experimental group

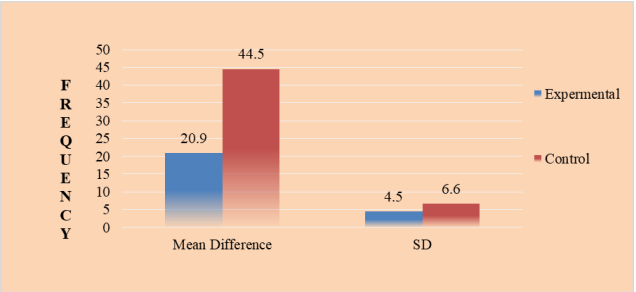

Fig. 2: Comparison of level of anxiety among patients with myocardial infarction between experimental and control group in post test

experimental and control group. It was identified that the mean level of blood pressure among patient with myocardial infarction in experimental and control group was 5.7and 4.5 respectively with a mean difference of 1.2. Likewise the standard deviation of the experimental and control group was 4.9 and 3.3 respectively. The calculated 't' value was 6.4 which was greater than the table value at 0.001 level of significance. The mean level of physical parameter of pulse rate among the experimental and control group was 11.5

Table 15: Over all analysis of pretest and posttest value of physical parameters of patients with myocardial infarction (N=46)

S.No	Parameters	Experimental				Control			
		Pre test		Post test		Pre test		Post test	
		(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
1.	**Blood pressure**								
	Normal 120/80	4	17.3	15	65.2	5	21.7	6	26.0
	Mild BP 120-30mmHg	4	17.3	4	17.3	4	17.3	4	17.3
	Moderate BP 140-90	5	21.7	2	8.6	2	8.6	5	21.7
	Severe BP ≥150/≥90	10	43.4	2	8.6	12	52.1	8	34.7
2.	**Pulse**								
	Normal (72-80b/min)	6	26	14	60.8	5	21.7	7	30.4
	Mild increase (80-90b/min)	2	8.6	3	13	4	17.3	3	13.0
	Moderately increased (90-100b/min)	3	13	4	17.3	6	26.0	8	34.7
	Severely increased (above 100b/min)	12	52.1	2	8.6	8	34.7	5	21.7
3.	**Respiration**								
	Normal (16-20breath/min)	2	8.6	16	69.5	5	21.7	9	39.1
	Mild (20-30breath/min)	3	13	2	8.6	1	4.34	2	8.6
	Moderate (30-35breaths/min)	8	34.7	4	17.3	5	21.7	6	26.0
	Severe (above 40breaths/min)	10	43.4	1	4.34	12	52.1	6	26.0
4.	**SPO2**								
	80	6	26.0	14	60.8	3	13	8	34.7
	80-90	7	30.4	7	30.4	9	39.1	2	8.6
	90-100	10	43.4	2	8.6	11	47.8	13	56.5

Table 16: Over all analysis of assessment of anxiety among patients with myocardial infarction (N=46)

S.No	Level of anxiety	Experimental group				Control group			
		Before		After		Before		After	
		(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
1	No anxiety (0-15)	0	0	6	26	0	0	0	0
2	Mild anxiety (16-31)	0	0	17	73.9	0	0	3	13
3	Moderate anxiety (32-47)	11	47.8	0	0	9	39.1	10	43.4
4	Severe anxiety (48-63)	12	52.1	0	0	14	60.8	10	43.4
5	**Total**	23	100	23	100	23	100	23	100

and 3.5respectively with a mean difference of 8. Standard deviation was 3.3, 2.5 and the calculated 't' value was 7.0. While comparing with table value, it showed that the calculated 't' value was greater than the table value at 0.001 level of significance. The mean level of physical parameter of respiratory rate among the experimental and control group was 5.9 and 3.5respectively with a mean difference of 2.4. Standard deviation was 3.3, 2.6 and the calculated 't' value was 7.0. While comparing with table value, it showed that the calculated 't' value was greater than the table value at 0.001 level of significance. The mean level of physical parameter of SPO2 among the experimental and control group was 7.6 and 7.3 respectively with a mean difference of 0.3. Standard deviation was 2.7, 2.6 and the calculated 't' value was 14.6. While comparing with table value, it showed that the calculated 't' value was greater than the table value at 0.001 level of significance. Hence, the research hypothesis 'There will be a significant difference

Table 17: Comparison of physical parameters among patients with myocardial infarction in experimental group (N=46)

Level of Blood Pressure(mm of Hg)		Mean	SD	Mean difference	't' value
Blood pressure	Before intervention	5.75	2.3	0.25	6.8***
	After intervention	5.5	4.2		
Pulse	Before intervention	5.5	4.9	0.5	6.25***
	After intervention	5	4.0		
Respiration	Before intervention	5.7	4.7	-1.3	7.0***
	After intervention	7	4.9		
SPO2	Before intervention	5.8	4.8	0.5	10.6***
	After intervention	5.3	3.7		

***Significant at 0.001 level

Table 18: Comparison of anxiety score among patients with myocardial infarction in experimental group

Anxiety	Mean	SD	df	Paired t test	P value	Table value	Inferences
Before intervention	50	7.0	22	3.4	0.001	2.07	Significance
After intervention	44.5	6.6					

***Significant at 0.001 level

Table 19: Comparison of level of physical parameters among patients with myocardial infarction between experimental and control group in post test (n=46)

Parameters	Group	Mean	SD	Mean difference	't' value
Blood pressure	Experimental Group	5.7	4.9	1.2	6.4***
	Control Group	4.5	3.3		
Pulse	Experimental Group	11.5	3.3	8	7.0***
	Control Group	3.5	2.5		
Respiration	Experimental group	5.9	3.3	2.4	7.0***
	Control group	3.5	2.6		
SPO2	Experimental group	7.6	2.7	0.3	14.6***
	Control group	7.3	2.6		

***Significant at 0.001 level

Table 20: Comparison of level of anxiety among patients with myocardial infarction between experimental and control group in post test (n=46)

Anxiety	Group	Mean	SD	Mean difference	't' value
Anxiety	Experimental Group	20.9	4.5	-23.6	4.2***
	Control Group	44.5	6.6		

***Significant at 0.001 level

Table 21: Correlation between physical parameters and anxiety among patients with myocardial infarction in experimental group N= 46

	Variables	Mean ± SD	Karl pearson correlation coefficient	Interpretation
Posttest Value	Physical parameters	20.9 ± 4.5	r = 0.89 p=0.01 significant	In post test myocardial patients physical parameter and anxiety are substantial related
	Anxiety	44.5 ± 6.6		

in the level of physical parameters among patient with myocardial infarction in experimental and control group' was accepted.

Unpaired 't' test was used to compare the level of anxiety after the intervention among the experimental and control group. It was identified that the mean level of anxiety among patient with myocardial infarction in experimental and control group was 20.9 and 4.5 respectively with a mean difference of -23.6. Likewise the standard deviation of the experimental and control group was 4.5 and 6.6 respectively. The calculated 't' value was 4.2 which was greater than the table value at 0.001 level of significance. Hence, the research hypothesis 'There will be a significant difference in the level of anxiety among patient with myocardial infarction in experimental and control group' was accepted.

Table 22: Chi square analysis to find out the association between pre-test level of anxiety with their selected socio-demographic variables (N= 46)

S. No.	Sample characteristics	Level of Anxiety					Chi square test	df	Table value	Inference
		Moderate		Severe						
		f	%	f	%	N				
1.	**Age (In years)**									
	Below 30	5	21.7	1	4.3	6	4.51	3	7.82	Not Significant p<0.05
	31-40	4	17.4	5	21.7	9				
	41-50	1	4.3	3	13	4				
	Above 50	1	4.3	3	13	4				
2.	**Gender**									
	Male	5	21.7	4	17.4	9	1.6	1	3.84	Not significant P<0.05
	Female	6	26	8	34.7	14				
3.	**Education**									
	Illiterate	2	8.6	4	17.4	6	2.51	3	7.82	Not Significant P<0.05
	Secondary	4	17.4	3	13	7				
	Graduate	3	13	2	8.6	5				
	Post graduate	2	8.6	3	13	5				
4.	**Religion**									
	Hindu	6	26	9	39.1	15	1.96	3	7.82	Not significant p>0.05
	Muslim	1	4.3	1	4.3	2				
	Christian	2	8.6	1	4.3	3				
	Others	2	8.6	1	4.3	3				
5.	**Type of food**									
	Vegetarian	5	21.7	6	26	11	0.04	1	3.84	Not significant P>0.05
	Mixed diet	6	26	6	26	12				
6	**Type of family**									
	Single	3	13	5	21.7	8	1.30	3	7.82	Not significant p>0.05
	Nuclear	4	17.4	4	17.4	8				
	Joint	2	8.6	2	8.6	4				
	Extended	2	8.6	1	4.3	3				
7	**Occupation male**									
	Labour	2	8.6	4	17.4	6	15.3	3	7.82	Significant P<0.05
	Private	3	13	6	26	9				
	Self employed	5	21.7	1	4.3	6				
	Government	1	4.3	1	4.3	2				
8	**Occupation (female)**									
	Housewife	3	13	6	26	9	9.95	3	7.82	Significant P<0.05
	Private	2	8.6	4	17.4	6				

Continued on next page

Table 22 continued

	Self employed	5	21.7	1	4.3	6			
	Government	1	4.3	1	4.3	2			
9.	**Habitat**								
	Urban	4	17.4	10	43.4	14	8.60	1	3.84	significant p<0.05
	Rural	7	30.4	2	8.6	9			
10	**Family income**								
	Below Rs 5,000	3	13	6	26	9				
	Rs 5,001-10,000	2	8.6	2	8.6	4	5.83	3	7.82	Not Significant p>0.05
	Rs 10,001-15,000	3	13	3	13	6				
	Above Rs 15,001	3	13	1	4.3	4				
11	**Personal habits**								
	Betel chewing	1	4.3	6	26	7				
	Smoking	3	13	3	13	6	5.47	3	7.82	Not Significant p>0.05
	Alcohol	5	21.7	2	8.6	7				
	None	2	8.6	1	4.3	3				
12	**Recreational activity**								
	Gardening	4	17.4	5	21.7	9				
	Listening music	5	21.7	4	17.4	9	1.53	3	7.82	Not Significant p>0.05
	Reading books	1	4.3	2	8.6	3				
	Others	1	4.3	1	4.3	2				
13	**Source of information**								
	Friends	2	8.6	6	26	8				
	Previous exposure	3	13	3	13	6	9.94	3	7.82	Significant P<0.05
	Media	3	13	2	8.6	5				
	No information	3	13	1	4.3	4				
14	**Availability of government health services**								
	Yes	5	21.7	6	26	11	0.04	1	3.84	Not Significatne p>0.05
	No	6	26	6	26	12				

Table 23: CHI square analysis to find out the association between pre-test score of physical parameters with their selected socio-demographic variables (N= 46)

S. No.	Sample characteristics	Level of Physical Paramaters							Chi square test	df	Table value	Inference
		Mild		Moderate		Severe						
		f	%	f	%	f	%	N				
1.	**Age (In years)**											
	Below 30	1	4.3	2	8.6	3	13	6	5.028	6	12.59	Not Significant p<0.05
	31-40	1	4.3	2	8.6	6	26	9				
	41-50	1	4.3	2	8.6	1	4.3	4				
	Above 50	1	4.3	1	4.3	2	8.6	4				
2.	**Gender**											
	Male	2	8.6	3	13	4	17.3	9	2.047	2	5.99	Not significant P<0.05
	Female	2	8.6	4	17.3	8	34.7	14				
3.	**Education**											
	Illiterate	2	8.6	1	4.3	3	13	6	9.62	6	12.59	Not Significant P<0.05
	Secondary	1	4.3	3	13	3	13	7				
	Graduate	1	4.3	1	4.3	3	13	5				
	Post graduate	0	0	2	8.6	3	13	5				
4.	**Religion**											
	Hindu	1	4.3	3	13	11	47.8	15	10.6	6	12.59	Not significant p>0.05
	Muslim	1	4.3	0	0	1	4.3	2				
	Christian	1	4.3	2	8.6	0	0	3				
	Others	1	4.3	2	8.6	0	0	3				
5.	**Type of food**											
	Vegetarian	2	8.6	3	13	6	26	11	5.402	2	5.99	Not significant P>0.05
	Mixed diet	2	8.6	4	17.3	6	26	12				
6	**Type of family**											
	Single	2	8.6	5	21.7	1	4.3	8	43.0	6	12.59	Significant p<0.05
	Nuclear	1	4.3	1	4.3	6	26	8				
	Joint	1	4.3	1	4.3	2	8.6	4				
	Extended	0	0	0	0	3	13	3				
7	**Occupation male**											
	Labour	1	4.3	3	13	2	8.6	6	14.3	6	12.59	Significant P<0.05
	Private	1	4.3	2	8.6	6	26	9				
	Self employed	1	4.3	1	4.3	4	17.3	6				
	Government	1	4.3	1	4.3	0	0	2				
8	**Occupation (female)**											
	Housewife	2	8.6	3	13	4	17.3	9	25.8	6	12.59	Significant P<0.05
	Private	1	4.3	4	17.3	1	4.3	6				
	Self employed	1	4.3	0	0	5	21.7	6				
	Government	0	0	0	0	2	8.6	2				
9	**Habitat**											
	Urban	2	8.6	3	13	4	17.3	9	2.04	2	5.99	Not significant p>0.05
	Rural	2	8.6	4	17.3	8	34.7	14				
10	**Family income**											
	Below Rs 5,000	1	4.3	5	21.7	3	13	9	5.39	6	12.59	Not Significant p>0.05
	Rs 5,001-10,000	1	4.3	1	4.3	2	8.6	4				
	Rs 10,001-15,000	1	4.3	1	4.3	4	17.3	6				
	Above Rs 15,001	1	4.3	0	0	3	13	4				

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Table 23 continued

11	**Personal habits**										
	Betel chewing	3	13	2	8.6	2	8.6	7	20.2	6	12.59	Significant P<0.05
	Smoking	1	4.3	3	13	2	8.6	6				
	Alcohol	0	0	1	4.3	6	26	7				
	None	0	0	1	4.3	2	8.6	3				
12	**Recreational activity**										
	Gardening	1	4.3	5	21.7	3	13	9	42.9	6	12.59	Significant P<0.05
	Listening music	1	4.3	1	4.3	7	30.4	9				
	Reading books	1	4.3	1	4.3	1	4.3	3				
	Others	1	4.3	0	0	1	4.3	2				
13	**Source of information**										
	Friends	1	4.3	2	8.6	5	21.7	8	12.4	6	12.59	Not Significant P>0.05
	Previous exposure	1	4.3	2	8.6	3	13	6				
	Media	1	4.3	2	8.6	2	8.6	5				
	No information	1	4.3	1	4.3	2	8.6	4				
14	**Availability of government health services**										
	Yes	3	13	4	17.3	4	17.3	11	2.02	2	5.99	Not Significant p>0.05
	No	1	4.3	3	13	8	34.7	12				

5. Conclusion

Hence it is concluded that type of family, occupation (male), occupation (female), personal habits, recreational activity were associated with pre test level of physical paramaters were as age, gender, education, religion, type of food, family income, source of information and availability of government health services, were not associated with pre test level of physical paramaters.

6. Source of Funding

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7. Conflict of Interest

None.

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