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Kalavati Poti
Research Scholar, Dos in
Physical Education and Sports
Sciences Karnataka state
Akkamahadevi Women's
University Vijayapur,
Karnataka, India

Dr. Jyoti A Upadhye
Assistant Professor, Dos in
Physical Education and Sports
Sciences Karnataka state
Akkamahadevi Women's
University Vijayapur,
Karnataka, India

Effect of meditation, asanas, pranayama and callisthenic exercise on physiological and psychological variables

Kalavati Poti and Dr. Jyoti A Upadhye

Abstract

Yoga Pranayama meditation will reduce the risk of getting so many disease which rescued from day to day life style. modern life make our life more comfortable and convenient, with this we pay for obesity, hypertension and cardiac problem where we have modern hi-tech medical facilities but still we are in stressful life, unhealthy life for this situation many researcher result that yoga can give peace and mind a body and soul of an individual.

Our leusy money earning life makes us go through stress, anxiety, depression, low energy level. May causes to disturb our life in such cases Yoga can bring peace and mindfulness to our life. One of the importance of yoga in modern life in it helps in to calm our huctuating-mind and energy level. The system "Yoga in Daily Life" is designed in such a way that the body is gradually and systematically prepared, leading from simple preparatory exercises towards the more advanced and difficult Asanas.

Keywords: Effect of meditation, asanas, pranayama and callisthenic exercise on physiological and psychological variables

Introduction

Thousands years ago the classical yoga was origin lied in India. Ancient Rushi munis practiced this yoga to achieve siddi and to maintain health. In present era a awareness was observed in Health and national remedies among people. Yoga pranayam and meditation which has been proven an effective method for improve health, and health to prevention and management of discusses many Researcher shows interest in yoga. Yoga is Reported to both psychological Aspect also. Yoga is an ancient discipline designed to bring balance and health to the physical, mental, emotional and spiritual dimension of the individual.

Modern life pattern effect our health in different aspect of life like physically, psychological and socially. It is very important to create awareness about the effect of modern life. Modern life style includes improves eating habits lack of physical activity where promoting healthy life style includes proper eating pattern. Involves in physical activity. Proper sleeping pattern. all these positive impact which are can easily get by daily practice of yoga.

Blood Pressure

Blood pressure is known that blood flow through the vessels of the circulatory system as a result of pressure gradient. This means that blood flows from a point of high pressure to one of the low pressure.

Body Fat

Constitutes the ideal cellular fuel because each molecule carries large quantities of energy per unit weight. It is easily transported and stored and is readily converted into energy. One gram of fat contains about nine calories of energy and has more than twice the energy storage capability of an equal quantity of carbohydrate or protein. It should be noted that three molecules of water are produced and liberated when a fat molecule is synthesized from the union of glycerol and three fatty acid molecules. Fat is a relatively water free, concentrated fuel. Fat content of the body constitutes approximately 15% of the body weight for males and 25% for female's requirements of aerobic exercise. which are can easily get by daily practice

Corresponding Author:
Kalavati Poti
Research Scholar, Dos in
Physical Education and Sports
Sciences Karnataka state
Akkamahadevi Women's
University Vijayapur,
Karnataka, India

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Attention

Attention is the means by which one actively processes a limited amount of information from the enormous amount of information available through the senses, memory stores, and other cognitive processes. It includes both conscious and unconscious processes. Conscious processes are relatively easy to study while unconscious processes are harder to study because one is not conscious of them.

Depression

The word depression in common usage means sad, frustrated, fed up, bored pessimistic. Adolescents students mood are sometimes healthy reactions to life event. The mood of

depressed person is much lower at his best moment, then the mood of normal person at his worst.

Methodology

The procedure adopted in the present research work is related to the selection of subjects, selection of variables, training procedures, experimental design, selection of tests, orientation of the subjects, Pilot study, collection of data, administration of the tests and statistical technique involved in the study.

Selection of Subjects

The Purpose of the study was to find out the “Effect of Mediation, Asanas, Pranayama and Callisthenic Exercise on Physiological and Psychological Variables”. To achieve this purpose 125 Female subjects in the age group ranging from 18 to 22 years studying in Government First Grade Women’s College of Vijayapura District of Karnataka state. were selected randomly and subjects were divided in to Five equal groups of twenty five each known as Experimental group I Mediation training Experimental group II Asanas training Experimental group III Pranayama training Experimental group IV Callisthenic Exercise training and Control group V.

Selection of variables

The investigator reviewed through the available relevant related literature and discussed with the experts in the field and also discussed with the research guide before selection of variables for the present research work. The researcher used the availability of technique based on the data Researcher did the analysis regarding feasibility and reliability and the outcome of the results were taken care before finalizing the variables. The variables selected for the present research work are Physiological variables Blood Pressure, Body Fat and Psychological variables Attention, Depression selected.

Table 1: (A) Pre-test and post-test and adjusted post-test scores on blood pressure in the experimental group and control group

Blood Pressure	Group	Mean	SD	SV	SS	Df	MS	F	P
Pre-test ANOVA	G1	123.080	12.7047	BG	1024.592	4	256.148	2.53	.125
	G2	128.720	6.64906	WG	8200.240	120	101.236		
	G3	128.000	9.75107	T	9224.832	124			
	G4	131.160	3.92301						
	G5	130.600	5.05800						
Post-test ANOVA	Group	Mean	SD	SV	SS	Df	MS	44.83	.000
	G1	99.8000	9.00000	BG	13865.392	4	3466.348		
	G2	105.920	10.59056	WG	9277.600	120	77.313		
	G3	109.120	10.20751	T	23142.992	124	3543.661		
	G4	114.360	8.57749						
G5	130.840	3.95474							
Adj. post ANOVA	Group	Mean	SD	SV	SS	Df	MS	40.54	.000
	G1	100.308	10.0000	BG	12538.936	4	3134.734		
	G2	105.880	8.59056	WG	9200.177	119	77.312		
	G3	109.150	9.22751	T	21739.113	123			
	G4	114.083	7.25774						
G5	130.618	5.23474							

**Significant 0.05 level table value 2.76

Table No.4.1. (a). Indicates that the AM ± SD Pre-test Blood Pressure scores of G1, G2, G3, G4 and G5 are 123.080±12.7047, 128.720± 6.64906, 128.000± 9.75107, 131.160± 3.92301and 130.600± 5.05800 respectively. The AM ± SD Post-test Blood Pressure scores of G1, G2, G3, G4 and G5 are 99.8000± 9.00000, 105.920± 10.59056, 109.120± 10.20751, 114.360±8.57749 and 130.840±3.95474 respectively.

The AM ±SD adjusted Post-test Blood Pressure scores of G1, G2, G3, G4 and G5 are 100.308 ±10.0000, 105.880±8.59056, 109.150±9.22751, 114.083±7.25774 and 130.618±5.23474 respectively, it can be inferred that there do not exist any significant mean differences in the pretest Blood Pressure scores of Experimental and Control groups (F=.2.53, P > 0.05).

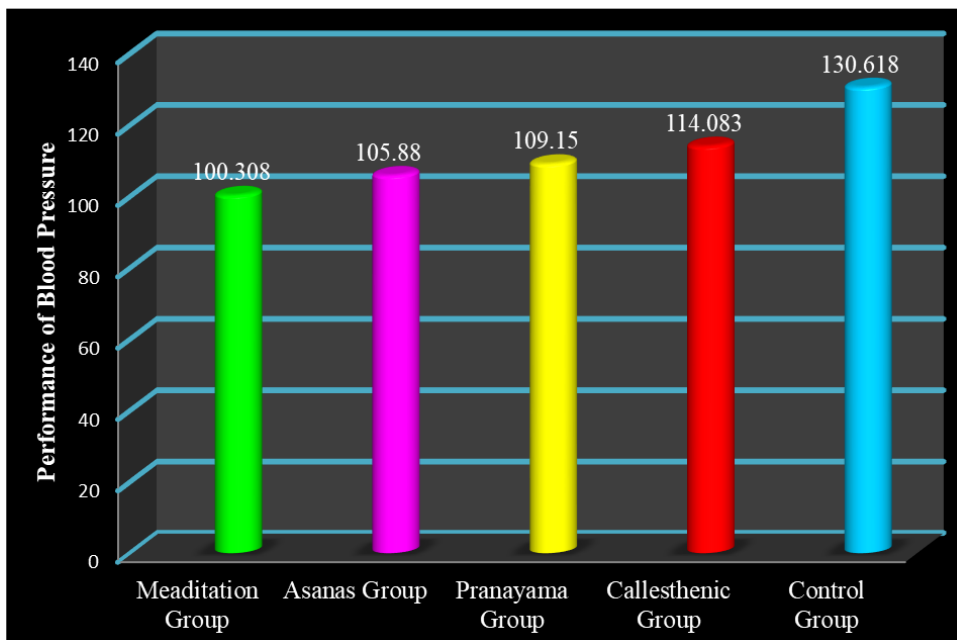


Fig 1: (a) Comparative bar chart of adjusted post-test scores on blood pressure scores in the experimental group and control group

Figure No.4.1. (a) The above figure indicates that Blood Pressure performance significantly controls over the 16 weeks training. Meditation, Asanas, pranayama, callisthenic Exercises and control groups; however, there is a difference among the five groups were significant. The calisthenics training group significantly controls the Blood Pressure performance after 16 week training. The Meditation training groups significantly reduce the Blood Pressure performance

after 16 week training. The Asanas group also show that there is a significant difference in Blood Pressure after 16 week of training. The Pranayama group also produce the slight reduction in Blood pressure over the control group. However control group did not underwent any type of training so that group was not produced any significant difference in Blood pressure.

Table 2: (B) Pre-test and post-test and adjusted post-test scores on body fat scores in the experimental group and control group

Body Fat	Group	Mean	SD	SV	SS	Df	MS	F	P
Pre-test ANOVA	G1	32.3200	5.75702	BG	7701.600	4	253.948	3.157	.07
	G2	35.3600	8.14903	WG	1015.792	120	64.180		
	G3	39.1200	9.71391	T	8717.392	124			
	G4	39.8000	9.71253						
	G5	34.3600	5.71460						
Post-test ANOVA	G1	20.1784	8.84098	BG	8661.810	4		1644.857	22.788
	G2	16.4736	5.75488	WG	6579.428	120	72.182		
	G3	23.6036	12.07670	T	15241.238	124			
	G4	19.0624	6.73850						
	G5	100.6400	6.97543						
Adj.post ANOVA	G1	21.409	8.335	BG	7884.498	4	1735.482	26.19	.000
	G2	6.738	8.15	G	6941.927	119	66.256		
	G3	22.673	8.25	T	14826.425	123			
	G4	17.916	8.31						
	G5	37.622	8.185						

**Significant 0.05 level table value 2.76

Table No.4.2. (b). Indicates that the AM ± SD Pre-test Body Fat scores of G1, G2, G3, G4 and G5 are 32.3200± 5.75702, 35.3600± 8.14903, 39.1200±9.71391,39.8000± 9.71253, 1and 34.3600± 5.71460 respectively. The AM ± SD Post-test Body Fat scores of G1, G2, G3, G4 and G5 are 20.1784± 8.84098, 16.4736± 5.75488, 23.6036± 12.07670, 19.0624± 6.73850 and 100.6400± 6.97543 respectively.

The AM ± SD adjusted Post-test Body Fat scores of G1, G2, G3, G4 and G5 are 21.409± 8.335, 16.738±8.15, 22.673±8.25, 17.916±8.31 and 37.622±5. 8.185 Respectively, it can be

inferred that there do not exist any significant mean differences in the pretest Body Fat scores of Experimental and Control groups (F= 3.157, P > 0.05).

There do exist significant mean difference in the post-test Body Fat scores of Experimental and Control groups (F= 22.788, P <0.05). Further, if the effect due to initial pre- test scores was eliminated, the adjusted post-test mean Body Fat scores also showed significant difference among various groups (F= 26.19,P < 0.05).

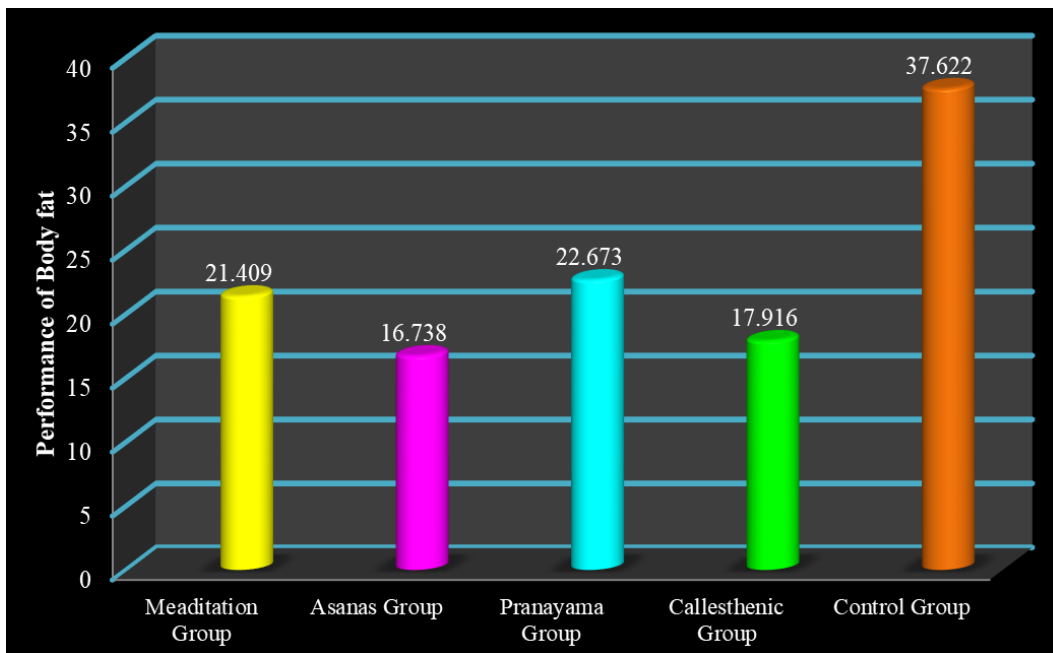


Fig 2: (C) Comparative bar chart of adjusted post-test scores on body fat scores in the experimental group and control group body fat

Figure No.4.3.(c) the above figure indicates that Body Fat performance Reduce significantly over the 16 weeks training period Meditation, Asanas, pranayama, callisthenic Exercises and control groups; however, the difference among the five groups were significant. The callisthenics training group significantly reduce the body fat after 16 week training

period. The Meditation training group slightly reduce body fat performance after 16 week training period. The Asanas groups and Pranayama groups also produce reduce the Body Fat over the Control group. However Control group did not produce any significant improvement on Body Fat.

Table 4: (D) Pre-test and posttest and adjusted post-test scores on attention scores in the experimental group and control group

Attention	Group	Mean	SD	SV	SS	Df	MS	F	P
Pre-test ANOVA	G1	76.6800	15.71814	BG	3535.472	4	883.868	3.170	.08
	G2	67.0400	16.58433	WG	28137.360	120	234.478		
	G3	68.3600	16.58533	T	31672.832	124			
	G4	62.9600	13.81871						
	G5	61.5200	13.57424						
Post-test ANOVA	Group	Mean	SD	SV	SS	Df		MS	30.176
	G1	51.6000	15.17948	BG	19111.152	4	4777.788		
	G2	32.1600	11.61780	WG	18999.600	120	158.330		
	G3	36.1200	11.67376	T	38110.752	124			
	G4	29.7200	9.86796						
G5	61.7600	13.87828							
Adj.post ANOVA	Group	Mean	SD	SV	SS	Df	MS	35.435	.000
	G1	48.544	12.04	BG	19063.979	4	4765.995		
	G2	32.249	11.6	G	16005.608	119	134.501		
	G3	35.778	11.605	T	35069.587	123			
	G4	31.140	11.695						
G5	63.649	11.77							

**Significant 0.05 level table value 2.76

Table No.4.4 (d). Indicates that the AM ± SD Pre-test Attention scores of G1, G2, G3, G4 and G5 are 76.6800± 15.71814, 67.0400± 16.58433, 68.3600± 16.58533, 62.9600±13.81871And 61.5200± 5. 13.57424 Respectively. The AM ± SD Post-test Attention scores of G1, G2, G3, G4 and G5 are 51.6000± 15.17948, 32.1600± 11.61780, 36.1200± 11.67376, 29.7200± 9.86796 and 61.7600± 13.87828 respectively. The AM ± SD adjusted Post-test Attention scores of G1, G2, G3, G4 and G5 are 48.544±12.04, 32.249± 11.6,

35.778±11.605, 31.140±11.695 and 63.649±11.77 Respectively, it can be inferred that there do not exist any significant mean differences in the pretest Attention scores of Experimental and Control groups (F=.3.170, P > 0.05). There do exist significant mean difference in the post-test Attention scores of Experimental and Control groups (F= 30.176, P <0.05). Further, if the effect due to initial pre-test scores was eliminated, the adjusted post-test mean Attention scores also showed significant difference among various groups (F= 35.435, P < 0.05).

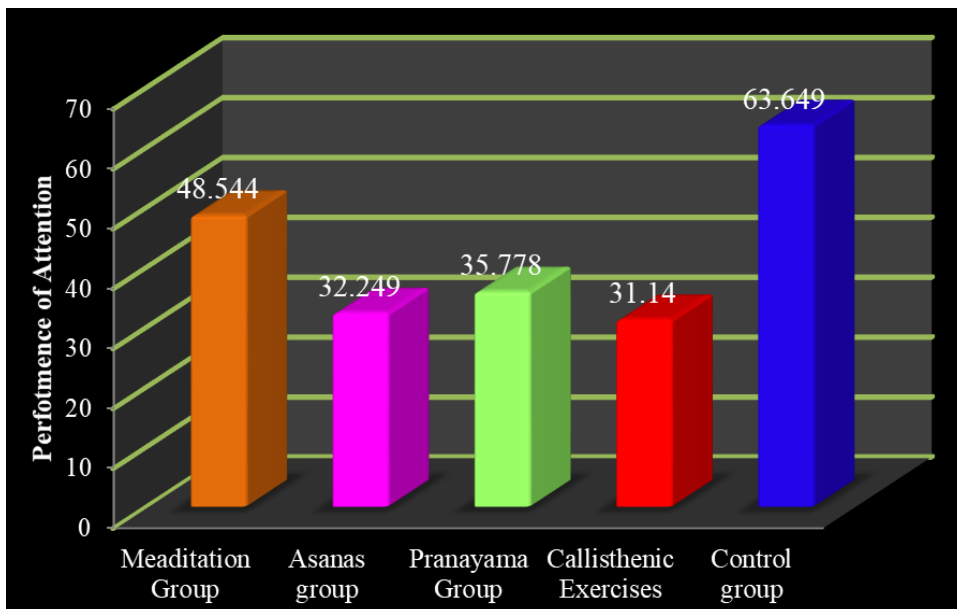


Fig 3: (d) Comparative bar chart of adjusted post-test scores on attention scores in the experimental group and control group

Figure No.4.4 (d) the above figure indicates that Attention performance improvement significantly over the 16 weeks training period. Meditation, Asanas, pranayama, callisthenic Exercises and control groups; however, the difference among the five groups were significant. The calisthenics training group significantly improves the level of Attention after 16

week training period. The Meditation training groups improvement performance of Attention after 16 week training period. The Asanas groups and Pranayama also produce improvement on the level of Attention over the Control group. However Control group did not produce any significant improvement on Attention.

Table 5: (A) Pre-test and posttest and adjusted post-test scores on depression scores in the experimental group and control group

Depression	Group	Mean	SD	SV	SS	Df	MS	F	P
Pre-test ANOVA	G1	87.6800	11.28317	BG	2749.392	4	687.348	5.284	.001
	G2	94.4800	7.99542	WG	15610.320	120	130.086		
	G3	91.8400	8.30502	T	18359.712	124			
	G4	82.2800	14.17016						
	G5	83.4800	13.76324						
Post-test ANOVA	Group	Mean	SD	SV	SS	Df	MS	18.190	.000
	G1	57.1200	17.66192	BG	19832.240	4	4958.060		
	G2	61.4800	19.95854	WG	32708.560	120	272.571		
	G3	54.8800	19.01605	T	52540.800	124			
	G4	46.0000	10.38829						
G5	83.7200	13.52935							
Adj.post ANOVA	Group	Mean	SD	SV	SS	Df	MS	20.422	.000
	G1	57.228	15.945	BG	20765.534	4	5191.384		
	G2	58.889	16.48	G	30249.993	119	254.202		
	G3	53.337	16.135	T	51015.527	123			
	G4	48.251	16.35						
G5	85.495	16.195							

**Significant 0.05 level table value 2.76

Table No.4.5 (a). Indicates that the AM ± SD Pre-test Depression scores of G1, G2, G3, G4 and G5 are 87.6800± 11.28317, 94.4800± 7.99542, 91.8400± 8.30502, 82.2800±14.17016 And 83.4800± 13.76324 Respectively. The AM ± SD Post-test Depression scores of G1, G2, G3, G4 and G5 are 57.1200± 17.66192, 61.4800± 19.95854, 54.8800± 19.01605, 46.0000± 10.38829 and 83.7200± 13.52935 respectively.

The AM ± SD adjusted Post-test Depression scores of G1, G2, G3, G4 and G5 are 57.228±15.945, 58.889± 16.48,

53.337 ±16.135, 48.251±16.35 and 85.495±16.195 Respectively, it can be inferred that there do not exist any significant mean differences in the pretest Depression scores of Experimental and Control groups (F=.5284, P > 0.05).

There do exist significant mean difference in the post-test Depression scores of Experimental and Control groups (F= 18.190, P <0.05). Further, if the effect due to initial pre test scores was eliminated, the adjusted post-test mean Depression scores also showed significant difference among various groups (F= 20.422, P < 0.05)

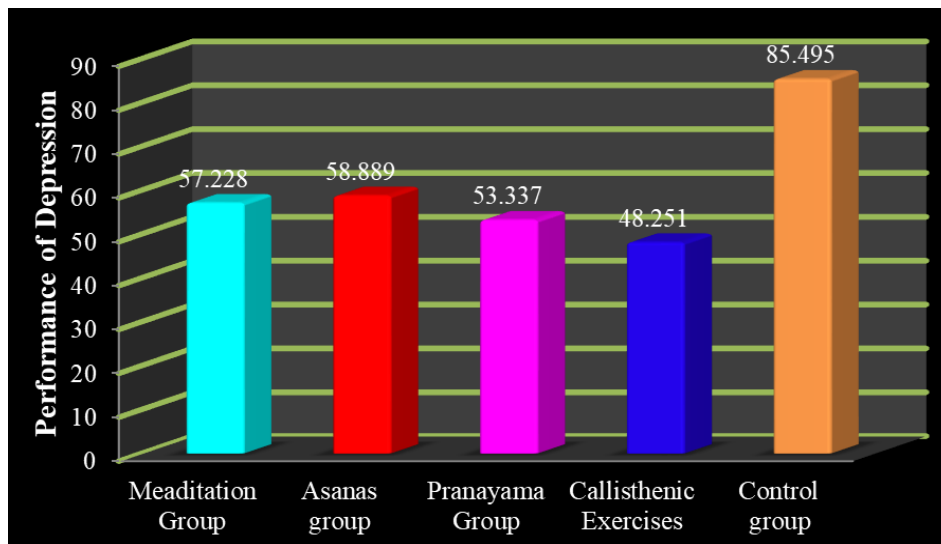


Fig 4: (b) Comparative bar chart of adjusted post-test scores on depression scores in the experimental group and control group

Figure No.4.6 (b) the above figure indicates that Depression performance Reduce significantly over the 16 weeks training period. Meditation, Asanas, pranayama, callisthenic Exercises and control groups; however, the difference among the five groups were significant. The calisthenics training group significantly reduce the Depression level after 16 week training period. The Meditation training group significantly reduce the Depression level after 16 week training period. The Asanas group and Pranayama also play an important role to reduce the depression over the control group. However control group did not produce any significant difference on depression.

Conclusions

Based on the findings the following conclusions were drawn from the present study.

- Sixteen weeks of Mediation training has shown significant improvement on Physiological and psychological performance variable of the subjects.
- Asanas training has shown significant improvement on Physiological and Psychological performance variable of the subjects.
- Pranayama training has shown significant improvement on Physiological and Psychological performance variable of the subjects.

Callisthenic Exercise has shown significant improvement on Physiological and Psychological performance variable of the subjects.

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