

## EFFECT OF YOGIC PRACTICES AND WALKING EXERCISES ON HEALTH RELATED PHYSICAL FITNESS – A COMPARATIVE STUDY ON FEMALE STUDENTS

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**Abstract:** The purpose of the study was to find the comparative effect of yogic practices and walking exercises on health related physical fitness among the students of D.C.P.E. Amravati, For this research purpose 75 subjects were taken as female students from B.P. E. age ranged 18 to 21 years. The hypothesis is that, there will be no significant difference in HRPF components of yogic practices and walking exercises among the subjects. Thus, the pre test was administered and HRPF components (12 min run/walk, sit & reach, sit ups, body composition) were as criterion measures variables. This is to find out pre test performance of the subjects. The data measured was into three homogenous equal groups (A- yogic practices), (B- walking exercises), (C- control group).

There was immediate implementation of six weeks training programme of the both experimental groups, after that post test was conducted. One way analysis of variance as well as on Scheffe's post HOC test was employed to assess the significant difference. The significant difference was found among yogic practices group in terms of flexibility and abdominal strength. Walking exercises group was more significant difference in cardiovascular endurance, and no change was found in body composition among all subjects.

**Abbreviation:** BPE- Bachelor of Physical Education, HRPF: Health related physical fitness.

### Introduction

As per new research in health related physical fitness is very essential or basic need. It is also related to ability to meet the demands of the environment specifically to preserve, to withstand stress, to resist fatigue and to possess the energy for a plentiful life [1-24]. During studies, researcher have found that health related physical fitness may enhance in yogic practices and walking exercises program done by improving and develop their daily routine activities [25-36]. Additionally previous investigations done related to this study investigated the effects of yogic practices and walking exercises on health related physical fitness improves [37-42].

The purpose of the current study was compare the pre and post exercises standard of health related physical fitness of yogic practices and walking exercises of students in D.C.P.E. Amravati.

### Methodology

The present investigation was conducted on 75 female subjects, of BPE part II class of D.C.P.E. Amravati. They were divided into three equal groups of 25 subjects of each. The students were between 18 to 21 years of age group. Cardiovascular efficiency, Muscular Strength & endurance, Flexibility and Body composition were delimited variables of the study. Independent variables in training programme indicate that the yogic practices and walking exercises training was accepted in the training schedule.

### Criterion measures and tools used

Cardiovascular endurance was assessed with the help of field event i.e., 12 min run-walk test and the scores were recorded in nearest 0.5 meter. Flexibility was measured by Cureton's sit and reach box method the score was recorded nearest to 0.5 inch. Strength

and endurance of abdominal muscles efficiency was measured by using sit ups test and score was recorded in number of sit up performed in one minute. Body fat was measured by skin fold caliper, body fat weight measured by four different sites of body of subject (Biceps, Triceps, Sub scapular, Suprailliac) and score was recorded in skin fold thickness 0.05 mm.

### Administered of the pre test

The researcher first administered the pre test. Pre test performances of the subjects was converted into composites scores and divided into three different and equal homogenous groups. Experimental groups were trained for yogic practices and walking exercises. Further control group was not included for the training. The duration of the training programmer was six weeks. After completion of the training programmer the post test was administrated.

### Statistical procedure

The data obtained was analyzed with the help of statistical software (SPSS 11.5). The researcher compared the performances on post test of three groups with the help of one way analysis primarily with descriptive statistics. Further 3 x 4 Factorial ANOVA followed by Schieffe's Post Hoc Test was employed to fract group difference.

### Training programmed of Yoga Practice Schedule in First and Second Weeks

Sr.No.	Asana	Time	Relaxation Duration	Repetition
1	Padmasana	1 min	20 sec	3
2	Vakrasana	1min 30 sec	30 sec	3
3	Supt Vajrasana	30 sec	15 sec	3
4	Uttanpadasan	20 sec	30 sec	3
5	Vipritkarni	30 sec	30 sec	3
6	Dhanurasana	20 sec	30 sec	3
7	Bhujangasana	30 sec	20 sec	3
8	Tadasana	30 sec	30 sec	3
9	Padahastasana	30 sec	30 sec	3
10	Shavasana		2 min	3

Prayer – 5 min, Kapalbhati – 5 min, Pranayama (Anuloma-Viloma) with Omkar Japa – 10 min Total exercise and relaxation time per day -35 min

### Training programmed of Yoga Practice Schedule in Third and Fourth Week

Sr.No.	Asana	Time	Relaxation Duration	Repetition
1	Vajrasana	30sec	20 sec	3
2	Ardha Mahchidrasana	1 min	30 sec	3
3	Gomukhasana	1 min	30 sec	3

4	Pachimottasana	30sec	20 sec	3
5	Sarvangasana	1 min	30 sec	3
6	Halasana	1 min	30 sec	3
7	Chakrasana	30sec	30 sec	3
8	Shalbhasana	30sec	30 sec	3
9	Bhujagasana	30sec	20 sec	3
10	Shavasana		2 min	

Prayer – 5 min, Kapalbhati – 5 min, Pranayama (Anuloma-Viloma) with Omkar Japa – 10 min, Total exercise and relaxation time per day -35 min

#### Training programmed of Yoga Practice Schedule in Fifth and Sixth Week

Sr.No.	Asana	Time	Relaxation Duration	Repetition
1	Padmasana	30 sec		
2	Ardha Machindrasana	1 min	30 sec	3
3	Pachimottasana	1 min	20 sec	4
4	Matyasana	1 min	20 sec	3
5	Sarvagasana	1 min	30 sec	4
6	Halasana	1 min	1 min	4
7	Chakrasana	30 sec	20 sec	3
8	Uttanpadasana	30 sec	20 sec	3
9	Dhanurasana	30 sec	20 sec	3
10	Shalbhasana	20 sec	30 sec	2
11	Padasthasana	30 sec	30 sec	3
12	Trikonasana	1 min	30 sec	2
13	Shavasana		3 min	

Prayer – 5 min, Kapalbhati – 3 min, Total exercise and relaxation time per day - 52 min.

#### Training program of walking exercises Schedule

Week	Specific Exercise	Duration (Min)	Distance (Meters)	Relaxation (Min)	Stretching Exercise	Duration
First	Walking	25	2000	10	—	25
Second	Walking	30	2500	10	—	20

Third/Fourth	Walking	35	3000	5	„-“	20
Fifth/Sixth	Walking	40	3500	5	„-“	20

**TABLE NO. 1**

**ANOVA of 12 min Run & Walk performance of yogic practices group, walking exercises group and control group.**

Source of Variation	S.S.	D.F.	M.S.	Obtained 'F'	Tabulated 'F'
<b>Between Group</b>	875203.3	2	18710.5		
<b>Within Group</b>	2026146.24	72	28140.92	6.774*	3.168

\*Significant at 0.05 level of confidence, Tabulated value F (0.05) (2, 72) = 3.168

The below mentioned table shows that there was a significant difference between yogic practices group, walking exercises group and control group with the performance of 12 min run and walk test. As the obtained value „F“ 6.774 was greater than the tabulated „F“ 3.168. The level of significance was set at 0.05 level of confidence.

**TABLE NO. 2**

**Paired Mean difference at 12 min Run & Walk Performance of yogic practices group, walking experience group and control group.**

Yoga Group	Walking Group	Control Group	M. D	Critical Difference
1860	1920		60	
1860		1715.5	144.5*	107.19
	1920	1715.5	205.5*	

Difference between yoga group and Walking Group = 75

Observed difference between yoga group and control group = 144.5

Observed difference between walking group and control group = 205.5

Table no. 2 shows that significant differences between the means of 12 min run and walk performance, yoga practice group and control group, which is 144.5 and walking exercises, and control group, which is more significant as compared to yoga group and control group. The level of significance was set at 0.05 level of confidence

TABLE NO. 3

ANOVA of Sit and reach performance of yogic practices group, walking exercises group and control group.

Source of Variation	S.S.	D.F.	M.S.	Obtained 'F'	Tabulated 'F'
Between Group	78.84	2	39.42	6.86*	3.168
Within Group	413.28	72	5.74		

\*Significant at 0.05 level of confidence, Tabulated value F (0.05) (2, 72) = 3.168

It has been observed from the above mentioned table no. 2 that there was a significant difference between yoga practices group, walking exercises group and control group with the performance sit and reach test was significant, because the obtained „F“ 6.86 was greater than the tabulated „F“ 3.168 for which the level of significance was set at 0.05 level of confidence.

TABLE NO. 4

Paired Mean difference of Sit and Reach test Performance of yoga practices group, walking exercise group and control group.

Yoga Group	Walking Group	Control Group	M.D.	Critical Difference
9.88	8.42		1.48	
9.88		7.13	2.75*	1.46
	8.42	7.13	1.29*	

The „F“ at 0.05 level of significance for d.f. = 2, 72 is 3.168

Observed difference between yoga practice group and walking exercise group = 1.48

Observed difference between yoga practice group and control group = 2.75

Observed difference between walking exercises group and control group = 1.29

Table no. 4 shows that significant difference between the means of sit & reach test performance at yoga practices group and control group which is 2.75 and walking exercises and control group which is significant at 1.32 and no significant difference was in yoga practices group and walking exercises group, which is 1.48. The level of significance was set at 0.05 level of confidence

TABLE NO. 5

ANOVA of Sit ups performance of yoga practices group, walking exercises group and control group.

Source of Variation	S.S.	D.F.	M.S.	Obtained 'F'	Tabulated 'F'
Between Group	109.2	2	54.6		
Within Group	435.6	72	6.05	9.02*	3.168

\* Significant at 0.05 level of confidence, Tabulated value „F” (0.05) (2, 72) = 3.168

It has been observed from the above mentioned table no. 5 that there was a significant difference between yoga practices group, walking exercises group and control group with the performance of sit ups test which was significant, because the obtained „F” 9.82 was greater than the tabulated „F” 3.168 for which the level of significance was set at 0.05 level of confidence.

TABLE NO. 6

Paired Mean difference of Sit Ups Performance of yoga practices group, walking experience group and control group.

Walking Group	Yoga Group	Control Group	M.D.	Critical Difference
21.10	18.20		2.90*	
	18.20	16.95	1.25	1.542
21.10		16.95	4.15*	

The „F” at 0.05 level of significance for d.f. = 2, 72 is 3.168

Observed difference between yoga practice group and walking exercise group = 2.90

Observed difference between yoga practice group and control group = 1.25

Observed difference between walking exercises group and control group = 4.15

Table no. 6 shows that significant difference between the means of sit ups performance of yoga practices group and walking exercises group which is 2.90 and walking exercises and control group which significant difference also 4.15 and no significant difference in yoga practices group and control group, which is 1.25. The level of significance was set at 0.05 level of confidence.

TABLE NO. 7

ANOVA of Fat weight performance of yoga practices group, walking exercises group and control group.

Source of Variation	S.S.	D.F.	M.S.	Obtained 'F'	Tabulated 'F'
Between Group	19.27	2	9.63		
Within Group	298.64	72	4.14	2.20	3.168

\* Significant at 0.05 level „F“ confidence, Tabulated value „F“ (0.05) (2, 72) = 3.168

It had observed from the above mentioned table no. 7 that there was no significant difference between yoga practices group, a nd control group, walking exercises group and control group with the variables and fat weight because the obtained „F“ 2.20 was less than the tabulated „F“ 3.168 for which the level of significance was set at 0.05 level of confidence.

**TABLE NO. 8**

**Paired Mean difference of Fat Weight Performance of yoga practices group, walking experience group and control group.**

<i>Yoga Group</i>	<i>Walking Group</i>	<i>Control Group</i>	<i>M.D.</i>	<i>Critical Difference</i>
249.80	237.62		1.17	
249.80		213.45	36.35*	1.208
	236.70	213.45	24.17*	

The „F“ at 0.05 level of significance for d.f. = 2, 72 is 3.168

Observed difference between yoga practice group and walking exercise group = 1.21

Observed difference between yoga group and control group = 36.35

Observed difference between walking exercises group and control group = 24.17

Table no. 8 shows that significant difference between the means of fat weight performance, yoga practices group and control group which is 36.35 and walking exercise and control group which is significant difference also 24.17 and no significant difference in yoga practices group and walking exercises group which is 1.21. The level of significance was set at 0.05 level of confidence.

### Discussion of Finding

The study of comparative effect of selected yogic practices and walking exercises on health related physical fitness among the students of Degree College of Physical Education, Amravati. Finding of the study indicated that, the significance between 12 min run /walk, sit and reach and sit-ups are significantly at 0.05 level of confidence with 72 degree of freedom. There was no significant difference in the fat weight of yogic practices, walking exercise and control groups.

### Conclusion

Body composition shows no significant improvement of both experimental groups. Yogic practices fast improved the Health Related Physical Fitness Components. Walking exercises did not show significant improvement in Health Related Physical Fitness Components, but walking exercises shows fast and (significant) improvement in cardiovascular endurance. Yogic practice shows significant improvement in flexibility.

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