

Fitness profile of physical education trainee females of Kalyani University

¹ Krishna Banerjee (Biswas), ² Piyali Mishra, ³ Provash Das

¹ Professor, Dept. of Physical Education, University of Kalyani, West Bengal, India

^{2,3} Research Scholar, Dept. of Physical Education, University of Kalyani, West Bengal, India

Abstract

The researcher will attempt to throw light on the influence of organized Physical Education training programme, that prevailing in the training colleges of our country, on trainee females on perspectives of fitness. The subjects of the present study were 18 female students aged 22 through 24 years. They were undergoing physical education training course (2014-15) in the Department of Physical Education Kalyani University, West Bengal. Physical fitness was considered as criteria to assess the influence of organized physical education programme on trainee-females. The total duration of the training course was ten months (July 1st to May 6th next year). The structure of the training programme was two and half hour's morning activity session, two hours afternoon activity session and four hours theoretical session. Moreover there were a number of outdoor education session which includes camping, picnic, officiating, tour, social service etc. Physical fitness in general, of the trainee females was improved significantly following participation in the organized physical education training programme. Performance in all the six tests of physical fitness showed significant improvement during post test than that of pre test. The magnitude of improvement was maximum in the sit up test (38.50%) followed by flexed arm hang test (29.20%) 50 yard dash (26.36%), shuttle run (11.40%) 600 yard Run and Walk (10.97%) and was minimum in standing Broad jump (4.06%).

Keywords: Physical Education Programme, Fitness, Female, Trainee

Introduction

Physical Education has, until recently, been considered almost exclusively as a profession providing programmes in educational institutions, but is now also an academic discipline with a growing knowledge base whose focus point is human movement. From an evolutionary perspective modern man's advanced technologically based culture has propelled him well ahead of his biologic adaptive capacity. Evidence indicates that organized physical activity programmes developed early in man's existence, first being used to teach physical skills necessary for survival. Subsequently, historic evidence of the role of organized physical activity programmes reveals that various culture have placed widely disparate value on the need for and purpose of physical education. Like many other countries in India scope and opportunities in physical education and sports was not only limited for women but also there were great social barrier mainly due to conservative attitudes of the males.

There are certain biological differences between females and males. There is no good evidence to indicate that coaches, athletic trainers, or other official's in charge of athletics for women need to be concerned with any special rules and regulations regarding sports participation for normal, healthy girls and women. The young, pre pubertal girl is no more at risk for injury than is the young, pre pubertal boy.

After puberty, the young women tends to have less strength and a greater percent of body fat than the males She will be of shorter stature, may require more iron in her diet than the average male, and does not perform as well in speed and strength activities. There are a number of body fluctuations which occur in the young women with the menstrual cycle. At present there is no evidence that such variation is an overriding consideration in women's participation in sports or

exercise. Further there is no evidence that would indicate that vigorous athletic activity, conducted in a proper and intelligent fashion, is harmful to those women athletes who subsequently will bear children. Pregnancy may be a deterrent to the competitive athlete. Certain modifications must be made during this period. Because physical activity is necessary for proper human functioning, it is essential that women, as well as men, participate in many of the opportunities which are available in sports and physical 'activity programmes.

Present information concerning physical training indicates that training frequency, duration and intensity have similar effects on both sexes. Adaptation to athletic training are more similar than differences do exist, but they should be recognized mainly as differences in magnitude rather than mechanism. There are very little research available in present time concerning the female and physical training. However the findings support the idea that in general, females benefit from training just as males do and that this benefit is brought about through similar physiological changes (Fox Mathew 1981).

Worldwide opportunities in sports at all levels - local to international are increasing for girls and women. Taboos and myths of the past are slowly being reversed. Folkways, mores and traditions are changing to accommodate modern girls and women in sport. Unfortunately, change and progress often do not occur as rapidly as they should or as are desired by many people. However because of dedication and commitment of many women throughout the world, girls and women continue to break with convention and venture extremely successfully into an ever expanding world wide of sport.

In Indian context' the researcher has no hesitation to say that the girls and the women who are admitting themselves in physical education training college for a professional carrier in physical education and sports are definitely progressive in

respect to their times. They would lead the profession in future at the same time they will teach the young talents. The researcher thought it would be fit to study critically these trainee females by a wide range of variables to observe the training influence from a total humanistic approach. In next few pages to come, the researcher will attempt to throw light on the influence of organized physical education training programme, that prevailing in the training colleges of our country, on trainee females on perspectives of fitness.

The Purpose of the study

To find the development or improvement in physical fitness status, if any, through organized physical education training programme.

Methodology

The Subjects:

The subjects of the present study were 18 female students aged 22 through 24 years. They were undergoing physical education training course (2014-15) in the Department of Physical Education Kalyani University, West Bengal. Since the course is a residential one they were all boarders of the University hostel and the physical environmental condition and diet was almost identical. The admission to the physical education course was on the basis of performance in a fitness and skill tests suitable for the course. Most of the subjects, had past experience in sports and games at college level. Four students had the credit of representing their university in their respective specialized field of sports in the inter university level. They had the training age of about three to four years. Others had the experience of participation in sports and games. The subjects were actual habitants of seven districts of West Bengal state. They had similarities in many aspects and at the same time they were different in socioeconomic and cultural background. In overall review the group may be considered as a homogeneous group in respect of sports and physical activity background. There were no visual abnormalities among the subjects and they may be considered as possessing normal psychological state of mind and mental makeup. Academic background was also identical.

Criteria Measured

Physical fitness was considered as criteria to assess the influence of organized physical education programme on trainee-females.

Physical fitness

Physical fitness was measured by following tests adopted form AAHPER Youth fitness test like, Flexed Arm Hang, Sit -Up, Shuttle Run, Standing Broad Jump, 50 Yard Dash, 600 Yard Run and walk.

Procedure for Administering Tests

The tests were conducted in the Human Performance Laboratory of the Department of Physical Education and the Playground of the same department of Kalyani University, Kalyani, West Bengal, India.

Design of the study

The training Programme underwent by the subjects

In physical education training course a trainee have to participate in a variety of physical activities. The prime

objective was to provide opportunity to the trainee students in a variety of skills and movement which were conducive to health & fitness as well as enjoyable. The trainee students following their successful completion of course were likely to be appointed in schools or other educational institutions. As a teacher they may be required to teach basic skills, fundamental movements, organized major and minor games, small area games, recreational games etc. Accordingly it was essential that the trainee students be required to have personal experience of participation as well as skill of teaching to these variety of activities. Accordingly the training schedule of a training institution was prepared to fulfil the desired objectives. The present subjects were the trainee students (2014-15) of the Dept. of Physical Education K.U, undergoing B.P. Ed physical education course.

The total duration of the training course was ten months (July 1st to May 6th next year). The structure of the training programme was two and half hour’s morning activity session, two hours afternoon activity session and four hours theoretical session. Moreover there were a number of outdoor education session which includes camping, picnic, officiating, tour, social service etc.

The variety of programme activities in which the subjects had to have personal experience and the time spent in each programme during ten months session were enlisted below:

	Activity / Programme	Time spent during the session(hours)
1)	General warm up and conditioning – 50 hrs	
2)	Formal activities-	105 hrs
	a) Callisthenics-	(15hrs)
	b) Dumbbell -	(10")
	c) Marching -	(25 ")
	d) Lazium -	(25")
	e) Indian club -	(10")
	f) Pole drill -	(10 ")
	g) Wand drill -	(10 ")
3)	Weight training -	20hrs
4)	Swimming -	20hrs
5)	YOGA	20hrs
6)	Combatives	15hrs
7)	Small area games	155hrs
	a) Kabaddi -	(25hrs.)
	b) Kho-Kho-	(25")
	c) Badminton -	(30 ")
	d) Tenikoit -	(20 ")
	e) Throwball -	(20")
	f) Netball -	(20 ")
	g) Handball -	(15")
8)	Major games -	105hrs
	a) Volley ball-	(30 hrs)
	b) Basket ball -	(30 hrs)
	c) Hockey -	(25 hrs)
	d) Softball -	(20 hrs)
9)	Gymnastics	(40 hrs)
10)	Track & Field	(60 hrs)
11)	Folk Dance	(25 hrs)
12)	Intramural	(60 hrs)
13)	Practice Teaching	(20 hrs)
	Total	695 hrs

In the month of July 2014 when the training session began, after 10days of initial introduction the physical fitness tests were conducted for all the subjects. All the tests were conducted on the same day for all the subjects. The post test

was conducted in the month of March 2015 and again all the tests were conducted in the same day for all the subjects. According to the schedule of the Department of Physical Education the subjects were introduced to various activities in a systematic manner. The total time spent for each activity had been shown in the chart above and activity was spread over 9 months period (July' 2014 to March' 2015).

The Schedule of Tests Were As Follows

Test/Activity	Pre test	Post test
Physical fitness	2nd week of July '14	1st week of March'15

Presentation of the Data Results and Discussion

Personal data

The age, height and weight of the subjects had been considered as personal data and their mean values, range and SD were presented in Table No. -1.

Table 1: Mean, range and SD of age, height and weight of the subjects

Variables	Mean	Range	SD
Age(Year)	23.11	21 - 25	± 1.28
Height(cm)	156.66	150 - 168	± 4.62
Weight Pre test July 14 (kg)	46.29	36 - 72	± 8.44
Weight Post test during March '15 (kg)	47.83	38 - 75	± 8.30

Physical Fitness variables

Six standard tests on fitness variables were conducted at the onset (July 2014 and at the end of the training course (March 2015). The raw data collected from each test was converted to percentile scores according to the AAHPER Youth Fitness norms (1976) cited by Barrow (1979). In Table No -2 the mean of the percentile scores of six items obtained from pre and post tests were presented.

Accordingly during discussion and analyses of the data the percentile scores would only be considered.

Table 2: Mean and SD of the pre and post test data of Physical Fitness variables and their comparison

Variables	Pre Test Mean SD	Post Test Mean SD	SED	Obtained 't' value
Flexed Arm Hang	52.33±29.68	67.61±22.72	3.21	4.76*
Sit Up	52.56±19.67	72.78±20.40	3.18	6.36*
Shuttle Run	77.44±10.95	86.27±5.83	2.52	3.49*
Standing Broad Jump	69.72±5.68	72.55±6.17	.53	5.32*
50 Yard Dash	64.44±19.67	81.43±15.37	3.67	4.65*
600 Yard Run and walk	74.89±13.51	83.11±16.37	1.07	7.65*

* Significant at. 05 level.

Strength Test

It appeared from the Table -2 that the mean percentile scores of the pre and / post tests of the Flexed Arm Hang test were 52.33 and 67.61. And the obtained 't' value between two sets of scores was 4.76 which was significant at. 05 level. 29.20% net improvement was observed on the post test score.

Muscular Endurance Test

The mean scores of pre and post test in Sit up were 52.56 and 72.78. The obtained 't' value between the two sets of scores 6.36 which was also significant. Following organized physical education training the performance in sit up test was improved significantly in post test and the magnitude of improvement

was maximum (38.50%) among the physical fitness tests conducted.

Agility Test

From Table No. -2 the mean scores of the pre and post tests in the Shuttle Run (agility test) performance were 77.44 and 86.27 respectively. 11.40% improvement was observed on the post test score. Physical training programme had positively influenced this improvement. The two sets of score when compared, the obtained 't' value 3.49 was also found significant at. 05 level.

Leg Power Test

It appeared from Table No. 2 that the mean percentile scores of the pre / post test in the Standing Broad Jump performance were 69.72 and 72.55 respectively. The obtained 't' value was 5.32 and found significant at. 05 level. In comparison to other fitness tests the improvement in leg power test was minimum, only 4.06%.

Speed Test

The mean percentile scores of the pre and post tests in the 50 Yard Dash test were 64.44 and 81.43 respectively. Significant difference existed between the two means as the 't' value obtained was 4.65, 26.36% improvement was observed at / the post test score from that of pre test score and may be attributed due to the training programme.

Cardiorespiratory Endurance Test

The mean scores of the pre and post tests in the 600 Yard Run and Walk test were 74.89 and 83.11 respectively. Comparing the means the obtained 't' value 7.65 was found significant at. 05 level. Improvement in the post test was 10.97% from that of pre test and was comparatively low.

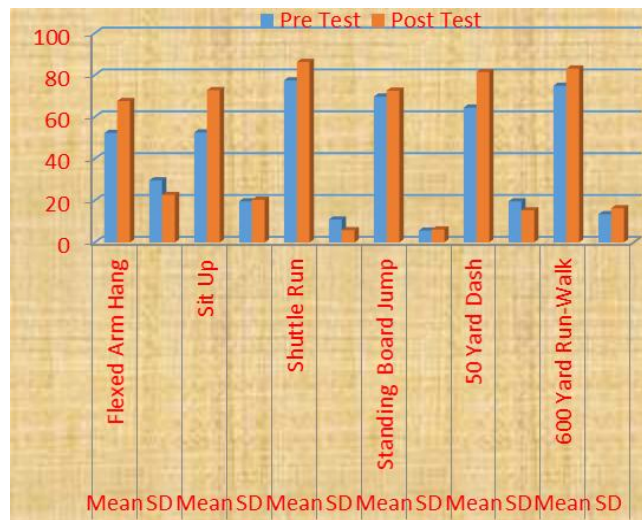


Fig 1: Shown mean SD of Pre Test and Post Test of Fitness Parameters

Discussions

It appeared from the Table No-2 that the post test scores were higher in all six test items than that of pre test scores. The comparison between pre and post test data was made according to standard statistical procedure and obtained 't' values in all the six items were found significantly different. It means post test scores were significantly higher than the pre

test scores. From these findings it may be concluded that the performance in the six fitness test items were improved significantly following the participation in the organized physical education programme by the trainee females.

However the magnitude of the improvement was not equal in all the test items. Maximum improvement was observed in the sit up test (38.50%) followed by flexed arm hang test (29.20%). The magnitude of improvement was lowest in standing broad jump test (4.06%) followed by 600 yard run and walk test (10.97%). It means the arm and shoulder strength and abdominal muscle strength-endurance as in higher-order than the leg explosive strength and general cardio respiratory performance. In overall analysis it appeared that female trainee subjects improved their physical fitness ability following the training programme adopted by the professional physical education. Training institute.

A number of researchers had shown that following well planned organized physical training, performances in selected physical fitness tests were improved significantly in men (Nunneys 1960; Metz, 1968; Mcnamara, 1978; Cunningham, 1981; Mandal and Bannerjee, 1990; etc.) and in women (Edwards, 1974; Macdonald, 1983; Hassmen and Backmen, 1992;).

Bandopadhyay (1992) observed that improvement of running speed is possible. The training is very specific for the purpose and the duration of the training be not less than 8 to 10 weeks. Mandal and Banerjee (1989) found no improvement in running speed following six weeks multigym training, though strength gain was significant

Das and Banerjee (1992) observed that speed performance may be improved through appropriate training and longer the duration better was the magnitude of the improvement, among young soccer trainees.

Cooper (1968) found correlation of .897 between 12 min run with maximum oxygen uptake.

Therefore the findings of the present study were in agreement with the findings of the other researchers.

Conclusions

The present study had its own limitations, however accepting these limitations following specific conclusion may be drawn were presented dimension wise.

- Physical fitness in general, of the trainee females was improved significantly following participation in the organized physical education training programme.
- Performance in all the six tests of physical fitness showed significant improvement during post test than that of pre test.
- The magnitude of improvement was maximum in the sit up test (38.50%) followed by flexed arm hang test (29.20%) 50 yard dash (26.36%), shuttle run (11.40%) 600 yard Run and Walk (10.97%) and was minimum in standing Broad jump (4.06%).

Recommendations

- a) An interested researcher may find enough scope to study further on the followed aspects:
- b) The present investigation was delimited only to female subject, the same type of study may be made with male subjects also.
- c) The study may be conducted on a large samples.

- d) This study may be extended among the females of different training institution of West Bengal.

References

1. Kansal DK. Test Measurement and Evaluation, SSS publication, New Delhi, 2012.
2. Kulbir SS. Methodology of Research in Education, Sterling publication, New Delhi, 2011.
3. Singh H. Science of Sports Training, D. V. S publication, New Delhi, 1991.
4. Adams WC. Foundation of Physical Education Exercise and Sports Science. Lea & Febiger. Philadelphia, 1991.
5. Barik AK, Banerjee AK. Effects of Six Weeks conditioning programme on some performance variables among tribal students. Journal of Physical Education and Sports Science. 1990; 2(2):37-41.
6. Chatterjee S, Bondopadhyay A. Cardiorespiratory a fitness of obese boys. Indian Journal Physiology Pharmacology. 2005; 43(3):353-357.
7. Mandal S, Bhowmik S, Banerjee AK. Chronic Exercise stress and psychophysiological responses on young sedentary men. Journal of Physical Education and Sports Science. 1994; 1:7-14.