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Effect of aerobic dance and specific yoga on selected motor abilities among intercollegiate women cricketers

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Abstract

The Purpose of the study is to assess the effect of Aerobic dance and Yoga among the cricket players. The subjects for the study were 30 cricket players who had participated in intercollegiate competitions. Three groups were formed, with each with 10 players. Group A and Group B was experimental group whereas Group C was control group. The variables selected for the study was Explosive power, Flexibility and Endurance. For the study the Group A and B had to undergo a training of Aerobic dance and Yoga for a stipulated period respectively. The test followed by training showed significant improvement in the selected variables- Explosive power, Flexibility and Endurance for cricket players to come out with flying colours. The statistical procedure used for the study was analysis of co-variance and find out the paired mean significant different hoc test was used, when adjusted F ratio was significant.

Keywords: Aerobic Dance, yoga, Motor ability, Explosive Power, Flexibility, Endurance

Introduction

Women's cricket is a global game that has had an international governing body since 1958. These are an increasing number of global competition and at present the women's game is represented in the same national and global organisation as men's cricket. International tournaments and bilateral competitions are increasing and international cricket is now a year-around operation. This suggests that women cricketers are a visible, albeit marginal part of the global game women are part of the nation, but their sporting success does not necessarily evoke feelings of national identity in the same ways that men's sports does. The women's game is largely dependent on the men's game for its development and support especially for financial support. Women's cricket has not received much academic discussion although the history and development of men's cricket as a global sport. The emergence and development of women's cricket as a global game therefore adapts a sociological approach to explain how and why cricket for women emerged and developed, and significantly how power relations between men's and women's cricket influence the social habits of women who play cricket. "Aerobic dance is a fun way to get fit. It combines fat-burning aerobic movements, muscle-building exercises, and stretching into routines that are performed to music. "Aerobic exercise to music or dance aerobics was especially popular during the last few years of the 20th century, primarily among women. A characteristic of this kind of exercise is that all of the people who are participating in the exercise to music program realize certain movements in the same rhythm and tempo, activating different muscle groups at the same time. Aerobic dance exercises have typically been developed as an aerobic exercise to reduce body compositions as well as improve physical fitness and performance. Vigorous exercise is the movement that can be supported for a broadened timeframe without building an oxygen obligation in the muscles. It is a sort of activity that over-burdens the heart and lungs, and cause man makes them work harder than they do when a man is very still. Vigorous exercise actually implies with air. Vigorous exercise is the sort in which the measure of oxygen taken in to the body is somewhat more than or equivalent to the measure of oxygen utilized by the body.

The way toward expanding high-impact wellness included expanding the rate at which oxygen can be conveyed from the lungs to the practicing muscles. This clearly depends somewhat upon the lungs and upon the heart itself, yet it likewise relies on expanding the blood supply to the muscle tissue, and expanding their capacity to remove oxygen from the blood.

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Oxygen consuming activity is additionally the kind that guides weight reduction.

Yoga is a healthy way of life, originated in India. Now, it is believed to be a form of science accepted all over the world. The western culture is also accepting it as a healthy form of scientific exercise. Although the origin of yoga is obscure, it has a long tradition. Yoga for a common person contains the practices of yama, niyama, asana, pranayama, pratyahara, kriya and meditation, which are helpful to keep oneself physically fit, mentally alert and emotionally balanced. Yoga is a mind and body practice with historical origins in ancient Indian philosophy. Various styles of yoga combine physical postures, breathing techniques, and meditation or relaxation. Yoga has become popular as a form of physical exercise based upon asanas (physical poses) to promote improved control of mind and body and to enhance well-being. Yoga helps in the development of strength, stamina, endurance and high energy at physical level. It also empowers oneself with increased concentration, calm, peace and contentment at mental level leading to inner and outer harmony.

Methods and materials

Subjects

Thirty women cricket players were chosen as subjects in random method. Twenty cricket players were selected as experimental group A and B. Ten cricket players were selected as control group C. Each group comprised of ten cricket players. The players who participated intercollegiate competitions were selected as subjects.

Table 1

Sl. No.	Group	Subject
1	Experimental Group A- Aerobic Dance	10
2	Experimental Group B –Yoga	10
3	Control Group C	10
Total		30

Variables

The variables selected for the study was Explosive Power, Flexibility and Endurance.

Table 2: Tester’s Competency Test in Selected variables

Sl. No.	Variable	Co-efficient correlation
1	Explosive Power	0.96
2	Flexibility	0.95
3	Endurance	0.94
Total Value at 0.05 level = 0.632, df = N-2 =10 -2=8		

Table 3: Computation of Analysis of Covariance of Pre Test and Post Test of Control, Aerobic Dance and Yoga Groups in Explosive Power (Scores in Centimeters)

Test	Control Group	Aerobic Dance Group	Yoga Group	Source of Variance	Sum of Squares	df	Mean Squares	F Ratio
Pre-test Mean	42.90	55.60	50.00	Between	810.20	2	405.10	15.42*
S.D	5.26	4.13	5.12	Within	709.30	27	26.27	
Post-test Mean	43.30	60.90	51.70	Between	1549.87	2	774.93	21.42*
S.D	5.49	5.49	6.06	Within	967.10	27	35.82	
Adjusted Post-test Mean	50.72	54.04	51.14	Between	37.77	2	18.88	7.06*
				Within	69.53	26	2.67	

*Significant at 0.05 level. Table value at 0.05 level = 3.37
df – degrees of freedom. Table value at 0.01 level = 5.53

The above analysis shows that there was a significant variance among the adjusted post test means of control group, aerobic dance group and yoga group. Further in order to

Aim of the Study

The study aims at assessing the “Effect of Aerobic Dance and Yoga on selected Motor abilities among Intercollegiate Women Cricket Players”.

Procedure of the study

The subjects of the study were selected at random and divided in to three homogeneous groups namely A, B and C. The experimental group A and B were subjected to the experimental treatment. The control group C was strictly under control without undergoing any special activity. Group A was considered as Aerobic Dance group and they had undergone a training of 3 days (Monday, Wednesday and Friday) at early morning from 6 am to 7am for 6 weeks. Groups B was considered a Yoga group and they too had undergone a training weekly 3days (Tuesday, Thursday and Saturday) from 6 am to 7am for 6 weeks. Two experimental Groups were well acquired with their allotted techniques and did only the exercises given to them from a period of 6 weeks under the personal supervision of the scholar. The data were collected on the selected motor ability variables namely, Explosive power, Flexibility and Endurance respectively before training as well as immediately after 6 six weeks training.

Statistical procedure

The statistical procedure used to find out the effect of aerobic dance and yoga on selected motor abilities among intercollegiate women cricket players were analysis of covariance, for interpreting the results as recommended by Clark and Clark. In order to find out the paired mean significant different Scheffe’s Post-Hoc Test was used, when adjusted F ratio was significant.

Result and discussions of the study

The analyzed data on explosive power, the pre test means of control group, aerobic dance group and yoga group were 42.90 cm, 55.60 cm and 50.00 cm, respectively. The obtained F-ratio 15.42 cm was significant at 0.05 level. The post-test means of 43.30 cm, 60.90 cm and 51.70 cm for the same group respectively. The F-ratio obtained for post-test 21.42 was significant at 0.05 level. The adjusted post-test mean of 50.72 cm, 54.04 cm and 51.14 cm for the same group respectively. The F-ratio obtained for adjusted post mean 7.06 is more than the table value 3.37 for df 2 and 26 required for significant at 0.05 level.

determine which of the three paired means had a greater significant difference, Scheffe’s test was applied.

Table 3A: Scheffe’s Post-Hoc Test for the Differences Between the Adjusted Post Test Paired Means of Explosive Power (Scores in Centimeters)

Adjusted Post Test Mean				
Control Group	Aerobic Dance Group	Yoga Group	Mean Differences	Confidence Interval
50.72	---	51.14	0.41	2.41
50.72	54.04	---	3.31*	2.41
---	54.04	51.14	2.90*	2.41

The Scheffe’s post hoc test shown the mean difference of 0.41 for control group which was insignificant at 0.05 level. The mean difference of 3.31 for control group and aerobic exercise group, mean difference of 2.90 for aerobic dance group and yoga group which was significant at 0.05 level.

The analysed data reveals that during the experimental period, the aerobic dance group had significantly increased the explosive power when compared with control group and yoga group.

Table 4: Computation of Analysis of Covariance of Pre Test and Post Test of Control, Aerobic Dance and Yoga Groups in Flexibility (Scores in Centimeters)

Test	Control Group	Aerobic Dance Group	Yoga Group	Source of Variance	Sum of Squares	df	Mean Squares	F Ratio
Pre-test Mean	33.78	37.59	36.60	Between	78.15	2	39.08	0.74*
S.D	8.06	6.94	5.49	Within	1433.47	27	53.09	
Post-test Mean	34.04	40.39	40.61	Between	278.84	2	139.42	2.85
S.D	7.90	7.25	4.11	Within	1319.41	27	48.87	
Adjusted Post-test Mean	36.07	38.91	40.05	Between	81.10	2	40.55	9.78*
				Within	107.81	26	4.15	

*Significant at 0.05 level. Table value at 0.05 level = 3.37
df – degrees of freedom. Table value at 0.01 level = 5.53

The analyzed data on flexibility. The pre-test means of flexibility were 33.78 cm, for control group, 37.59cm, for aerobic dance group, and 36.60cm, for yoga group. The obtained F-ratio 0.74 which was insignificant at 0.05 level. The obtained post-test means of 34.04 cm, 40.39cm and 40.61 cm for the same group respectively. The F ratio obtained for

post-test 2.85 which was insignificant at 0.05 level. The adjusted post-test means of 36.07 cm, 38.91 cm and 40.05 cm for the same group respectively. The F-ratio obtained for adjusted post-test mean 9.78 is more than the table value 3.37 for df 2 and 26 required for significant at 0.05 level.

Table 4A: Scheffe’s Post-Hoc Test for the Differences Between the Adjusted Post Test Paired Means of Flexibility (Scores in Centimeters)

Adjusted Post Test Mean				
Control Group	Aerobic Dance Group	Yoga Group	Mean Differences	Confidence Interval
36.07	---	40.05	3.99*	3.01
36.07	38.92	---	2.85	3.01
---	38.92	40.05	1.14	3.01

The Schaffer’s post hoc test shown the mean difference of 3.99 for control group and yoga group which was significant at 0.05 level. The mean difference of 2.85 for control group and aerobic dance group of mean difference of 1.14 for aerobic dance group and yoga group, which was insignificant

at 0.05 level. The result indicated that the yoga group has much significant improvement in flexibility, when compared with the control group and aerobic dance group in terms of mean gains.

Table 5: Computation of Analysis of Covariance of Pre Test and Post Test of Control, Aerobic Dance and Yoga Groups in Endurance (Scores in Meters)

Test	Control Group	Aerobic Dance Group	Yoga Group	Source of Variance	Sum of Squares	df	Mean Squares	F Ratio
Pre-test Mean	1665.50	2746.00	2631.40	Between	7045254.07	2	3522627.03	73.07*
S.D	93.47	260.03	231.96	Within	1301578.90	27	48206.02	
Post-test Mean	1680.50	2872.00	2392.00	Between	7187681.67	2	3593840.83	75.90*
S.D	115.77	226.63	251.15	Within	1278392.50	27	47347.87	
Adjusted Post-test Mean	2211.19	2562.07	2171.23	Between	727266.74	2	363633.37	19.27*
				Within	490589.22	26	18868.81	

*Significant at 0.05 level. Table value at 0.05 level = 3.37
df – degrees of freedom. Table value at 0.01 level = 5.53

The analyzed data on endurance. The pretest means of endurance were 1665.50mts, for control group, 2746.00mts, for aerobic dance group and 2631.40mts for yoga group. The obtained F-ratio 73.07 which was significant at 0.05 level.

The post-test means of 1680.50 mts, 2872.00 mts and 2392.00 mts, for the same group respectively. The F-ratio obtained for post-test 75.90 which was significant at 0.05 level. The adjusted post-test means of 2211.10mts, 2562.07mts and

2171.23mts, for the same group respectively. The F-ratio obtained for adjusted post-test 19.27 is more than the table

value of 3.37 for df 2 and 26 required for significance at 0.05 level.

Table 5A: Scheffe's Post-Hoc Test for the Differences Between the Adjusted Post Test Paired Means of Endurance (Scores in Meters)

Adjusted Post Test Mean				
Control Group	Aerobic Dance Group	Yoga Group	Mean Differences	Confidence Interval
2211.19	---	2171.23	39.56	387.47
2211.19	2562.07	---	350.88	387.47
---	2562.07	2171.23	390.84*	387.47

The Schaffer's post hoc test shown the mean difference of 39.56 for control group and yoga group. Mean difference of 350.86 for control group and aerobic dance group, which was insignificant at 0.05 level. As the man difference of 390.84 for aerobic dance group and yoga group which was significant at 0.05 level.

The result indicated that aerobic dance group had significantly increased in endurance when compared with the control group and yoga group.

Conclusion

The study is concluded that Aerobic Dance and Yoga had significantly improved in explosive power, flexibility and endurance. The experimental Group A (Aerobic Dance) was compared with control group, there was significant improvement in explosive power, flexibility and endurance due to aerobic dance. The experimental group B (Yoga) was compared with control group C, there was significant improvement in flexibility due to yoga. The experimental group A (Aerobic Dance) compared with experimental group B (Yoga) there was significant improvement in explosive power due to aerobic dance than specific yoga.

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