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Analysis of comparative effect of aerobic dance and folk dances on flexibility

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Abstract
The purpose of the study was to determine the comparative effect of Aerobic dance and folk dances training programmes on Flexibility of high school boys. Randomly selected 120 high school boys were divided into four equal groups as A, B, C and D. After taking the pre-test for Flexibility the training programme was given to experimental groups A, B and C where as the group D was a control group. The experimental group 'A' had undergone the training programme in Aerobic dance, group B had undergone the training programme in Kuthiyottam and group C in Kolkkali, thrice a week for 16 weeks. Two middle tests after 5 weeks and 10 weeks and a post test were conducted. To compare the significance of difference among the three experimental groups and the control group the analysis of covariance was employed. The Scheffe's post hoc test was applied wherever the F-value was found significant, in order to find the significance of difference among the paired adjusted post means. The level of significance chosen was 0.05. It was found that there was significant difference among all the four groups. It was shown that the Kuthyottam group showed better improvement in performance than Aerobic dance, Kolkkali and Control groups. It was also revealed that Aerobic dance group showed better improvement than Kolkkali and control groups.

Keywords: Aerobic dance, folk dances, dances training programmes, high school boys

Introduction
Dance activities have served many cultures as a form of art and recreation. Dance in the school curriculum is vital to the child's development of body control, of expressiveness, and of creativity. Children learn what their bodies can do and how to adapt the various movements of the body to force, space and objects through all activities, but movements affected by a time structure is learned best through dance activities.

Aerobic dance can best be defined as continuous movement exercise, locomotor movement and dance steps performed to music. The variety and style of the movement and the musical accompaniment provide as many forms of aerobic dance programme as there are interests and tastes of people performing them. In contrast to a competitive or solitary fitness programme, aerobic dance provides an opportunity for people of widely different levels of physical ability to participate together in the same facility, with the same musical accompaniment engaging in exercises and skills which have been choreographed according to the needs of each individual (Champion, Nigel and Hurst, Greg, 1999) [3].

Kuthiyottam is a group dance which is performed in the Devi temples of Kerala. This dance demands a lot of physical effort and co-ordination of the body. Usually children take part in Kuthiyottam dance as an offering to the God and Goddess. Two groups perform kuthiyottam during which one group sings kuthiyottam songs and other group performs kuthiyottam dance movements. It is performed in temples as a part of the temple festival. This dance is very famous in temples like Attukal, Chettikulnagara Devi temple and Kadakkal Devil temple. It is practiced and performed in many other Devi temples throughout the state of Kerala.

'Kolkkali' is one of the most popular rural dances. It is carried out by different religions and castes. So there is a lot of variation between their own traditional kolkkali and it is more popular among the Muslims. This magnificent art needs a lot of skill, practice and the correct body language to carry it out. This dance is supposed to have a link to 'kalaripayattu' as the experts of 'kalaripayattu' also teach 'kolkkali'. It has been found by historians that the modern 'kolkkali' is somehow related or connected to 'purakali'.

There are many myths among the Hindus about the origin of 'kolkkali'. It is said that it was played for entertainment during the period of the Yadavas. Another myth says that Dronacharya the teacher of the Pandavas and Kauravas taught them this art form.

The flexibility is largely determined by the tightness of muscles, tendons and ligaments that are attached to the joint. The more a muscle can stretch, the better the flexibility of the joint. Good flexibility is important for joint health and for the prevention of injuries. Flexibility is a highly adaptable physical fitness component. It increases with regular activity and decreases with inactivity. Flexibility is also specific. Good flexibility in one joint doesn't necessarily mean good flexibility in another. Flexibility is the ability of an individual to move the body through as wide a range of motion as possible without undue strain to the articulation and muscle attachments (Dick, Frank, 1980) [1].

To measure the flexibility of the lower back and posterior thighs. The subject was asked to remove his shoes and sit on the floor with feet against a standardized Sit and Reach Test apparatus. The apparatus was placed against a wall to prevent it from sliding. The subject was asked to extend the legs fully with the feet about shoulder width apart. The tester holds the subject's knees to ensure they were extended. The subject was asked to extend his arms forward with hands placed on top of each other, bending forward along the measuring scale four times and hold both hands at the maximal position for 1-2 seconds on the fourth trial. The score is the maximum distance reached in nearest half centimeter.

Objective of the study

The purpose of the study was to find out the comparative effect of Aerobic dance, Kuthiyottam and Kolkkali training programmes on Flexibility.

Hypotheses

Based on the understanding of the literature and the nature of the study the following hypotheses were developed.

1. There will be significant differences among Aerobic dance, Kuthiyottam and Kolkkali groups in the improvement of Flexibility.
2. The Kuthiyottam group will show better improvement in Flexibility than groups involved in Aerobic dance and Kolkkali training programmes.

Design of the study

Randomly selected 120 high school boys were divided into four equal groups as A,B,C and D. After taking the pre-test for Flexibility, the training programme was given to experimental groups A, B, and C where as the group D was a control group. The experimental group 'A' had undergone the training programme in Aerobic dance, group B had undergone the training programme in Kuthiyottam and group C in Kolkkali, thrice a week for 16 weeks. Two middle tests after 5 weeks and 10 weeks and a post test were conducted. To compare the significance of difference among the three experimental groups and the control group the analysis of covariance was employed. The Scheffe's post hoc test was applied wherever the F-value was found significant, in order to find the significance of difference among the paired adjusted post means. The level of significance chosen was 0.05.

Analysis of data and discussion of findings

To compare the significance of difference among the three experimental groups and the control group the analysis of covariance was employed. The Scheffe's post hoc test was applied wherever the F-value was found significant, in order to find the significance of difference among the paired adjusted post means. The level of significance chosen was 0.05.

Table 1: Analysis of covariance on flexibility among experimental and control groups

	Aerobic Dance	Kuthiyottam	Kolkkali	Control group	SV	df	SS	MSS	F-value
Adjusted post test means	23.369	24.558	22.50	21.274	B	3	172.162	57.387	146.983*
					W	115	44.90	0.390	
* Significant at 0.05 level F 0.05 (3, 115) = 2.60									

The statistical results shown in table indicate that the F-value for the adjusted post test means was 146.983. As the obtained F-value was greater than the tabulated F-value (2.60) at 0.05 level of significance, significant difference exists in the adjusted post test means among the experimental and control groups. The Scheffe's post hoc test was applied as significant difference existed and the results obtained are presented in below table.

Table 1: Scheffe's test for differences in paired adjusted final means among experimental and control groups on flexibility

Aerobic Dance	Kuthiyottam	Kolkkali	Control Group	Mean differences	Confidence Interval
23.369	24.558			1.189*	0.450
23.369		22.50		0.868*	0.450
23.369			21.274	2.095*	0.450
	24.558	22.50		2.057*	0.450
	24.558		21.274	3.284*	0.450
		22.50	21.274	1.227*	0.450
* Significant at 0.05 level					

The table indicates that the differences in paired adjusted final means between Aerobic dance and Kuthiyottam is 1.189 and the value 0.868 between Aerobic dance and Kolkkali, 2.095 between Aerobic dance and control group, 2.057 between Kuthiyottam and Kolkkali, 3.284 between Kuthiyottam and Control group, 1.227 between Kolkkali and control group, all of which were significant as the obtained values were greater than the confidence interval of 0.450 required for the significance. The graphical representation of the paired adjusted final means of the experimental and control groups on flexibility is shown in the figure.

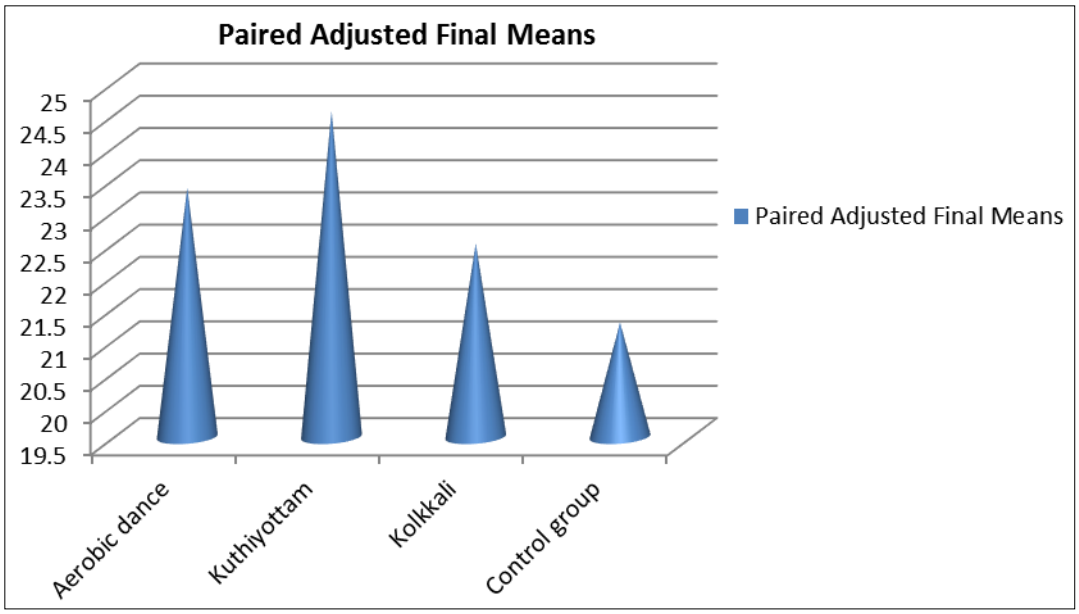

Fig 1: Graphical representation of paired adjusted final means of experimental and control groups on flexibility

Conclusion

It was found that there was significant difference among all the four groups. It was shown that the Kuthyottam group showed better improvement in performance than Aerobic dance, Kolkkali and Control groups. It was also revealed that Aerobic dance group showed better improvement than Kolkkali and control groups.

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