

COMPARISON OF HEALTH RELATED FITNESS VARIABLES BETWEEN SEDENTARY GIRLS AND FEMALE KATHAK DANCERS

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ABSTRACT

Dance is an expression of feelings through body movements and is a part of culture of human society. Dance may be of various types like military, religious, festive and so on. Dance may also be classified as folk, classical etc. In India, dance is a cultural heritage continuing through ages. Dance is a wonderful fitness work out which human body rejuvenates and refurbishes with vigor, fitness and endurance. Dance not only promotes physical fitness; it has a wide range of positive impact on behavioral set up too. The author being a physical educationist by profession and passionate for dance made up her mind to conduct a research on dance and fitness and very specifically premeditated to compare the health related fitness of sedentary girls and girls involved in regular Kathak dance practice. Kathak is a classical dance form of India involving numerous body movements. It involves turns, twists, rotations and several other body movements converging to sound fitness. The Findings ascertained that the Kathak females are better in fitness variable Cardio respiratory endurance, muscular endurance and body composition than the sedentary girls.

Keywords : Fitness, sedentary, Kathak.

INTRODUCTION

Dance is an expression of feelings through body movements and it is an integral part of our culture and society. Dance may be of various types like military, religious, festive and so on. Dance may also be classified as folk, classical etc. In India dance is a cultural heritage continuing through ages. Dance is a wonderful fitness work out which rejuvenates and refurbishes human body with vigor, fitness and good health. Dance not only promotes physical fitness; it has a wide range of positive impact on behavioral setup too. Keeping in view the concept of dance as a platform for development of fitness and considering Indian dance as a cultural heritage, the scholar premeditates to conduct a research to explore the difference between fitness of sedentary girls and girls regularly involved in Indian classical dance Kathak.

LITERATURE REVIEW

- Scientific research proved that males and females dance practice and physical activity can have a positive effect on physical fitness and it also increases lung function, lung capacity, flexibility and aerobic capacity (Blair, Cheng & Holder, 2001).
- As a physical activity and a creative art form, it is believed that dance can make a significant contribution to the healthy-living agenda (Marshall, Sarkin, Sallis & McKenzie, 1998).
- Alpert et al. (2009) showed progressive balance enhancement in the sensory organization test (SOT) in their study for 13 women aged 52–88 years performing jazz dance that lasted 15 weeks.
- Keogh et al. (2009) reported that dancing is a type of physical activity that indicates that this particular activity might improve older adults' lower body bone-mineral content and muscle strength, as well as reduce the prevalence of falls and cardiovascular health risks.
- Hui et al. (2009) have explored that after 24 sessions for 52 adults aged 68 on average and trained in low-impact aerobic dancing, the dancers had improved their dynamic balance in Time Up-and-Go test, but not their static balance.
- Tsimaras et al. (2012) investigated the impact of a Greek dance program in 13 adults with hearing problems in their aerobic capacity and muscle tone. After 12 weeks of dance program observed significant progress in physiological peak parameters such as oxygen consumption and exhaustion time.
- Kaltsatou et al., (2011) explored that Greek traditional dance was performed by people with breast cancer. It showed improvement in their physical functioning, reduced their symptoms of depression.
- Lehri and Mokha (2006) found significant reduction in percent body fat of females after 6 weeks of aerobic training.
- Vatansev and Cakmakci (2010) found significant effect of 8 weeks' step aerobics on percentage body fat of the experimental group.
- Arslan (2011) found that regular aerobics exercise improves cardiorespiratory endurance (ability of the heart, lungs, blood vessels and associated tissues since it helps to use oxygen and to produce energy needed for activity and thus burn off excess body fat).
- Najafnia et.al. (2013) in his study confirmed that step aerobic exercises lead to a significant decrease in fat percentage ($p=0/02$) among active and inactive women in Kermanshah Province Iran.

- Cakmakci Arslan, Taskin, and Cakmackci (2011) found a significant decrease of percentage of body fat of obese women after 12 weeks of aerobic dance.

PURPOSE

The scholar planned to compare the health related fitness of sedentary girls with those of kathak dancers to establish the fact that Indian classical dance has a positive impact on fitness of the dancers.

SIGNIFICANCE

The author feels that the findings of her study will benefit the women folk with respect to development of sustainable health related physical fitness.

METHODOLOGY

The study is a status study. For accomplishment of the research, the scholar collected 30 girls regularly involved in Kathak dance practice from renowned dance academy of Kalyani, and also involved 30 sedentary girls from the lady's hostels of University of Kalyani as volunteers of the study. The scholar initially collected personal data like age height and weight of the subjects thereafter collected data on health related fitness variables and analyzed the data for drawing inferences.

Fitness variables	Name of tests
Cardio respiratory endurance	Step test
Muscular endurance	Ab curl
Muscular Strength	Gripe dynamometer test
Flexibility	Sit and reach test

Apart from the fitness tests mentioned the scholar assessed body fat percent fat mass and lean mass as measures of body composition. Four sites of skin folds were estimated and the variables were calculated with the help of software.

RESULT AND DISCUSSION

Descriptive Statistics of fitness variables of sedentary girls are presented in the table given below.

Table 1. Descriptive Statistics of fitness variables of sedentary girls

Fitness variables	N	Minimum	Maximum	Mean	Std. Deviation
Step test beats/min	30	116	172	148.40	±13.548
Ab curl nos.	30	3	30	23.80	±5.261
Sit and reach cms.	30	7	35	22.47	±6.469
Dynamometer test cms.	30	2	54	32.53	±10.415
Valid N (list wise)	30				

From table 1 it is clear that the mean of fitness tests step test, Ab Curl, Sit and reach test, and Dynamometer test for sedentary girls are 148.40, 23.80, 22.47 and 32.53 and their Sd are ±13.54, ±5.26, ±6.46 and ±10.41 respectively.

In the table 2 the descriptive Statistics of fitness variables of Kathak girls are given.

Table 2. Descriptive Statistics fitness variables of Kathak girls

Fitness variables	N	Minimum	Maximum	Mean	Std. Deviation
Step test beats/min	30	92	168	126.13	±23.276
Ab curl nos.	30	30	42	33.13	±2.862
Sit and reach cms.		12	36	23.63	±5.696
Dynamometer test cms.	30	20	51	31.03	±5.762
Valid N (listwise)	30				

From table 2, it is clear that the mean of fitness tests step test, Ab Curl, Sit and reach test, and Dynamometer test for Kathak girls are 126.13, 33.13, 23.63 and 31.03 and their Sd are ±23.27, ±2.86, ±5.69 and ±5.76 respectively.

From the data presented in tables 1 and 2, it is clear that there are differences with respect to means of the scores. To establish the degree of difference between the means inferential statistics were computed with the help of SPSS 16.0 software.

Table 4. Independent samples statistics on fitness between sedentary and Kathak girls

Fitness test		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	T	Df	Sig. (2-tailed)
STEP TEST	Equal variances assumed	17.862	.000	4.528	58	.000
	Equal variances not assumed			4.528	46.627	.000
AB CURL assumed	Equal variances	2.330	.132	-8.535	58	.000
	Equal variances not assumed			-8.535	44.776	.000
SIT AND REACH	Equal variances assumed	.012	.913	-.741	58	.461
	Equal variances not assumed			-.741	57.087	.462
DYANAMOM ETRE TEST	Equal variances assumed	6.499	.013	.690	58	.493
	Equal variances not assumed			.690	45.235	.494

From T test result presented in table 4, it is revealed that there exists significant difference on fitness variables of cardio respiratory endurance and muscular endurance. The kathak girls are significantly better than the sedentary girls with respect to the fitness variables, cardio respiratory endurance and muscular endurance.

Table 5. Descriptive statistics on body composition of sedentary and Kathak girls.

Body composition variables in mm.		Sedentary	Kathak
BF %	Mean	27.70	19.27
	S.D.	4.669	5.132
Fat Mass in kg	Mean	16.70	11.23
	S.D.	5.700	4.651
Lean Mass in kg	Mean	40.90	39.10
	S.D.	6.718	8.531

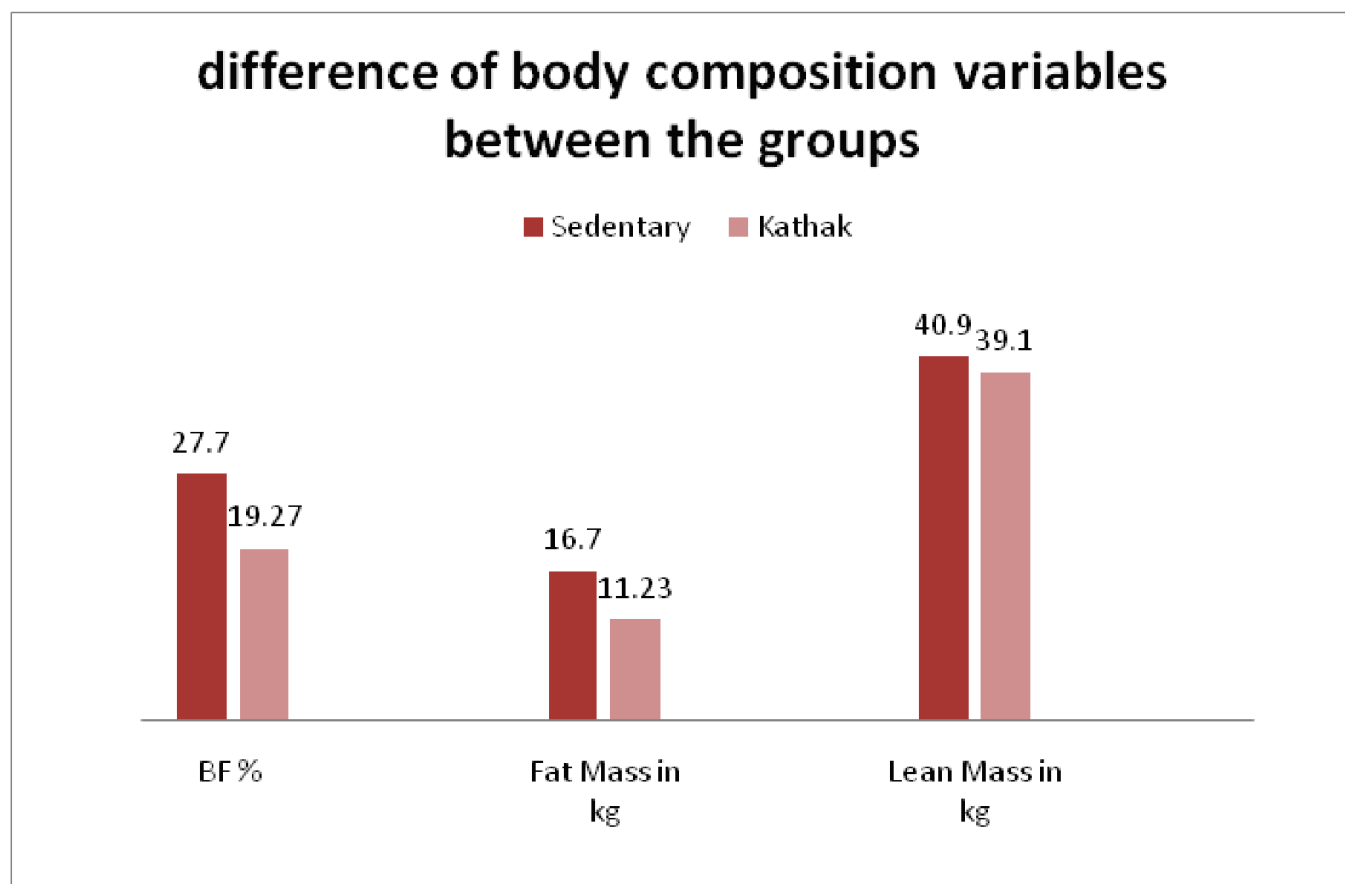


Figure 1: Difference of lean mass fat mass and BF %between Sedentary and Kathak girls

According to descriptive statistics data on body composition presented in table 5 and column chart presented in fig. 1, it is clear that mean for BF % and fat mass of dancer girls are lower in comparison to those of sedentary. In order to establish the degree of difference between the means independent samples, ‘t’ test was computed.

Table 6. Independent samples statistics on body composition between sedentary and Kathak girls

Body composition variables in mm		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	T	Df	Sig. (2-tailed)
BF %	Equal variances assumed	.477	.493	6.657	58	.000
	Equal variances not assumed			6.657	57.489	.000
Fat Mass in kg	Equal variances assumed	.632	.430	4.070	58	.000
	Equal variances not assumed			4.070	55.756	.000
Lean Mass in kg	Equal variances assumed	.013	.908	.908	58	.368
	Equal variances not assumed			.908	54.976	.368

From 't' test result presented in table 6, it is revealed that there exists significant difference on body fat % and fat mass. More clearly speaking the kathak girls are significantly better than the sedentary girls with respect to the body composition variables Body fat % and fat mass.

CONCLUSION

It can be concluded from that the dancer females are better than the sedentary girls with respect to most of the crucial fitness parameters. At last, the author wish to proclaim that Indian classical dance Kathak is a wonderful means of fitness workout which can play a determining role in maintenance and promotion of sustainable good health of people.

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