

Comparison of fitness variables between sedentary girls and female kathak dancers

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Abstract

Dance is expression of feelings through body movements. Dance 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 rejuvenating and refurbishing human body with vigor, fitness and endurance. Dance not only promote physical fitness it has a wide range of positive impact on behavioral setup 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. As a part of her Ph.D. research in this area the scholar 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 expression of feelings through body movements. Dance 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 rejuvenating and refurbishing human body with vigor, fitness and good health. Dance not only promote 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 premeditated to conduct a research to explore the difference between fitness of sedentary girls and girls regularly involved in Indian classical dance Kathak.

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 randomly 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.

Table 1

| 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 2: 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 (listwise) | 30 | | | | |

From table 6 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 3: 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 | Equal variances assumed | 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 |
| Dyanamo metre 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 exist significant difference on fitness variables cardio respiratory endurance and muscular endurance. More clearly

speaking the kathak girls are significantly better that 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 |

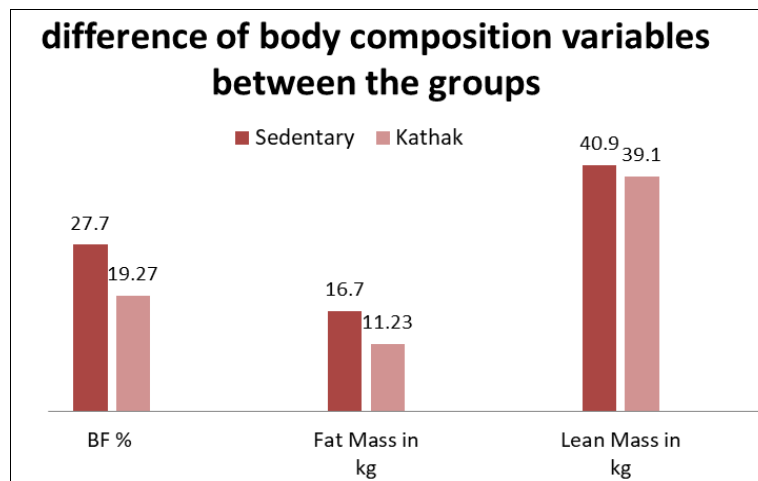


Fig 1: Difference of lean mass fat mass and BF %between Sedentary and Kathak girls

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 exist 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: From the data analysis presented in the write up it is evident that the Kathak dancers are have better Cardio respiratory endurance, Muscular endurance and body composition variables Body fat % and fat mass. Thus it can be concluded that the dancer females are better than the sedentary girls with respect to most of the crucial fitness parameters. As a take home message 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 sustainable good health of people.

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