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Dr. J Samuel Jesudoss

Assistant Professor, Y.M.C.A

College of Physical Education,

Chennai, Tamil Nadu, India

Influence of selected mobility exercises and participation in special games on game performance among intellectually disabled children of under 18 age groups

Dr. J Samuel Jesudoss

Abstract

The purpose of the study was to find out the influence of selected mobility exercises and participation in special games on game performance among intellectually disabled children of age group under 18, thirty male students who were studying in Balar Kalvi Nilayam and YMCA College Special School, Chennai, acted as subjects for the study. They were only mild and moderate in intellectual disability. These students did not undergo any special training or coaching programme apart from their regular routine physical activity classes as a part of the curriculum in the school. They were attached at random, based on age in which 30 belonged to under 18 age group, Under 18 age group was divided into three equal group of ten for each experimental treatment. In the under 18 age group 10 students (Treatment group I) underwent calisthenics and special games participation, 10 students (Treatment group II) underwent aquatics and special games participation, 10 students (Treatment group III) underwent yoga and special games participation. The subjects were tested on selected criterion variables prior (pre-test) and after twelve weeks of training (post-test). The pre and post-test data collected from three groups on game performance (Bocce skill performance, Badminton skill performance, Table Tennis skill performance), were statistically examined for significant difference, by applying the analysis of covariance (ANCOVA). Computed 'T' ratio for find out significant improvement due to the training on game performance. When ever an 'F' ratio for adjusted test was found to be significant for adjusted post-test means, Scheffe's test was followed as a post-hoc test to determine which of the paired mean differences was significant.

The result of the study showed that under 18 age group there was a significant improvement on selected criterion variables such as, Bocce skill performance, Badminton skill performance, Table Tennis skill performance due to mobility exercises and participation in special games, however no significant differences among the groups.

Keywords: Mobility exercises, intellectual disability, special games, bocce

Introduction

Mobility Exercise is an integral aspect of human life. Our daily lives are sustained and enriched when we are physically active and adopt active healthful life styles that will continue throughout the life span. The emphasis on fitness, wellness and health promotion through active living is highly sought now days ^[1].

Physical Activity is for everybody. Exercise is a key factor in maintaining and improving overall health. In 1996, the Surgeon General of the United States reported that "significant health benefits can be obtained with a moderate amount of physical activity, preferably daily." These benefits are even more important in a disability, since people with disabilities have a tendency to live less active lifestyles. Yet, it is just as important for our body to get exercise. Physical activity and exercise programs of all sorts are indoor and outdoor, sports or recreational, solitary or team. It doesn't matter what we choose, so long as we choose to get a moderate amount of physical activity each day ^[2].

Mobility exercise in the context of the study includes calisthenics exercise, Aquatic exercise and Yogasana (Dynamic).

Correspondence

Dr. J Samuel Jesudoss

Assistant Professor, Y.M.C.A

College of Physical Education,

Chennai, Tamil Nadu, India

Methodology

Thirty male students who were studying in Balar Kalvi Nilayam and YMCA College Special School, Chennai, acted as subjects for the study. They were only mild and moderate in intellectual disability. These students did not undergo any special training or coaching programme apart from their regular routine physical activity classes as a part of the curriculum in the school [3].

They were attached at random to one of the three groups based on age in which 30 belonged to under 18 age group, the age group was divided into three equal group of ten for each experimental treatment.

In the under 18 age group 10 students (Treatment group I) underwent calisthenics and special games participation, 10 students (Treatment group II) underwent aquatics and special games participation, 10 students (Treatment group III) underwent yoga and special games participation [4, 5].

The subjects in all the three groups were tested on selected criterion variables prior (pre-test) and after twelve weeks of training (post-test).

Analysis and interpretation of the data

The pre and post-test data collected from three groups on game performance (Bocce skill performance, Badminton skill performance, Table Tennis skill performance), were statistically examined for significant difference, by applying the analysis of covariance (ANACOVA) [6].

Computed 'T' ratio for find out significant improvement due to the training on game performance.

When ever an 'F' ratio for adjusted test was found to be significant for adjusted post-test means, Scheffe's test was followed as a post-hoc test to determine which of the paired mean differences was significant [7].

Table 1: Analysis of Covariance for Pre and Post-tests Data on game performance among Experimental Groups of Under-16 Years Category

Test	Variables	calisthenics	aqua	Yoga	source of variance	sum of Squares	df	Mean squares	F' Ratio
Adjusted Post-test Mean	Bocce	3.07	3.038	3.224	Between	0.194	2	0.097	0.511
					Within	4.946	26	0.19	
Adjusted Post-test Mean	Badminton	50.841	48.19	46.27	Between	105.341	2	52.671	4.319
					Within	317.099	26	12.196	
Adjusted Post-test Mean	Table Tennis	58.258	63	59.54	Between	120.477	2	60.239	2.436
					Within	642.997	26	24.731	

* Significant at 0.05 level.

The table value required for significance at 0.05 level of confidence with degrees of freedom 2, 26 is 3.37 and degree of freedom 2, 27 is 3.35

The adjusted post-test mean on Bocce skill performance of experimental group Under-18 Years category are 3.07, 3.038, and 3.224 respectively. The obtained 'F' ratio value of 0.511 for adjusted post-test data is lesser than the required table value of 3.37 for significance at 0.05 level. It reveals that there is no significant difference among experimental treatment groups on Bocce skill performance.

Since, the obtained 'F' ratio for the adjusted post-test mean is not significant, the post-hoc test was not applied to find out the significant paired mean differences.

The adjusted post-test mean on Badminton skill performance of experimental group Under-18 Years category are 50.841, 48.19, and 46.27 respectively. The obtained 'F' ratio value of

4.319 for adjusted post-test data is grater than the required table value of 3.37 for significance at 0.05 level. It reveals that there is significant difference among experimental treatment groups on Badminton skill performance.

The adjusted post-test mean on Table Tennis skill performance of experimental group Under-18 Years category are 58.258, 63, and 59.54 respectively. The obtained 'F' ratio value of 2.436 for adjusted post-test data is lesser than the required table value of 3.37 for significance at 0.05 level. It reveals that there is no significant difference among experimental treatment groups on Table Tennis skill performance.

Since, the obtained 'F' ratio for the adjusted post-test mean is not significant, the post-hoc test was not applied to find out the significant paired mean differences.

Table 2: Computation Mean gain ('t' ratio) for Game performance of calisthenics, Aquatics and Yogasana treatment groups of under 18 age

Variables	Treatment group-1 Calisthenics T' test	Treatment group-2 Aquatics T' test	Treatment group-3 Yogasana T' test
Bocce	6.272	13.361	5.849
Badminton	3.059	6.091	0.596
Table Tennis	1.137	3.339	3.413

* Significant at .05 level of confidence

Table value required for significance at 0.05 level of confidence for the df of 9 is 2.26.

Table II reveals that for calisthenics group the obtained 't' ratio of Bocce, Badminton skill performance are 6.272, 3.059, respectively are greater than the required table value 2.26 for significance with df 9 at 0.05 level of confidence.

The result of the study showed that there was a significant improvement on selected criterion variables such as, Bocce, Badminton skill performance, of under 18 age group due to calisthenics exercises, however there was no significant differences among the groups

Table II reveals that for Aquatics group the obtained 't' ratio of Bocce, Badminton and Table tennis skill performance are

13.361, 6.091, 3.339, respectively are greater than the required table value 2.26 for significance with df 9 at 0.05 level of confidence.

The result of the study showed that there was a significant improvement on selected criterion variables such as, Bocce, Badminton and Table tennis skill performance, of under 18 age group due to aquatics exercises, however there was no significant differences among the groups

Table II reveals that for Yogasana group the obtained 't' ratio of Bocce, and Table tennis skill performance are 5.849, 0.596, 3.413, respectively are greater than the required table value 2.26 for significance with df 9 at 0.05 level of confidence

The result of the study showed that there was a significant

improvement on selected criterion variables such as, Bocce, Badminton and Table tennis skill performance, of under 18

age group due to yogasana (dynamic), however there was no significant differences among the groups.

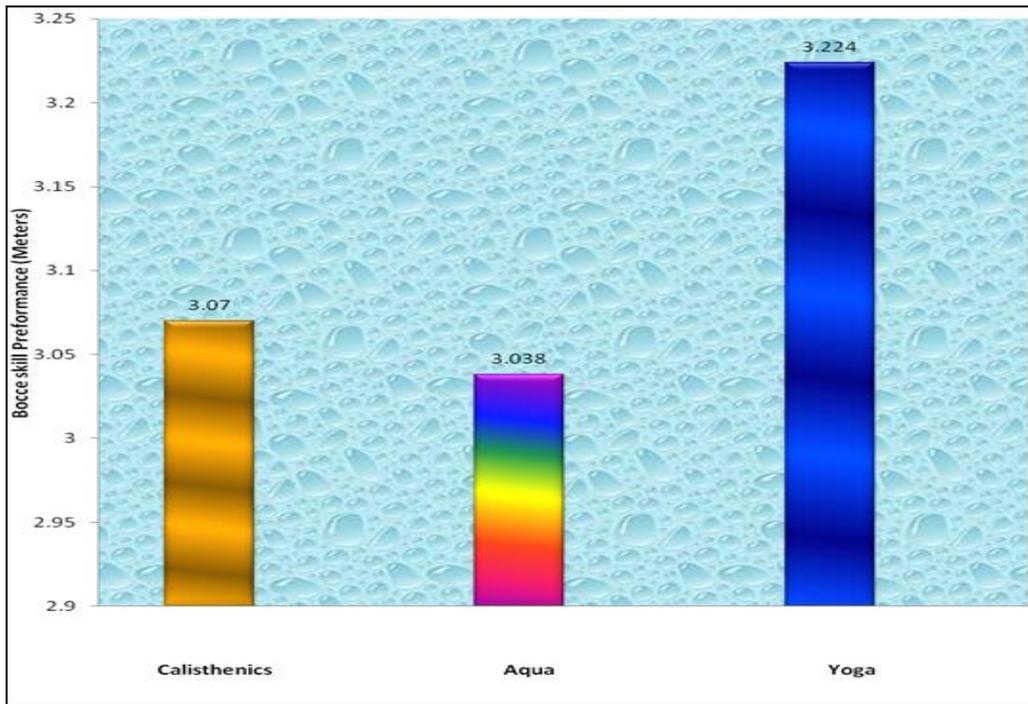


Fig 1: The adjusted post-test values of under 18 age calisthenics treatment group, aquatics treatment group and yoga treatment group on bocce skill performance

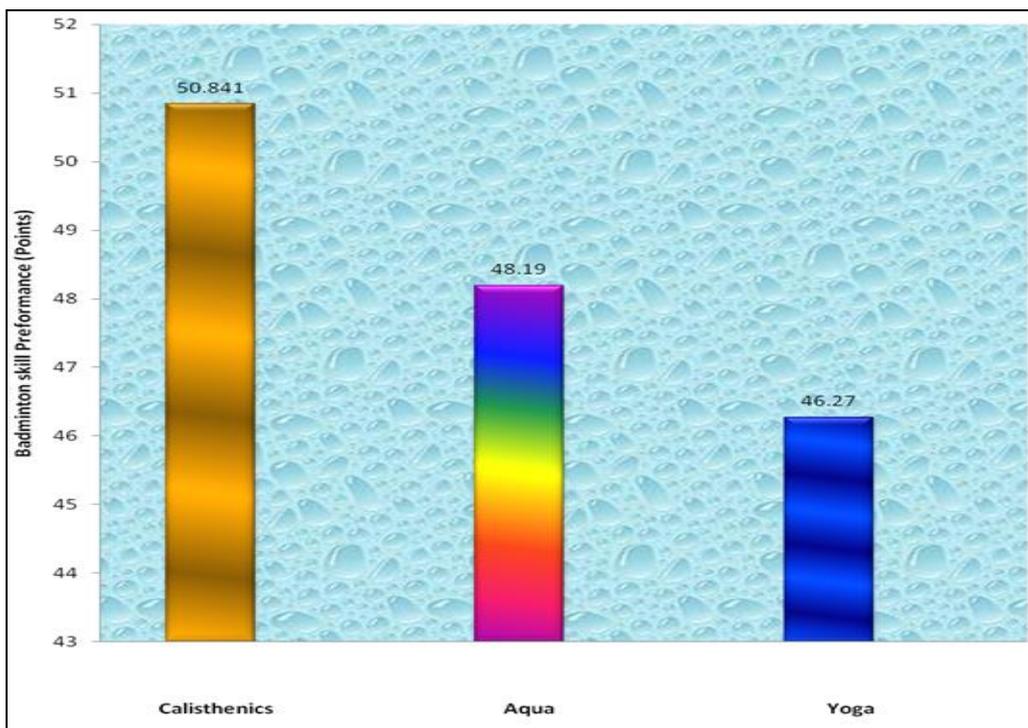


Fig 2: The adjusted post-test values of under 18 age calisthenics treatment group, aquatics treatment group and yoga treatment group on badminton skill performance

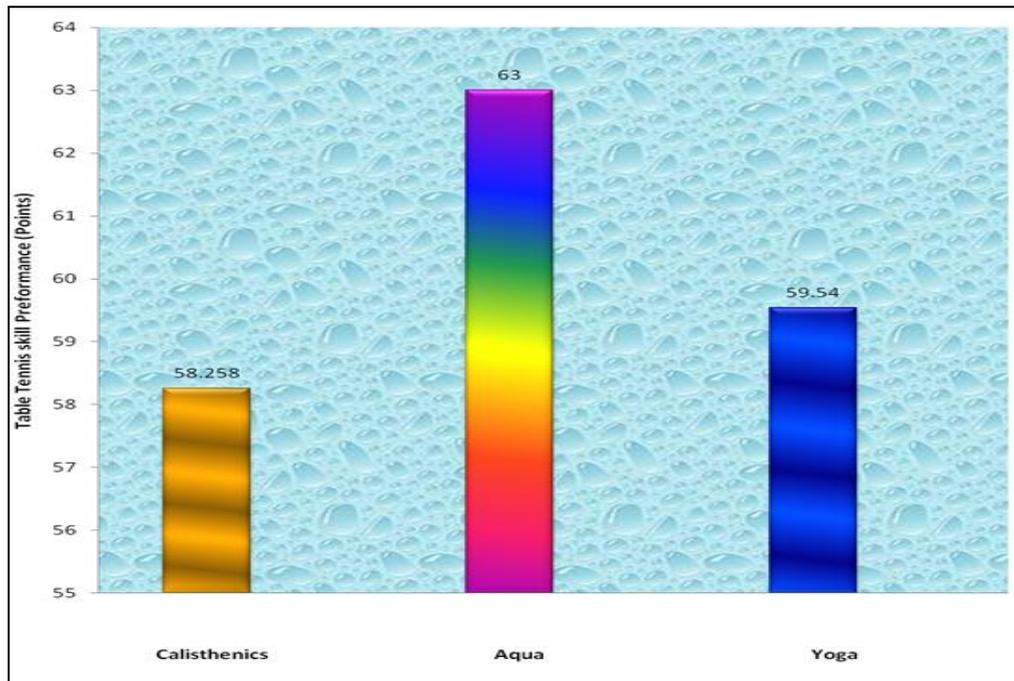


Fig 3: The adjusted post-test values of under 18 age calisthenics treatment group, aquatics treatment group and yoga treatment group on table tennis skill performance

Conclusion

Based on the results of the study, the following conclusion was drawn.

There was a significant improvement on selected criterion variables such as, Bocce, Badminton, Table Tennis skill performance of under 18 age group due to Mobility exercises and participation in special games, however there was no significant differences among the groups.

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