International Journal of
Adapted Physical Education & Yoga
Online Journal : www.ijapey.info
Faculty of General & Adapted Physical Education and Yoga (GAPEY)
Ramakrishna Mission Vivekananda Educational and Research Institute (RKMVERI), Coimbatore Campus
(Deemed-to-be-University as declared by Govt of India under Section-3 of UGC Act 1956)
SRKV Post, Periyanaickenpalayam, Coimbatore,Tamil Nadu – 641020, India
ISSN : 2455-8958
Open Access Refereed e-Journal

## Research article

# INFLUENCE OF ADAPTED PHYSICAL ACTIVITIES ON SELECTED PHYSICAL FITNESS OF INTELLECTUALLY CHALLENGED CHILDREN

**Dr.M.RAMAJAYAM**

Assistant Professor, Rama Krishna Mission Vidyalaya Maruthi College Physical Education, Coimbatore, Tamil Nadu, India.

Received 21st March 2018, Accepted 20th April 2018

## Abstract

*To achieve the purpose of the present study intellectually challenged thirty girls were selected from TAT Kalanilayam Middle school and Faculty of Disability Management, Ramakrishna Mission Vidyalaya Coimbatore, Tamil Nadu. Their age ranged from 8 to 15 years. They were assigned into two groups namely experimental group-I with fifteen girls who were given adapted physical activities training drills for 12 weeks 5 days a week and other group-II with fifteen girls acted as control group. The experimental group was been tested on physical fitness variables namely speed and arm power. The selected criterion variables speed was tested with 30 m fly starts, arm power was tested with medicine ball throw test. The pre and post test data were collected and treated with ANCOVA. The level of confidence was fixed at 0.05. The study results showed that the experimental group had significantly improved selected physical fitness variables namely speed and arm power due to the influence of adapted physical activities training programme. The control group did not improve on selected physical fitness variables.*

Key Words: Adapted Physical Activity, Speed, Arm Power



***Corresponding Author:*** Dr. M. Ramajayam
***e-mail:*** *ramajayam1985@gmail.com*

## INTRODUCTION

Intellectual disability is a generalized disorder. It is characterized by significantly impaired cognitive functioning and deficits in two or more adaptive behaviours that onset before the age of 18. Generally such a person has an intelligence quotient (IQ) score of fewer than 70. Once focused almost entirely on cognition, the definition of the intellectual Disability now includes both a component relating to mental functioning and one relating to individual's function skills in his environment. Intellectual disabilities mean a diversity of abilities and potential among the disabled, which the educators must be ready to accept as such. Intellectual disability presents a substantial disadvantage to an individual for functioning in any society. Intellectual disability includes cognitive limitations as well as functional limitations in such areas as daily living skills, social skills and communication.

The aims of adapted physical activity follow the same guidelines as normal physical activity. Physical exercise is a way to maintain and enhance physical and functional ability of persons with intellectual disability and consequently to support the ability to work. Age, experience, environment and health condition influence greatly to an individual's level of function. Therefore adapted physical activity seeks for adequate activity possibilities for all.

The benefits of physical activity are universal for all children, including those with disability. The participation of children with disability in sports and adapted physical activities promotes inclusion, minimizes reconditioning and optimizes physical functioning and enhancing overall well-being. Despite these benefits, children with disability are more restricted in their participation, have lower levels of fitness and have higher levels of obesity than their peers without disability.

The goal to be achieved is the inclusion of all children with disability in appropriate activities. Physical activity, recreation, and sports participation for children with disability can provide practical suggestions to pediatric health care professionals for the promotion and participation of intellectually disabled children.

## METHODOLOGY

To achieve the purpose of the present study intellectually challenged thirty girls were selected from TAT Kalanilayam Middle school and Faculty of Disability Management, Ramakrishna Mission Vidyalaya Coimbatore, Tamil Nadu. Their age ranged from 8 to 15 years. They were assigned to two groups namely experimental group-I with fifteen girls who were given adapted physical activities training drills for 12 weeks 5 days a week and other group-II with fifteen girls acted as control group. The experimental group was tested on physical fitness variables namely speed and arm power. The selected criterion variables speed was tested with 30 m fly starts, arm power was tested with medicine ball throw test. The pre and post

test data were collected and treated with ANCOVA. The level of confidence was fixed at 0.05.

**TRAINING PROGRAM**

Training session period of 60 minutes, included five minutes warming up and warm down. The training sessions were conducted during evening 3.00 pm to 4 pm for twelve weeks.

**ADAPTED PHYSICAL ACTIVITIES**

1. Target Pass 2. Shifting the Ring 3. Indian Club up & Down 4. Relay 5.Picking the kerchief. 6. Zig Zag Relay

**RESULTS**

**TABLE-I**

**ANALYSIS OF COVARIANCE ON SPEED OF ADAPTED PHYSICAL ACTIVITIES TRAINING AND CONTROL GROUP OF INTELLECTUALLY CHALLENGED CHILDREN**

| Test | Adapted Physical Activities Training Group | Control Group | Source of Variances | Sum of Squares | df | Mean Squares | Obtained 'F' Ratio |
|---|---|---|---|---|---|---|---|
| Pre Test Mean | 12.66 | 12.68 | **Between** | 0.003 | 1 | 0.003 | 0.023 |
| SD | 0.36 | 0.35 | **Within** | 3.58 | 28 | 0.128 | |
| Post Test Mean | 10.43 | 12.57 | **Between** | 34.347 | 1 | 34.347 | 69.28* |
| SD | 0.91 | 0.39 | **Within** | 13.883 | 28 | 0.496 | |
| Adjusted Post Test Mean | 10.44 | 12.56 | **Between** | 33.807 | 1 | 33.807 | 78.73* |
| | | | **Within** | 11.595 | 27 | 0.429 | |

* *Significant*

(The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

It is clear from the table-I that the pre test ($F = 0.023$, $p > 0.05$) showed no significant difference in speed. However, post ($F = 69.28$, $p < 0.05$) and adjusted post test ($F = 78.73$, $p < 0.05$) value showed significant difference. The covariate is significant, indicating that speed before training no significant

improvement and after 12 weeks of adapted physical activities had significant improvement of speed due to training effects as statistically proved. Since, adjusted post test mean is also significant.

**FIGURE-1**
**MEAN VALUES OF EXPERIMENTAL AND CONTROL GROUPS ON SPEED OF INTELLECTUALLY CHALLENGED CHILDREN**

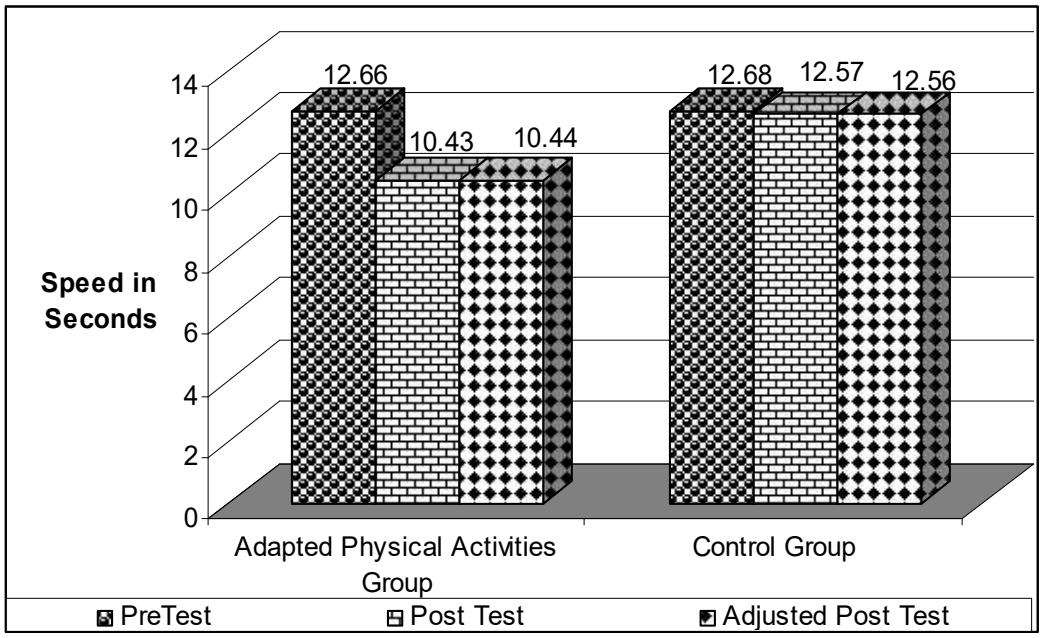


**TABLE – II**
**ANALYSIS OF COVARIANCE ON ARM POWER OF ADAPTED PHYSICAL ACTIVITIES TRAINING AND CONTROL GROUP OF INTELLECTUALLY CHALLENGED CHILDREN**

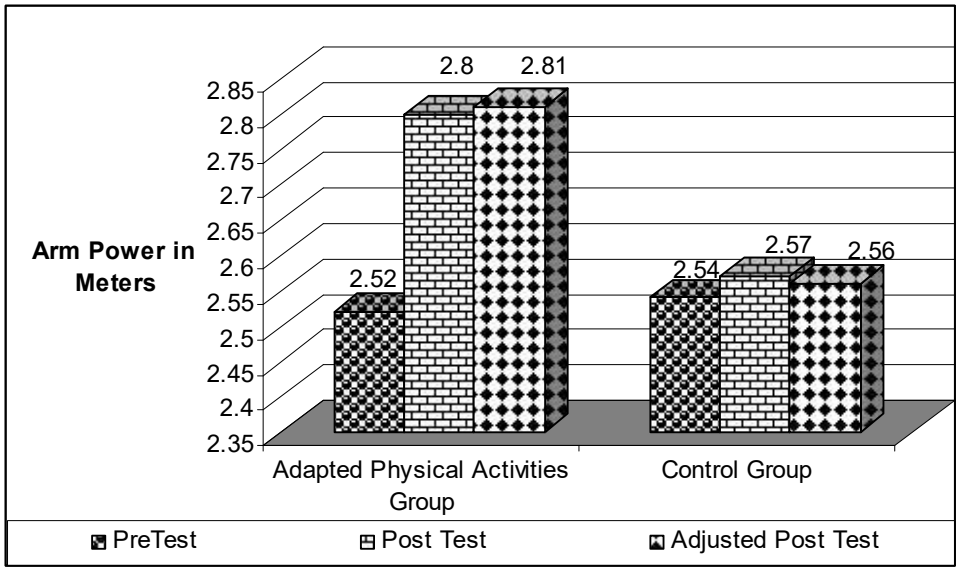
| Test | Adapted Physical Activities Training Group | Control Group | Source of Variances | Sum of Squares | df | Mean Squares | Obtained 'F' Ratio |
|---|---|---|---|---|---|---|---|
| Pre Test Mean | 2.52 | 2.54 | **Between** | 0.003 | 1 | 0.003 | 0.117 |
| SD | 0.15 | 0.16 | **Within** | 0.720 | 28 | 0.026 | |
| Post Test Mean | 2.80 | 2.57 | **Between** | 0.408 | 1 | 0.408 | 6.17* |
| SD | 0.20 | 0.29 | **Within** | 1.853 | 28 | 0..066 | |
| Adjusted Post Test Mean | 2.81 | 2.56 | **Between** | 0.479 | 1 | 0.479 | 11.42* |
| | | | **Within** | 1.133 | 27 | 0.042 | |

* *Significant*

(The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

It is clear from the table-II that the pre test ($F = 0.117$, $p > 0.05$) showed no significant difference in arm power. However, post ($F = 6.17$, $p < 0.05$) and adjusted post test ($F = 11.42$, $p < 0.05$) value showed significant difference. The covariate is significant, indicating that arm power before training no significant improvement and after 12 weeks of adapted physical activities had significant improvement of arm power due to training effects as statistically proved. Since, adjusted post test mean is also significant.

**FIGURE-2**
**MEAN VALUES OF EXPERIMENTAL AND CONTROL GROUPS ON ARM POWER OF INTELLECTUALLY CHALLENGED CHILDREN**




## DISCUSSION ON FINDINGS

The results of the study indicates that the influence of adapted physical activities training which involved various running, jumping exercises free hand exercises on the intellectual challenged children for twelve weeks of adapted physical exercises training had significantly improved the selected physical fitness variables ( speed and arm power). The results of the study is in consonance with that of a study conducted on the effects physical exercises and minor games on speed in mild mentally challenged children improved speed **(Jagadeeswari 2016).** Shirla and Reeta (2013) determined the effect of ten weeks of physical education program on speed for mentally retarded (MR) children and he concluded that participation in physical education program improved speed in mentally challenged children. The result of a study on the impact of core stability exercises program on physical fitness of children with mental retardation showed that training is an effective way to develop speed **(Rahmat A, Hasan D, 2013).** Effects of participation in sports recreation, physical activities in persons with intellectual disability would be improved on physical fitness level **(Hutzler 2009)** and **Wang 1997).** Physical activities for the intellectually challenged children improved on psychomotor abilities **(Heziah 2005)** and assessed the factors influencing changes in tweezers dexterity scores following physical activity influences the intellectually challenged children **(Manjunath 1998).**

## CONCLUSIONS

The experimental group had significantly improved of selected physical fitness variables namely speed and arm power of intellectually challenged children which is due to the influence of adapted physical activities training programme. The control group did not improve on selected physical fitness variables.

## REFERENCES

Hutzler, Y. (2009). Motivational correlates of physical activity persons with intellectual disability: *A systematic literature review*, 767-786

Hezkianz (2005), Adapted physical activities for the intellectually challenged adolescent psychomotor characteristics and implications for programming and motor intervention. International journal of adolescent medicine health, pp-33-47.

Inchulkar Shilpa and Venugopal Reeta (2013). Effect of exercise on psychomotor variables in mentally challenged children, 2013.

Joseph P.Winnick (2005), Adapted Physical Education and sport, Human Kinetics Fourth Edition, United States: Champaign IL page.4.

Jagadesswari, S (2016), Effects physical exercises and minor games on speed in mild mentally challenged children, International Journal of Physical Education, Sports and Health; 3(5): 135-138.

Manjunath (1998), factors influencing changes in tweezer dexterity scores following physical exercises training. Kendra yoga research center, Bangaluru

Rahmat A, Hasan D (2013). The Effect of Core Stabilization Exercises on Factors Physical Fitness to Mental Retardation. Medicina Sportiva.: 9(1):2058-2062.

Wang Chang (1997) Effects of skill jumping skill training on balance for children with mental retardation down syndrome, 487-95.

## Site this article:

Ramajayam, M. (2018). Influence of adapted physical activities on selected physical fitness of intellectually challenged children. *International Journal of Adapted Physical Education & Yoga*, Vol. 3, No. 4, pp. 15 to 21.