International Journal of Applied Research 2018; 4(2): 127-128

ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2018; 4(2): 127-128
www.allresearchjournal.com
Received: 21-12-2017
Accepted: 22-01-2018

Baby Salini E
Research Scholar,
Karpagam Academy of Higher Education, Coimbatore,
Tamil Nadu, India

Dr. AM Najeeb
Head, Department of Physical Education, National Institute of Technology, Calicut, Kerala, India

S Suthakar
Head (i/c), Department of Physical Education,
Karpagam Academy of Higher Education, Coimbatore,
Tamil Nadu, India

Correspondence
Baby Salini E
Research Scholar,
Karpagam Academy of Higher Education, Coimbatore,
Tamil Nadu, India

Effect of asanas on leg explosive power in differently abled students

Baby Salini E, Dr. AM Najeeb and S Suthakar

Abstract
Effect of asanas and pranayama on leg explosive power among sixty students belonging to 15 to 18 years of age affected with Down syndrome was evaluated. The students were grouped into Group I and Group II consisting of thirty students each. Asana-s practices were assigned for twelve weeks to the Group II. There was no Asanas and Pranayama on programme assigned to Group I. All the data were collected before and after the test and subjected to statistical analysis using‘t’ ratio. The study revealed that the practice of Asanas significantly increased the leg explosive power of differently abled students.

Keywords: Asanas, leg explosive power, differently abled students

Introduction
Children affected with disabilities such as Down syndrome could experience delay in learning things at a slower pace than the other children of similar age groups. In such conditions, the education classes has to be planned in such a way that much slower and but repeatedly so that they can learn the skills including self care, problem solving, social skill, and memory. In condition where there is an extra 21 chromosome in children can leads to a congenital disorder with characteristic features like mild to moderate mental retardation. Down syndrome is one of the common chromosomal abnormalities causing mild to severe mental retardation and other physical problems including heart defects. The *Trisomy 21* is a congenital disorder with a typical facial appearance, mental retardation on with other signs of chromosomal abnormalities. The disability affects the mental attitudes of the affected persons leading to havea lack confidence and a poor self-image. They develop inferiority feelings from their awareness of their own abnormality and lack of success in all directions. The inability to do simple things or performing with immense difficulty or not doing things at all resulting in frustration, subsequently result in a state of high tension and they tire easily from physical exertion. In addition to the lack concentration, the affected individuals have a stiff spine producing much pain and limit their movement, imbalances co-ordination movements. Yoga is considered one of the six schools of ancient Indian Philosophy and the practice of yoga help the individuals to achieve higher levels of performance and also brings out the hidden potentials. A Systematic approach and practices of Yoga could increase the physiological and psychological wellbeing of individuals. Some of the poses of yoga not able to practice by ‘differently abled’ children but there are many postures beneficial.These conditions might be congenital or acquired which include physical, cognitive, mental, sensory, emotional, and developmental or some combination of these.
Krishna, (1998) [1] reported that, asanas could provide the means for people of any age to get and stay in shape, balance, coordination, and a sense of centeredness. It was also reported that, practice of yoga could direct the blood and oxygen to the internal organs including the glands and nerves.
Sorensen *et al*., (1991) [5] reported that, pure strength power represents the amount of work a muscle or muscle group could produce per unit of time where as explosive power comes from the development of speed, strength. It was also reported that the ability of lower extremity muscles to release maximum muscular forces in an explosive manner that was in the shortest possible time.
Sathish (2013) [4] found that there was a significant improvement in explosive power after Yogasana practice for college obese students.

Objectives

Present study was proposed to find out the effects of 12 weeks practice of *Asanas* on leg explosive power in differently abled *Down syndrome* students.

Hypothiesis

Asanas practicing for twelve weeks would produce significant changes on leg explosive power in differently abled students.

Methodology

The study was under taken over period of twelve weeks in children affected with *Down syndrome* in the age group of 15 to 18 years at Pratheeksha Special School, Mukkam, Kozhikode District, Kerala. A total of sixty students with *Down syndrome* were selected for the study. The selected students were divided into two Group I and Group II consisting of 30 each. The Group I students were acted as control without engaging any yoga exercise or such other training programme and Group II experimental group was subjected to *Asanas* and *Pranayama*. The *Asanas* and *Pranayama* were practiced by them for 45 to 50 minutes every day with a five minutes warm up. The major activities include *Ardhakattichakrasana, Pathahasthasana, Trikonasana, Vajrasana, Ustrasana, Sasangasana, Parvathasana, Bhujangasana, Shalabhasana, Nadisuddhipranayama, Anuloma, Viloma* and finally *Savasana* were practiced.

Leg explosive power was measured in upward vertical jump. The subjects stood with one side towards the wall, keeping the heels together and held a 1-inch piece of chalk in the hand. All of them are directed to mark on the wall as much height as possible on the wall while keeping the heels on the floor. Number of centimeters between each jump mark measured to the nearest half centimeter was the score. In such a way, a minimum of two recordings were made and the best observation of the trial was recorded as the score. All the measurements were recorded in centimeters and the data collected was subjected to statistical analysis using 't" ratio with significance fixed at 0.05.

Results and Discussion

The study was conducted to evaluate the effect of *asanas* on leg explosive power before and after the training period among *Down syndrome* students and the observations obtained were subjected to statistical analysis using 't' ratio at 0.05 level of significance. The results obtained from the study regarding leg explosive powerare presented in the table 1.

Table 1: Computation of 't' ratio on leg explosive power

Group	Before the test (Mean± S. D)	After the test (Mean± S. D)	't' ratio
I - Control	15.50±2.97	15.83±3.27	1.62
II- Experiment	15.83±2.77	17.33±3.09	8.44*

*Significant at 0.05 levels

The result in the table revealed that the leg explosive power value of 't' ratio in experimental group was 8.44 which was significantly higher than the required table value of 2.045. The value obtained before and after the test in control group was 1.62 which was significantly lesser than the required table value of 2.045.

This significant improvement in the leg explosive power value might be due to the effect of 12 weeks practice of *Asanas* on experimental group. The study findings indicated that the leg explosive power could be improved in the experimental group after 12 weeks practice of *Asanas*. So the hypothesis cold be proved and accepted. These finding of the present study is in agreement with the studies conducted by Malipatil & Patil (2016) [2], Patil & Chandrappa (2015) [3] and Srikumar & Vallimurugan (2016) [6].

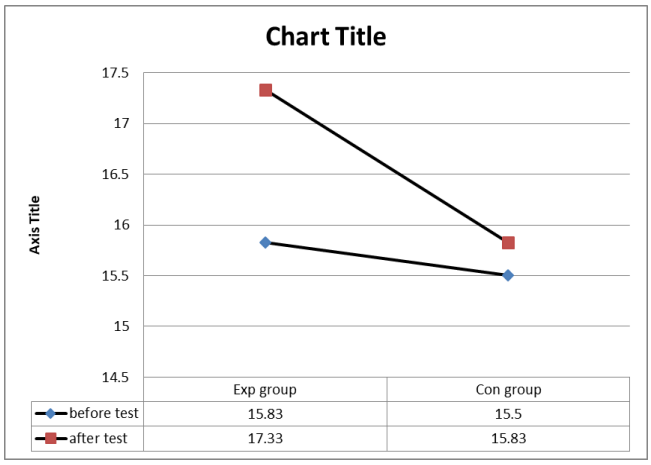

Fig 1: The mean values of leg explosive power for experimental and control groups.

Conclusion

With the limitation of the study, the following conclusion was drawn. Results of the study indicated that practice of Asanas increased the leg explosive power in differently abled students.

Reference

1. Krishna R. A matter of health integration of yoga & western medicine for prevention & cure, Chennai: in association with East West books (Madras) pvt. ltd. preface. 1998; (1):1-17-134-154.
2. Malipatil P, Rajkumar, Patil S, Sangeet. The effect of yoga and physical exercise on leg explosive strength and agility variables of secondary school students, European journal of physical education and sports sciences. 2016; 2(4), ISSN: 2501- 1235
3. Patil S Savitri and Chandrappa N. The effect of yoga and physical exercise on leg explosive strength and agility variables of secondary school students, International Journal of Physical Education, Sports and Health. 2015; 1(5):06-08
4. Sathish M. Effect of yogasana practice on physical fitness variables of college obese students International journal of innovative research & development January, 2013; 2(1), ISSN: 2278 – 0211 (Online)
5. Sorensen L. *et al*., Physical activity, fitness and body composition of Finnish Police officers: a 15-year follow up study. Medical Rehabilitation and physical exercise center Peurunka, Laukaa, 1991.
6. Srikumar U, Vallimurugan V. Effect of yoga, Pranayama with natural diet on physical fitness variables among patients of coronary artery disease", International Journal of Applied Research. 2016; 2(7):585-590, ISSN Print: 2394-7500 ISSN Online: 2394-5869