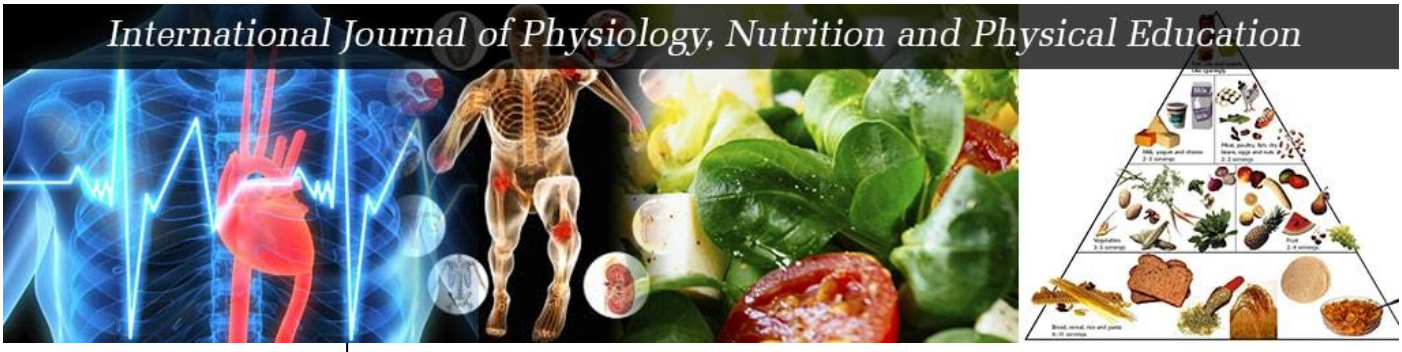

ISSN: 2456-0057
IJPNPE 2019; 4(1): 133-135

www.journalofsports.com
Received: 04-11-2018
Accepted: 06-12-2018

Kumari Vidya Manohar Mullur
Research Scholar, DOS in Physical Education Sports and Sciences, A.W. University Vijayapur. Karnataka, India

Dr. DM Jyoti
Research Guide, DOS in Physical Education Sports and Sciences, A.W. University Vijayapur. Karnataka, India

Correspondence
Kumari Vidya Manohar Mullur
Research Scholar, DOS in Physical Education Sports and Sciences, A.W. University Vijayapur. Karnataka, India

The impact of jump rope exercises on the body mass index of 12 to 16 years school children

Kumari Vidya Manohar Mullur and Dr. DM Jyoti

Abstract
The main aim of this study is to find the effect of jump-rope exercises on the Body mass Index of 12 to 16 years school children. Considering the mentioned objective, 40 students of R.V.S.R. School Gangavati, Karnataka State are selected as cases for this study and they are randomly divided into training group and controlling group. The first group, participated in Jump Rope Exercise training process continued 8 weeks, while; the latter group did not participate in any exercise programs and continued with their daily activities.

Keywords: Jump rope exercise, body mass index

Introduction
Jump Rope Exercise is a low-cost physical activity, thus; its impact on the physical fitness is being studied by various researchers. Jump Rope Exercise involves the muscles in arms and legs, and it also improves cardiovascular function and metabolism. Rope is a portable tool and Jump Rope Exercise requires minimum space. On the other hand, Jump Rope Exercise is incredibly cheap compared to the other sports. In an earlier research the effect of jump-rope training on children with mental and visual disorders is being studied. The results have illustrated that Jump Rope Exercise improves their balance significantly. Current researches have also suggested that physical activity including Jump Rope Exercise, an improvement in Body Mass Index will be experienced.

Meaning of Jump Rope Exercise
A Jump rope is a tool used in the sport of skipping/jump rope where one or more participants jump over a rope swung so that it passes under their feet and over their heads. This activity, game or exercise in which a person must jump, bounce or skip repeatedly while a length of rope is swung over and under, both ends held in the hands of the jumper, or alternately, held by two other participants. Often used for a schoolchildren

Meaning of Body Mass Index
The height and weight of an individual ratio squared it is used as a measure of body composition.

The aim of this study
The aim of this study is to find the effect of 8 weeks of Jump Rope Exercise on the Body Mass Index of 12 to 16 years school children.

Method
Study sample
Study participants were recruited from the class of of R.V.S.R. School Gangavati, Karnataka State. The purposeful sampling method was used to select 40 students aged between 12 to 16 years. Then, the random sampling method was adopted to divide students into the experimental (N=20) and control (N=20) groups.

Study methods and procedures
The study was conducted between 2/06/2018. To 2/ 08/ 2018. Every Monday to Friday, the jump

rope training was administered from 5;00p.m to 6.00p.m. The random sampling method helped to divide students into the experimental (N=20) and control (N=20) groups, and all students went through a pre-test of Body Mass Index. Students in the experimental group were then provided with 8 weeks of jump rope training, and those in the control group were asked to keep regular hours. A post-test of Body Mass Index was performed after the 8-week training intervention.

Training prescriptions in the experimental group

Exercise pattern

Jump rope was the primary activity in this experimental study. Students had the rope go around once per jump and did 8 skills in every training session. A skills was composed 15 jumps of jump rope and 2 minutes of rest, 3 minutes endurance 2 reperation, 30 second speed 2 repeation which took approximately 35 minutes. In addition, the students performed warm-up and relaxation stretching exercises, which included stretches of the neck, arms, waist, leg muscles, ankles, and wrists. Both warm-up and relaxation stretches took 5 minutes, leading to a total of 45 minutes per training session.

Exercise duration and frequency

Students in the experimental group were provided with a 8 - week jump rope training program, delivered 6 times a week, for 45 minutes each time. Students performed 10 skills of training in each session, where a skills was composed of 2 minutes of jump rope and 2 minutes of rest.

Data management and analysis

Test results were analyzed using SPSS 17.0 for Windows. Statistical methods included:

1. Using paired t-test to compare the health-related physical fitness between pre-test and post-test of the experimental group
2. The significance level of statistical analyses was set at $\alpha = .05$.

Results

In order to gather the required data, 40 students between 12 to 16 years old of Gangavati are selected. After calls in all R.V.S.R. School Gangavati, Karnataka State, some families have accepted to participate in the study. The selected cases are divided into two groups (20 for each) which are training and controlling groups. The demographic characteristics of the subjects are presented in Table. The results of t-test have shown that the two groups have homogeneous age, height, body mass and body mass index (BMI).

Table 1: Analysis of mean Standard deviation and 't'- value for Body mass index among control group and experimental group of Jump rope training groups

Variable	Group	No	Mean		Std. deviation		Df	t-value	Sig.
			Pre test	Post Test	Pre test	Post test			
BMI	Control	20	18.23	16.87	3.97	2.69	19	2.903	.009
	Experimental	20	19.19	17.05	3.55	1.88	19	4.559	.000*

Significant at 0.05 level, df=19, 't' 0.05=2.09

From the above table is clearly indicates that there was a highly significance difference in Body mass index between pretest and post test among Experimental group of school children as calculated t-value 4.55 > table value 2.09 at 0.05 level, in control group also shows there was slight significance in Body mass index Pretest and post test among control as calculated t-value 2.90>table value 2.09 at 0.05 group of Jump Rope Exercise.

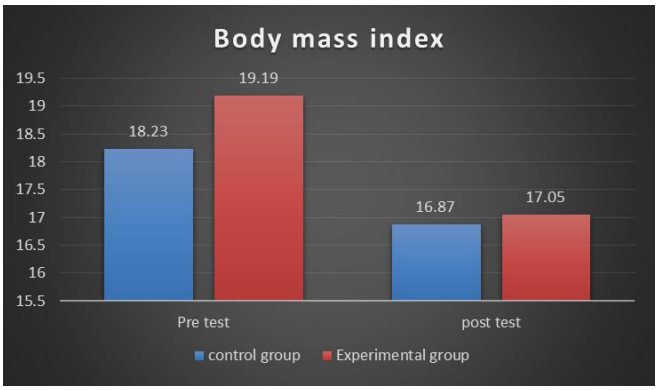

Fig 1: Bar graph representation of the mean values of Body mass index of the Control and Experimental groups in pretest and post test of jump training group.

Discussion

Based on the findings of this study, 8 weeks of Jump Rope Exercise improves the Body Mass Index of 12 to 16 years school children. This study also confirms the findings of the effect of Jump Rope Exercise on these Body Mass Index measurements were conducted 8 weeks after the experiment concluded. The experimental group and control group showed significant differences in Body Mass Index. Therefore, the results of this study suggest that jump rope exercise is effective for the improvement of the Body Mass Index, and this exercise can help maintain the physical fitness. However, this study has some limitations: The research subjects included only school children, and the experiment was implemented using only jump rope exercise. Therefore, Body mass Index seem to be a heritable trait. Although it may be increased by some exercises, this change is not noticeable. This fact can be the result of a slight change in the Body Mass Index of the students after Jump Rope Exercise.

Conclusion

This study indicates that there was a highly significance difference in Body mass index between pretest and post test among Experimental group of school children as calculated t-value 4.55 > table value 2.09 at 0.05 level, in control group also shows there was slight significance in Body mass index Pretest and post test among control as calculated t-value 2.90>table value 2.09 at 0.05 group of Jump Rope Exercise. According to the obtained results, it is concluded that, Jump Rope Exercise increases the Body Mass Index of 12 to 16 years school children.

References

1. Partavi. Sadi Sport Science. 2013; 6(2):40- 43.
2. Chen HM. The Effects of rope skipping on health-related physical fitness in student with mild intellectual disability: A case study. /Unpublished Master's Thesis/.

Taipei: National Taiwan Normal Un, 2010.
3. Tsai YH. Effect of rope jumping training on the health related physical fitness of students with amblyopia. Unpublished Master's Thesis. Taipei: National Taiwan Normal University, 2009.
4. Yeh HC. The role of vision in rope skipping training for balance development in the mental retardation. Unpublished Master's Thesis/. Taipei: National Taiwan Normal University, 2007.
5. Lee FC. The effects of forty-weeks jumping rope exercise intervention on physical fitness of elementary school students. /Unpublished Master's Thesis/.Pingtung: National Pingtung Un. of Education, 2010.
6. Shen CK, Huang JS. Physical Education Journal. 2000; 31:81-90.
7. So LS, Lin MZ. Chia Nan Annual Bulletin. 2001; 27:195-202.
8. Wu CK. The influence of different kinds of exercise on cardiopulmonary function of junior high girl students. Unpublished Master's Thesis/. Taipei: National Taiwan Sport University, 2002.
9. Chen, Chao-Chien, Lin, Yi-Chun. The Journal of Human Resource and Adult Learning, 2012, 8(1).