Effect of Spring Board Training on Jumping Ability of Women Basketball Players

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Abstract
The study aimed to assess the effect of Spring Board Training on the jumping ability of women basketball players. A total of 30 women intercollegiate level basketball players (N=30) from YMCA College of Physical Education, Chennai, and were divided into two groups: Group I (Spring Board Training) and Group II (Control group). The experimental group underwent six weeks of Spring Board Training, while the control group did not receive any intervention. Pre- and post-tests were conducted to measure the jumping ability of participants using vertical jump tests. Statistical analysis, including t-tests, was used to determine the significance of differences between the pre- and post-test scores within each group. The results indicated a significant improvement in the jumping ability of the Spring Board Training group, whereas no significant change was observed in the control group. These findings suggest that Spring Board Training can be an effective method for enhancing the jumping ability of women basketball players.

Keywords: Spring Board Training, Jumping Ability, Basketball Players, Vertical Jump, Physical Fitness.

Introduction

Physical education has, long believed that exercise is essential to maintain good health. During the past twenty years, a great deal of evidence has been reported by medical researches supporting the value of vigorous exercise for the promotion of health. Health-related physical fitness components are those, developments of which enrich one's health and on the other hand are related to certain diseases. Physical fitness is a universally accepted and realized terminology. Physical fitness is the capacity to meet the present and potential physical challenges of life with success. The present concept of physical fitness is not only freedom from disease, but also to gain enough strength, agility, flexibility, endurance and skills to meet the demands of daily life and to build sufficient reserve energy to withstand stress and strain.

Physical fitness is an important outcome of physical education and it is physical education in the school system that is most capable of bringing it out. Physical fitness over a long span and examination of the same reflect the status of health. The physical examination assesses the growth pattern and functional efficiency of sensory and motor organs, functional efficiency of the body in terms of strength, cardiorespiratory endurance, flexibility, speed, agility, balance and neuromuscular coordination.

Physical fitness is a combination of qualities that enable a person to perform well in vigorous physical activities. These qualities include agility, endurance, flexibility and strength. Physical fitness and good health are not the same, though each influences the other. (The World Book of Encyclopedia)

Spring Board Exercise

A springboard or diving board is used for diving and is a board that is itself a spring, i.e. a linear flex-spring, of the cantilever type. Springboards are commonly fixed by a hinge at one end (so they can be flipped up when not in use), and the other end usually hangs over a swimming pool, with a point midway between the hinge and the end resting on an adjustable fulcrum. Because of the need to be light and flexible, springboards are usually made of fiberglass. Most springboards are painted, usually blue, and texture is often added to the surface by mixing crushed glass or sand with the paint to provide additional grip. To improve the jumping ability athletes tend to do springboard exercises. In this study, the investigator was interested to find out the effect of spring board exercises on the performance of long jumpers.

Statement of the Problem

The purpose of this study was to find out the effect of spring board training on jumping ability of women basketball players.

Hypothesis

It was hypothesized that there would significant difference in improving jumping ability of basketball players due to spring board training.

Methodology

Selection of Subjects

The study was conducted on 30 women intercollegiate level basketball players from Chennai. They were selected randomly from the teams participated at intercollegiate level tournaments. The subjects were normal and healthy without any physical and mental disabilities. The subjects were at the age group between 19 and 23 years. The subjects' height and weight were not taken into consideration.

Selection of Variables

Variables are the conditions or characteristics that the experimenter manipulates, controls or observes.

The investigator has selected jumping ability which was measured through vertical jumping ability for this study.

Experimental Design

Thirty women intercollegiate level basketball players (N=30) from YMCA College of Physical Education, Chennai. The selected subjects were divided into two groups consisting of 15 in age based on their initial vertical jump performance. Thus, two equated groups were formed. Group I treated as experimental group, which underwent six weeks spring board training and groups was kept as control group which did not participate in any special activities. Prior to the experimental treatment all the subjects were measured of their jumping ability through vertical jump test and immediately after the end of experimental period all the subjects were measured of their jumping ability. The difference between the experimental group and control group of their final scores was considered as the effect of experimental treatment, namely, spring board training. To test statistically, 't' test was used and in all cases 0.05 level was fixed to test the hypothesis.

Training Schedule

Spring Board Exercise Schedule

Since the state of training plays a potential role in the contractile power of muscular tissues and thereafter for the effect, the investigator gave the repetition and intensity of doing the Springboard exercise more scientifically. To find out the absolute intensity and the relation at the intensity to the maximal capacity, the investigator first asked the subjects of the experimental group to perform the spring board exercise to the level possible under different pause of time in circuit method of interval and practice. Finally to keep up an equal velocity, the investigator assigned to following dosages.

Table I - Training Schedule for Spring Board Training

Week	No. of Repetition	Rest (seconds)	Sets
I Week	6	30	30
II Week	6	30	30
III Week	7	25	25
IV Week	8	25	25
V & VIWeeks	8	40	40

Statistical Procedure

The research design of the study was related group resign. The investigator had chosen related group resign as suggested by Clarke and Clarke. The following formulae were used to analyze the effect of springbroad training on jumping ability of women basketball players. In order to find the significance difference among two groups on selected variable the‘t’ ratio were applied.

Results

The results presented in Table II shows the obtained descriptive statistics, mean, standard deviation, mean difference and‘t’ value on jumping ability of women basketball players due to six weeks spring board training.

Table II - Showing Descriptive Statistics And Obtained ‘T” Between Experimental And Control Group In Jumping Abilty Of Women Basketball Players

Groups	Means	MD	SD	SDM	Obtained ‘t’
Experimental Group (N=15)	35.25	2.93	3.32	1.22	2.31*
Control Group (N=15)	32.6		3.61		

*Significant at 0.05 level

‘t’ Value Required at (0.05) = 2.09

The results presented in Table II proved that obtained mean value of experimental group, which underwent six weeks spring board exercises on their jumping ability was 35.25 and control group was 32.6 with mean difference of 2.93. The ‘t’ test statistical analysis showed that the obtained ‘t’ value of 2.31 was greater than the required ‘t’ value of 2.09 and it was found that spring board training significantly improved jumping ability of women basketball players

The obtained mean values of experimental and control groups were illustrated through bar diagram for better understanding of the results in Figure I.

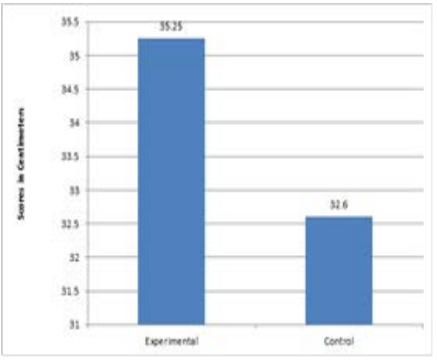

Figure I - Bar Diagram Showing Mean Values of Experimental and Control Gorup on Jumping Ability of Basketball Players

Discussions

For the purpose the study, the following hypothesis was made. It was hypothesized that there would significant difference in improving jumping ability of women basketball players due to spring board training. The results presented in Table II proved that there was significant improvement in jumping ability among experimental group, which underwent spring board training and hence, the formulated hypothesis was accepted at 0.05 levels.

Conclusions

Within the limitations and delimitations of the study, the following conclusions were drawn.

1. It was concluded that six weeks spring board training significantly improved jumping ability of women basketball players.

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