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# Effect of Interval Training Program on Skill Ability of Basketball Players

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## ABSTRACT

Basketball player is most effective when he can start quickly and move with "controlled speed" to a given spot on the floor. Basketball is more often a game of nimble and quick bursts of speed from side to side and fluent forward and backward movements on playing surface. Although much attention is usually given to the period of activity during an interval workout, the training stimulus associated with performing intervals occurs from a combination of work and recovery. This is what makes interval training different from continuous training. Therefore, the duration and nature of the recovery periods are also an important part of interval training. A very short recovery period may not allow the body to recover sufficiently to perform the next work interval at the desired intensity. The research methodology used for the study was an experimental design using three phases, viz. Pre-test, Treatment/training phase and Post-test. The Eighty subjects from different Schools in and around Wadala/Matunga area in Mumbai were selected using the simple random technique. The Subjects were divided into two equal groups, viz. Experimental group and Control group. The data was analyzed using the paired t-test statistical technique. The null hypothesis of equality of mean Skill variables viz, Dribbling, Shooting and Passing in experimental and control groups is rejected, and it may be concluded the average Skill ability of the boys in experimental and control groups in the interval training program is not the same. It may be concluded that the interval training program is effective for improving the Skill abilities of basketball players aged 12 to 14 years.

## Introduction

Basketball is a game where full speed is seldom achieved by a player and in fact very infrequently warranted. The player must always be ready to stop and change direction quickly and this suggests that a compromise must be reached between the use of out-right speed and the use of controlled speed so that he can drop quickly and change direction on demand. Basketball player is most effective when he can start quickly and move with "controlled speed" to a given spot on the floor. Basketball is more often a game of nimble and quick bursts of speed from side to side and fluent forward and backward movements on playing surface. [1]

Interval training is based on the premise that a greater amount of intense work can be accomplished if the work is interspersed with periods of rest. This has important implications for gains in fitness, since fitness is affected to a greater extent by the intensity of exercise than by either the duration or frequency.

During an interval workout, the exercise is performed at a greater intensity than during continuous exercise. Furthermore, interval training has been found to be more effective than continuous training in stimulating fatty acid oxidation in muscle mitochondria.[2,3,4]

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## Objectives of the Study

1. To determine the effect of interval training program on selected fitness ability of Basketball players.
2. To understand the effect of interval training program on selected skill ability of Basketball players.
3. To see the comparative effect on two groups of the interval training program.
4. To provide guideline for training procedure for Basketball players and professionals.

## Hypothesis

1. **Ho-**The interval training program may have no significant effect on the Dribbling ability of basketball players.
2. **Ho-**The interval training program may have no significant effect on the Shooting ability of basketball players.
3. **Ho-**The interval training program may have no significant effect on the Passing ability of basketball players.

## Research Methodology

The research methodology used for the study was an experimental design using three phases, viz. Pre-test, Treatment/training phase and Post-test. The Eighty subjects from different Schools in and around Wadala/Matunga area in Mumbai were selected using the simple random technique. The basketball players aged 12 to 14 years were divided into two equal groups, viz. Experimental group and Control group.[9]

## Result and Discussion

***Table D-1 Comparison of Control and Experimental Group Mean Gains on Post Test of Dribbling***

| Variable | Control Grp. Mean | Experimental Grp. Mean | tstat | P (two tailed) | df |
|---|---|---|---|---|---|
| Dribbling | 25.475 | 28.475 | 6.4839 | 0.0004 | 39 |

It can be seen from the Table D-3 that the value of t-statistics is 6.4839.This t-statistic is significant as its corresponding p value is 0.0004, which is less than 0.05. Thus, the null hypothesis of equality of mean dribbling ability in experimental and control groups is rejected, and it may be concluded the average dribbling ability of the boys in experimental and control groups in the interval training program is not the same. However, in order to conclude whether the dribbling ability has increased or not, one tailed test should be used. The hypothesis that need to be tested in that shall be

- Ho : μ expt = μ cntrl
- H1 : μ expt > μ cntrl

For left tailed test, the value of tabulated at 0.05 level of significance and 39df can be seen from the Critical value Table, which is equal to 1.684. Since calculated value of t (6.4839) is more than the tabulated value t 0.05 (39)(1.684), Ho may be rejected, and it may be concluded that the interval training program is effective.

***Table E-2: Comparison of Control and Experimental Group Mean Gains on Post Test of Shooting***

| Variable | Control Grp. Mean | Experimental Grp. Mean | tstat | P (two tailed) | df |
|---|---|---|---|---|---|
| Shooting | 7.05 | 8.9 | 7.74096 | 0.0002 | 39 |

It can be seen from the Table E-3 that the value of t-statistics is 7.74096.This t-statistics is significant as its corresponding p value is 0.0002, which is less than 0.05. Thus, the null hypothesis of equality of mean shooting ability in experimental and control groups is rejected, and it may be concluded the average shooting ability of the boys in experimental and control groups in the interval training program is not the same. However, in order to conclude whether the shooting ability has increased or not, one tailed test should be used. The hypothesis that need to be tested in that shall be

- Ho : μexpt = μcntrl
- H1 :μ expt > μcntrl

For left tailed test, the value of tabulated tat 0.05 level of significance and 39df can be seen from the Critical value Table, which is equal to 1.684. Since calculated value of t (7.74096) is more than the tabulated value t 0.05 (39)(1.684), Ho may be

rejected, and it may be concluded that the interval training program is effective.

***Table F-3: Comparison of Control and Experimental Group Mean Gains on Post Test of Passing***

| Variable | Control Grp. Mean | Experimental Grp. Mean | tstat | P (two tailed) | df |
|---|---|---|---|---|---|
| Passing | 23.075 | 25.775 | 7.423 | 0.005 | 39 |

It can be seen from the Table F-3 that the value of t-statistics is 7.423.This t-statistics is significant as its corresponding p value is 0.005, which is less than 0.05. Thus, the null hypothesis of equality of mean passing ability in experimental and control groups is rejected, and it may be concluded the average passing ability of the boys in experimental and control groups in the interval training program is not the same. However, in order to conclude whether the passing ability has increased or not, one tailed test should be used. The hypothesis that need to be tested in that shall be

- Ho : μ expt = μcntrl
- H1 : μ expt > μcntrl

For left tailed test, the value of tabulated tat 0.05 level of significance and 39df can be seen from the Critical value Table, which is equal to 1.684. Since calculated value of t (7.423) is more than the tabulated value t 0.05 (39)(1.684), Ho may be rejected, and it may be concluded that the interval training program is effective.

## Conclusions

- The study shows significant improvement in the Dribbling Ability of the subjects, it may be concluded that interval training program is useful tool for improving the Dribbling Ability.
- The study shows significant improvement in the Shooting ability of the subjects, it may be concluded that interval training program is useful tool for improving the Shooting ability.
- The study shows significant improvement in the Passing ability of the subjects, it may be concluded that interval training program is useful tool for improving the Passing ability.
- The study shows that interval training program can be successfully used for improving the physical fitness and skill abilities of Basketball Players.

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