

Effect of Specific Conditioning Program on Playing Ability in Basketball

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(Received 1 March 2023- Accepted & Published 21 March 2023)

Abstract

The objective of the study was to study the effect of specific conditioning program on playing ability in basketball. For the said purpose, 31 male basketball players with age range of 17 – 22yrs were included in the study. A 12 weeks specific training program was designed and implemented on the experimental group. Before the commencement of training program, a pre-test was conducted to collect data with help of Johnson Basketball skill test. Thereafter, data was collected on Repeated measure design i.e. after every four weeks. In order to statistically analyse data, repeated measure MANOVA was applied. The Mauchly's test for individual test items of Johnson basketball skill test was significant. The necessary adjustment was done in order to fix violation of sphericity. Thereafter, F-test was conducted which was found significant for all test items and total score as well. The post-hoc test was also significant. On the basis of obtained result, the research scholar concluded that the specific conditioning program leads to improvement in basketball playing ability.

Key words: *leg power, breath holding capacity, competitive anxiety*

INTRODUCTION

Different games require different level of the physical fitness depending upon the type of activity, event, game and sports. Physical fitness necessitates effective motor procedure (quality of body movement), proficient organic mechanism (physiological aspect) and well-organized mental functioning (psychological aspect). An individual possesses all these qualities are said to be best fitted.

Improvement of the sports performance and all round development of sports is the main task of the coaches and physical education teachers. Their dual efforts of channelling potential of their trainees to the most suitable games and sports discipline and of selecting suitable sportsmen for their particular branches is helped to a great extent by the recent development in the field of anthropology as it is applied to construction of adjective and valid criteria for selection of potential champions. A number of scientific research studies have tested the essential pre-requisite of potential champions in various sports and games. Agility plays an important role in physical education activities, especially in such events as gymnastics, basketball, pole vaulting, long jump, hurdling, and high jump and in all man assuring of the ends and backs in football. It is revealed to a great extent in sports involving efficient foot work, combined with high level of strength, endurance, agility and speed.

The purpose of the study was to assess the **EFFECT OF SPECIFIC CONDITIONING PROGRAM ON PLAYING ABILITY IN BASKETBALL**. On the basis of statement of the problem and other factors, following were stated as objectives of the research: a) To observe the effect of specific conditioning exercise on basketball performance, b) To study the effect of specific conditioning exercise on basketball playing ability at different point of time, c) To study the effect of conditioning exercise independently on each test item of Johnson Basic Basketball Skill Test Battery. The study was delimited to following factors: a) The study was delimited to Basketball Players only, b) The study was confined to male Basketball Trainee of Nehra Sports Academy, Saket, New Delhi and c) This study was further delimited to Basketball players of age between 17 to 22 years. Besides, following were considered the limitations of the study: a) No motivational technique was

employed by the research scholar to enable the subjects to give their best performance. However, the subjects were asked to put up their best performance, b) Non-availability of sophisticated equipment was considered as a limitation of the study, c) Lifestyle, diet & nutrition of the students was another factor limiting this study and d) Psychological state of the students & climatic conditions was also not under the control of research scholar. On the basis of above information, it was hypothesized that specific conditioning programme will have positive effect on Basketball Playing Ability.

PROCEDURE AND METHODOLOGY

Selection of the Subjects

Thirty-one male Basketball Trainee of Nehra Sports Academy, Saket, New Delhi were selected randomly to serve as subjects for the present study. The age of the subjects was ranging between 17 and 22 years.

All the subjects were given a 12 weeks specific training workout designed for the purpose of the present study. The training programme was designed in such a way that the subject does not have any undue stress both physical and mental after the schedule workout three days a week for 12 weeks.

Selection of Variables

As the topic of the research “**EFFECT OF SPECIFIC CONDITIONING PROGRAM ON PLAYING ABILITY IN BASKETBALL**” suggest, following are the variables:

- INDEPENDENT VARIABLE
Specific Conditioning Exercises
- DEPENDENT VARIABLE
Basketball Playing Ability (Johnson Basic Basketball Skill Test Battery which includes:
 - 1) Field Goal Speed Test (for Shooting),
 - 2) Basketball Throw for Accuracy (for Throwing) and
 - 3) Basketball Dribbling Test (for Dribbling).

Description of Tests

In order to fulfil the research objectives, the basketball playing ability was assessed by using Johnson Basketball Test Battery. It is probably the oldest but the most commonly used test and was constructed in 1934 by Johnson during his research work for Master’s thesis. This test is a battery of seven test items which includes three items of basic skill and four items of potential basketball ability. In this study, we have included the basic skill test battery which includes three tests as described below:

- i. Field Goal Speed Test
- ii. Basketball throw for accuracy
- iii. Basketball dribble test

To establish validity of the test battery, Johnson divided 180 high school basketball boys into two groups – “good” and “poor”. The “good” group of boys included those basketball players who represented in the school’s basketball teams and the “poor” group of boys included those basketball players who were not selected for representing their school’s basketball squad. There were fifty boys in the first group (good) and 130 in the second group (poor). A validity coefficient of 0.88 had been reported between test scores of both “poor” and “good” group boys. The reliability and the validity coefficient of the basic test items battery have been reported by Johnson to be 0.93 and 0.84 respectively (Clarke and Clarke, 1987).

Administration of Test

As the experimental design suggest, the test was administered on Repeated Measure Design and data was collected. In particular, the test was administered before the commencement of training program which was called Pre-test. Following that, the next data was collected after 4 weeks, then 8 weeks and at last, after 12 weeks of training. So, there were four different occasions when the test was employed and data was collected i.e. Pre-test, after 4 weeks, after 8 weeks and after 12 weeks.

Administration of Training Programme

To fulfil the purpose of the study, a training programme, with the aim to target physical fitness, was designed with the thorough discussion among supervisor and various specialised expert from concerned area. With keeping the fact in mind that physical capabilities are affected by individual differences, a training programme was designed which found feasible for all the subjects participated in the study as subject.

Collection of Data

All the subjects were undergoing various tests during experimentation i.e. before the start of the training, after four weeks, after eight weeks & after twelve weeks of training. The scores were served as raw data on repeated measure design.

Statistical Procedure

To fulfil the demand of the study and as the experimental design adopted for the research suggests, descriptive statistics and Repeated Measure MANOVA was applied to assess the between subjects' effect among three test items of Johnson Basketball Skill Test. Repeated Measure was also followed by Post hoc test to ensure the reliability of the result and significance level was set on 0.05 level. All the statistical techniques were carried out by using SPSS software (16 version).

RESULT OF THE STUDY

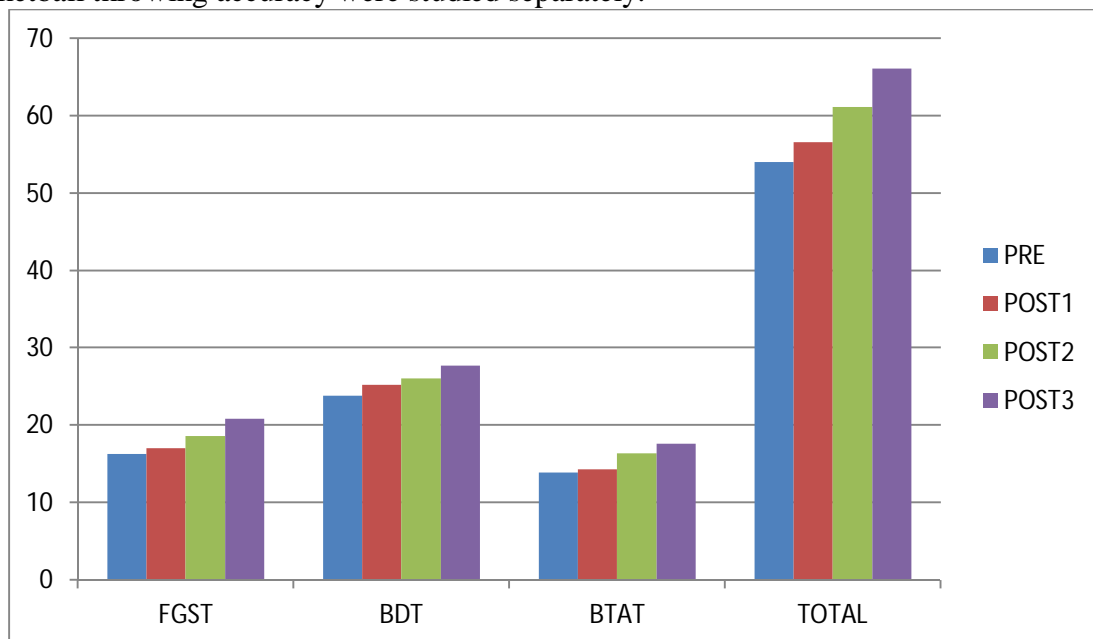
The objective of the research was to study the effect of specific conditioning program on Johnson Basketball Skill Test Battery at different point of time. In order to assess this difference, Repeated Measure MANOVA technique was applied. In this process, first test was multivariate test that assessed the difference in combined dependent variables between the two or more related groups. Here, we have three dependent variables. And multivariate test assess the differences among all three test items of Johnson Basketball Skill Test Battery. In order to assess Basketball Playing Ability, Multivariate test was calculated which proves the combined significant difference among selected test items i.e. Basketball Field Goal Speed Test, Basketball Dribble Test and Basketball Throw for Accuracy Test due specific conditioning program over a period of time i.e. before the commencement of training program, after 4 weeks, after 8 weeks and after 12 weeks of training program.

Mean Value of Johnson Basketball Skill Test Battery and its Individual Variables

	PRE	POST1	POST2	POST3
FGST	16.26	17.03	18.61	20.87
BDT	23.87	25.23	26.10	27.68
BTAT	13.90	14.32	16.42	17.61
TOTAL	54.03	56.58	61.13	66.16

The significant F-value at 0.05 level of significance confirmed that a reliable difference exist in combined dependent variables. But, on the basis of this test only, it cannot be concluded that the difference in combined dependent variable observed due to specific training program. Therefore, further investigation was executed by incorporating appropriate statistical

techniques and each variable i.e. basketball shooting ability, basketball dribbling ability and basketball throwing accuracy were studied separately.



Mean Value of Johnson Basketball Skill Test Battery and its Individual Variables

In this process, Mauchly test for sphericity was assessed for basketball shooting ability and it was found significant suggesting fixing the degree of freedom to ensure reliable result. Therefore, appropriate degree of freedom was adjusted by executing test of within subject effect and investing proceeded further.

Mauchly's Test of Sphericity for different Variables of Johnson Basketball Skill Test

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	Df	Sig.
FGST	0.639	12.881	5	0.025
BDT	0.363	29.132	5	0
BTAT	0.405	25.97	5	0
TOTAL	0.775	7.309	5	0.199

After conducting the sphericity test, the next calculations were made known as F-test to assess actual improvement in the Basketball Playing Ability of the subjects. All the obtained value of F-test were found significant which indicated that the specific exercise program had a positive impact on the basketball playing ability. This test was followed by pairwise comparison calculation against improvement in basketball performance at different point of time i.e. before the commencement of training programme, after 4 weeks, 8 weeks and 12 weeks of training programme.

Tests of Within-Subjects Contrasts for different Variables of Johnson Basketball Playing Ability Test

	F	Sig.
FGST	485.379	.000
BDT	320.444	.000
BTAT	622.285	.000
TOTAL	1.779E3	.000

CONCLUSIONS AND RECOMMENDATIONS

On the basis of result obtained and discussion on findings were made, following conclusion were drawn: It was concluded that specific conditioning program increases the Basketball Shooting ability. Further, the study revealed that specific conditioning program increases the Basketball Throwing Accuracy ability at different point of time. Because, all the variables were improved due to specific training programme, therefore, it was found that same training had a positive impact on overall Basketball playing ability at different point of time. It was also concluded that there was positive linearity in the pattern of overall Basketball playing ability following specific conditioning program. Hence, it was the final submission that the effectiveness of specific training programme is exist and helps in the improvement of Basketball Playing Ability. The following recommendations were stated after the whole works related to study was done: The same study may be done on female students. The same study can also be done on different age groups. The same study may be done with considering all motor components. The same study may be done on fitness components in isolation. The same work may be done with altered load components such as intensity, frequency, density and volume. Similar study may be conducted on students related to other Sport/game. The same study can be carried out using kind of exercises other than used in this study. Physiological variables can also be studied under the same conditioning program.

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