

EFFECT OF NUTRITION AND MASSAGE ON FLEXIBILITY (HIP FLEXIBILITY) OF SHUTTLE BADMINTON PLAYERS

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ABSTRACT

The purpose of the study was to find out whether nutrition and massage can be a boon to shuttles in improving their flexibility ,randomly selected badminton players in the age group of 19 to 23 (N=30) were selected among the badminton players of different colleges in Andhra Pradesh. The selected subjects were divided into two groups of experimental and control group consisting of 15 each. Prior to the experimental treatment both the groups were measured of their flexibility variables, namely, hip flexibility, trunk hyper extension and dorsi flexion. The experimental group was provided with suitable nutrition and massage for 12 weeks. Immediately after the experimental period all the subjects were measured of their flexibility variables. The differences between the initial and final means on selected variables were the effect of nutrition and massage. To test the statistical significance ANCOVA was employed. In all cases 0.05 level was fixed to test the hypothesis.

Key Words: - Nutrition, Massage, Flexibility, Badminton.

INTRODUCTION

Sports in the present world have become extremely competitive. It is not the mere participation or practice that brings out victory to an individual. Therefore, sports life is affected by various factors like physiology, biomechanics, sports training, sports medicine, sociology and psychology etcetera. All the coaches, trainers, physical educational personals and doctors are doing their best to improve the performance of the players of their country. Athlete players of all the countries are also trying hard to bring laurels, medals for their countries in International competitions.

MASSAGE FOR FLEXIBILITY

Massage therapy is a beneficial treatment for maintaining and improving flexibility and motion. By working on muscles, connective tissues, tendons, ligaments, and joints, regular massage can improve the flexibility and range of motion, keeping the joints more fluid and making them less injury prone.

As one can see, massage is a great way to relax stressed muscles, stimulate blood flow and improve flexibility. So is daily stretching.

One benefit of stretching is an improvement of blood circulation, which aids in illness recovery and disease prevention. Elongating muscles will also improve posture and the joints' range of motion. Stretching and massage are even more important for someone who is physically active. Loose muscles are less prone to strains and sprains during a workout, according to ACE.

Incorporating massage and stretching into a fitness routine also will help reduce soreness after a workout. Stretching beforehand will allow greater freedom of movement when exercising and longer workout periods because, it helps prevent a buildup of lactic acid in your blood. Regular post-workout massages can then aid in the recovery and relaxation process.

The Benefits of Improved Flexibility and Range of Motion are (a) Stimulates the production of the body's natural lubricants to keep flexibility at a maximum (2) Can enhance athletic performance and (3) Helps prevent active lifestyle injuries by staying flexible

This study is intended to find out answer to the question whether nutrition and massage can be a boon to shuttle badminton players' flexibility.

NEED OF THE STUDY

Researches have shown that nutrition and massage can contribute for flexibility. How far nutrition and massage can be a boon to shuttle badminton players' on flexibility? Is the research question of this study. For this purpose, the investigator selected flexibility variables, hip flexibility, trunk flexibility and Dorsi flexibility of shuttle badminton players.

OBJECTIVES OF THIS STUDY

The aim of this study was to find how far nutrition and massage contribute for the flexibility of shuttle badminton players. In doing so, the research would assess the present status of the flexibility and the improvement if any after treatment, namely, nutrition and massage to shuttle badminton players.

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the **effect of nutrition and massage on flexibility of shuttle badminton players.**

METHODOLOGY

The purpose of the study was to find out whether nutrition and massage can be a boon to shuttles in improving their flexibility. In this chapter, selection of subjects, experimental variables, tester reliability, instrument reliability, orientation of the subject, test administration, and statistical techniques were discussed.

SELECTION OF SUBJECTS

Thirty men shuttle Badminton players who were randomly selected from different colleges in Andhra Pradesh were selected for this study. They were selected at random as subjects. All the subjects were experienced players who had already participated in different competitions.

The selected subjects were of age group ranging from 19 to 23 years. The subjects were randomly divided into two groups and each group contains fifteen subjects. Group 1 acted as experimental group-1 and group-2 acted as control group. Control Group underwent routine coaching programme. Experimental group was given nutrition and massage for a period of twelve weeks.

SELECTION OF VARIABLES

Based on the experience gained through review of related literature, the investigator selected following dependent and independent variables:

Dependent Variable

Flexibility Variables;-Hip flexibility

Independent Variables;- Twelve weeks nutrition and massage.

EXPERIMENTAL DESIGN

Randomly selected badminton players in the age group of 19 to 23 (N=30) were selected among the badminton players of different colleges in Andhra Pradesh. The selected subjects were divided into two groups of experimental and control group consisting of 15 each. Prior to the experimental treatment both the groups were measured of their flexibility variables, namely, hip flexibility. The experimental group was provided with suitable nutrition and massage for 12 weeks. Immediately after the experimental period all the subjects were measured of their flexibility variables. The differences between the initial and final means on selected variables were the effect of nutrition and massage. To test the statistical significance ANCOVA was employed. In all cases 0.05 level was fixed to test the hypothesis.

CRITERION MEASURES

This research was to find out the effect of nutrition and massage on flexibility of shuttle badminton players. To assess the criterion variables, the following methods were followed:

1. Hip flexibility was measured through sit and reach test.

RELIABILITY OF INSTRUMENTS

To determine the flexibility variables, stop watch, flexible-measuring tape were used. The tests were standard tests, its validity, objectivity and reliability were tested by the author, which was accepted for this study as reliable. The instruments' used were produced by standard companies and their calibrations were compared with other instruments and found correct.

Tester's Reliability

Research scholar and his colleagues conducted all the tests and they were well versed with the tests conducted. The test and retest method was used among ten subjects and the obtained correlation co-efficient proved that the testers used for this study was reliable.

To ensure that the investigator was well versed with the technique of conducting the test, the investigator had a number of practice sessions in the correct testing procedure, under the guidance of an expert.

SUBJECT'S RELIABILITY

Since the test was conducted among selected subjects, the significant correlation co-efficient obtained for the purpose of testers reliability was accepted for subjects reliability and found that subjects were selected for this study was reliable. The test and retest correlation coefficient obtained are presented below:

Table-I
Test and Retest Correlation Coefficient on Selected Variables

S.No.	Variables	Tests	Obtained 'r'
1	Hip flexibility	Sit and reach test	0.87*

* Significant at 0.01 level

MASSAGE

Description :

The essential feature of this technique is the application of deep compression to the body with constant touch. These techniques are directed particularly towards the muscular tissue. The maximum mechanical movement between different fibres is achieved in these techniques, by application of deep localized pressure. According to the nature and direction of pressure application, techniques of this group can be divided into three major subgroups, Kneading, Petrissage and Friction.

These techniques produce almost similar physiological effects on the soft tissue. Kneading and petrissage, involves application of intermittent pressure whereas in friction the application of pressure is constant.

Purpose

The purpose of pressure manipulation massage on the subject was to relieve pain and increase flexibility in the ankle.

Instructions

The subjects were instructed to feel to 'pain' during application of massage. They were also instructed not to move the ankle during treatment.

Precaution

The subjects were advised to report immediately if there was any uncomfortable feeling during the treatment.

Procedure

Gastrocnemius Muscle Cramp was treated with massage. The subject was positioned comfortably in prone position upon a bench. Interactive medium used was oil (olive oil or Thennamarakudi oil). The pressure manipulation massage was done upon the pain persisting region. The direction of the massage was origin to insertion. Each subject was given pressure manipulation massage for 10 to 15 minutes, two times, morning and evening, in a day for six days per weeks.

COLLECTION OF DATA

The data was collected on the selected tests items as per the methods described above. The pre-test was organized before the experimental period and after 12 weeks of Experimental period post-test was organized and data was collected for the study.

TEST ADMINISTRATIONS

Hip Flexibility (Sit and Reach Test)

Purpose:- To measure the hip and back flexibility.

Equipment Used:-Measuring stick and mat.

Procedure

The subject sat on the mat, both legs were extended forward, the measuring slick was placed on the floor in-between both legs. The zero end of the measuring stick was placed as proximal end. The subject bent forward and extends both arms forward. The zero point of the measuring stick was placed to the tip of the middle finger.

The subject slowly stretch forwards the hip, back and the arm. The maximum distance reached was recorded with the help of measuring stick in cm. Three trials were given with adequate rest in between (Johnson and Nelson, 1982).

Scoring:- The best of three trials was treated as final score in cm.

STATISTICAL TECHNIQUE

To find out the effects of nutrition and massage on selected flexibility variables, the obtained pre and post-test scores were analyzed by using two groups ANCOVA technique. Analysis of covariance was applied to determine the significant difference among the two groups namely experimental group-I, and control group-II in the development of 12 weeks experiments. Since only two groups were tested, the adjusted paired means were compared for significance without calculating post hoc analysis.

RESULTS AND DISCUSSIONS

FLEXIBILITY VARIABLESS

1. Hip flexibility

Randomly selected badminton players in the age group of 19 to 23 (N=30) were selected among the badminton players of different colleges in Andhra Pradesh. The selected subjects were divided into two groups of experimental and control group consisting of 15 each. Prior to the experimental treatment both the groups were measured of their flexibility variables, namely, hip flexibility, The experimental group was provided with suitable nutrition and massage for 12 weeks. Immediately after the experimental period all the subjects were measured of their flexibility variables. The differences between the initial and final means on selected variables were the effect of nutrition and massage. To test the statistical significance ANCOVA was employed. In all cases 0.05 level was fixed to test the hypothesis.

Level of Significance

The subjects were compared on the effect of nutrition and massage on selected criterion variables among shuttle badminton players. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between the groups on selected criterion variables separately. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as appropriate.

RESULTS ON HIP FLEXIBILITY

The initial and final means on nutrition and massage group and control group on hip flexibility through Analysis of Covariance (ANCOVA) is presented in Table-I.

Table-I

COMPUTATION OF ANALYSIS OF COVARIANCE ON HIP FLEXIBILITY

	Experimental Group	Control	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained F
Pre-Test Mean	22.73	23.47	Between	4.03	1	4.03	0.37
			Within	304.67	28	10.88	
Post-Test Mean	24.00	23.33	Between	3.33	1	3.33	0.34
			Within	271.33	28	9.69	
Adjusted Post-Test Mean	24.33	23.00	Between	13.14	1	13.14	17.66*
			Within	20.09	27	0.74	
Mean Diff.	1.27	-0.13					

Table F-ratio at 0.05 level of confidence for 1 and 28 (df) =4.20, 1 and 27(df) =4.21.

* Significant at 0.05 level

The pre-test mean on experimental group was 22.73, and control group was 23.47 and the obtained F-value was 0.37, which was less than the required F-value of 4.20 to be significant. Hence, it was not significant and the groups were equal at initial stage.

The comparison of post-test means, experimental group 24.00 and control group 23.33 proved to be significant at 0.05 level as the obtained F-value 0.34 was greater than the required table F-value of 4.20 to be significant at 0.05 level.

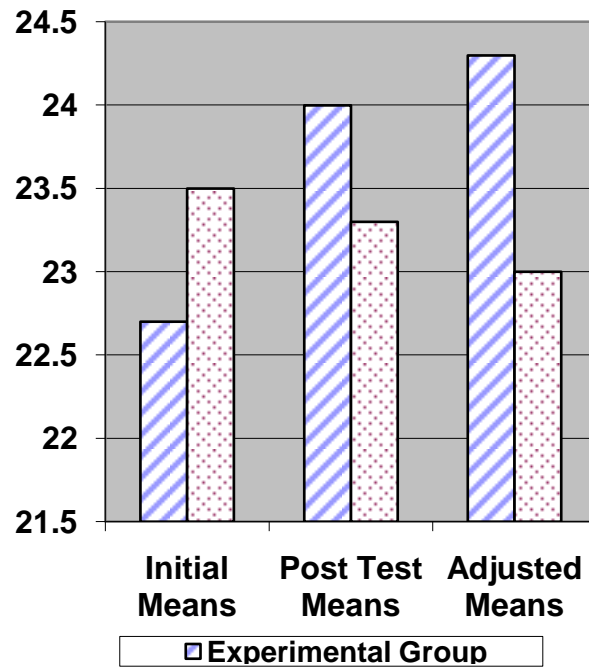
Taking into consideration the initial and final mean values adjusted post-test means were calculated and the obtained F-value of 17.66 was greater than the required F-value to be significant 4.21 and hence, there was significant difference.

Thus, it was proved that nutrition and massage group gained mean difference of 1.27, which was due to nutrition and massage given to shuttle badminton players, and the difference was found to be significant at 0.05 level.

The initial, post and adjusted means values of experimental and control group on hip flexibility is presented in Figure-1 for better understanding of the results of his study.

Figure-1

Bar Diagram Showing Initial, Final and Adjusted Means on hip flexibility of Experimental and Control Groups



Discussions on Hip Flexibility

The results presented in Table-I proved that the hip flexibility has not been significantly improved among control group as they did not undergo nutrition and massage experimental treatment. However, the 12 weeks nutrition and massage given to the experimental group significantly improved variable hip flexibility among shuttle badminton players. The statistical mean difference between initial test and final test of experimental group stood at 1.27 and control group stood at -0.13. And the differences were found to be significant at 0.05 level as the obtained F-value of 17.66 was greater than the required table F-value of 4.11 to be significant at 0.05 level.

Thus, it was proved that nutrition and massage was significantly better than control group in improving hip flexibility of the shuttle badminton players and thereby served as a boon to improve flexibility of shuttlers.

CONCLUSION AND FINDING

FINDING

It was found that nutrition and massage contributed for the development of hip flexibility, trunk hyper extension and dorsi flexion among shuttle badminton players.

CONCLUSION

Within the limitations the following conclusions were drawn:

1. It was concluded that nutrition and massage contributed for significant increase of hip flexibility among shuttle badminton players.
2. It was concluded that nutrition and massage contributed as a boon to shuttlers.

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