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## **Impact of Circuit Training Program on Selected Psychological Variable & Physical Fitness Among Male Kabaddi Players**

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### **Abstract:**

*Kabaddi is better known as "MASS GAME" because of its popularity. Although it is primarily an outdoor sport played on clay courts with 20-minute halves with a 5-minute half break. The game has recently been played indoors on synthetic surfaces with great success. Sport has a long history that dates back to prehistoric times. It was probably invented to ward off group attacks by individuals and vice versa. The game is very popular in North India and South Asia and is played in various forms under different names. Forty (40) male Kabaddi players ages ranging from 20-24 were randomly selected from the D.A.V.P.G. College, Lucknow for the study. They were further divided into two groups namely circuit training group, and control group on random basis. The results of the study reveals that there was a significant difference among Kabaddi Players on physical fitness variable and psychological variable also when comparing the mean values of physical fitness variable and psychological variable.*

**Keywords:** Kabaddi, Physical fitness, Circuit Training, Aggression.

### **Introduction**

Kabaddi is basically an Indian game, which requires skill as well as strength and combines the characteristics of wrestling and rugby. Kabaddi is better known as "MASS GAME" because of its popularity. The game does not require any advanced equipment, making it a very popular sport in developing countries. Although it is primarily an outdoor sport played on clay courts, the game has recently been played indoors on synthetic surfaces with great success. The duration of the game is 45 minutes with a 5-minute break between teams to change sides. In the case of a female, junior sub boys the duration is 35 minutes with a 5-minute break in between.

Kabaddi is a combative team game, played without equipment, on a rectangular field, outdoors or indoors with seven players on the ground on each side. Each side takes alternate chances of attack and defence. The basic idea of the game is to score points by invading the opposing field and touching as many defenders as possible without getting caught in the act. During play, the players on the defending side are called "Antis" while the attacking player is called "Raider". Kabaddi is perhaps the only martial art in which attack is an individual effort, while defence is a group effort. Kabaddi's attack is known as the "Raid".

The raider must enter the opponent's court chanting the word "Kabaddi" while holding his breath and must continue to do so until he returns to his own side of the court. This is known as "cant" which is closely related to the pranayama of yoga. While pranayama involves holding the breath to exercise the internal organs, the cant is the means of holding the breath with vigorous physical activity. It is arguably one of the few sports that combines yoga with frenetic physical activity. The game requires agility, good lung capacity, muscle coordinates, presence of mind and quick reactions. Taking on seven opponents is no small feat for a single player, requiring both daring and the ability to focus and anticipate the opponent's movements. (Rao, 2002). Sport has a long history that dates back to prehistoric times. It was probably invented to ward off group attacks by individuals and vice versa. The game is very popular in North India and South Asia and is played in various forms under different names.



## Methods

Forty (40) male Kabaddi players ages ranging from 20-24 were randomly selected from the D.A.V.P.G. College, Lucknow for the study. They were further divided into two groups namely circuit training group and control group on random basis. Before the commencement of the training, purpose of the study and method of performing circuit training were explained to the subjects for their cooperation and to avoid injuries.

Dependent variables: Physical Fitness Component - Arm Strength.

Psychological variable: Aggression.

Independent variables: Circuit Training.

## Experimental Design

The 40 selected subjects were divided into two groups, namely the experimental group and the control group. Each group consists of 20 players and each of the subjects was pre-tested for their physical condition and psychological variable, circuit training exercises for the experimental group and the control group received no experimental treatment. After the four-week experimental period, post-test scores were obtained for both groups. The difference between start and finish scores on circuit training exercises physical variables took into account the effect of circuit training exercises on the strength and aggressiveness of the selected arms among the players of Kabaddi.

### Criterion Variables And Test:

S.No.	Dependent Variables	Tests/ Instruments	Unit of Measurements
1	Arm Strength	Push-ups	Seconds
2	Aggression	Aggression Questionnaire (Buss & Perry, 1992)	Scores

## Statistical Procedure:

The collected data were analysed by using 't' ratio for dependent group using the following

$$t = \frac{DM}{\sigma DM}$$

## Analysis Of Data

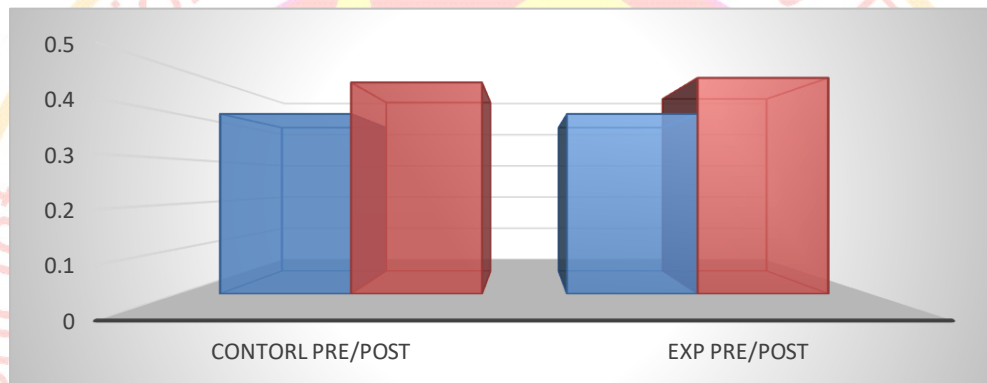
The aim of this study was to discover the effect of circuit training on physical fitness and psychological variables in Kabaddi players. The results were discussed on the basis of the statistical analysis. To test the significance of the differences between the pre-test and post-test means of the control and experimental groups, a significance level of 0.05 was established. The mean difference between the pre-test and the post-test of the control and experimental groups was tested using the "t" ratio to determine the significance of the difference made by the experimental and control groups during the experimental period of four weeks. The mean difference between the experimental and control groups after four weeks of training was tested with the "t" ratio and the significance of the difference was determined.

### Analysis of t-ratio on pre and post-test for control group & experimental group on Arm Strength

Variables	Group	Mean		SD		Df	't' ratio
		Pre	Post	Pre	Post		
Arm Strength	Control	0.4	0.39	0.20	0.24	19	0.31
	Experimental	0.4	0.48	0.25	1.15		0.71

The table above shows that the mean values of the pre- and post-test of the control group on arm strength were 0.4 and 0.39, respectively. The resulting "t" ratio was 0.31 since the obtained "t" ratio was less than the required tabulated value of 2.093 for the significant level at 0.05 with 19 degrees of freedom, it was found to be not statistically significant. The mean values of the pre-test and post-test of the arm strength experimental groups were 0.4 and 0.48, respectively. The resulting "t" ratio was 0.71, because the obtained "t" ratio was greater than the required tabulated value of 2.093 for significance at the 0.05 level with 19 degrees of freedom, it was found to be statistically significant. The result of the study showed that there was a significant difference between the control group and the experimental group in arm strength. It can be concluded from the results of the study that the experimental group improved arm strength through four weeks of circuit training.

**DIAGRAM SHOWS THE T RATIO BETWEEN PRE AND POST TESTS OF CONTROL AND EXPERIMENTAL GROUP ON ARM STRENGTH.**



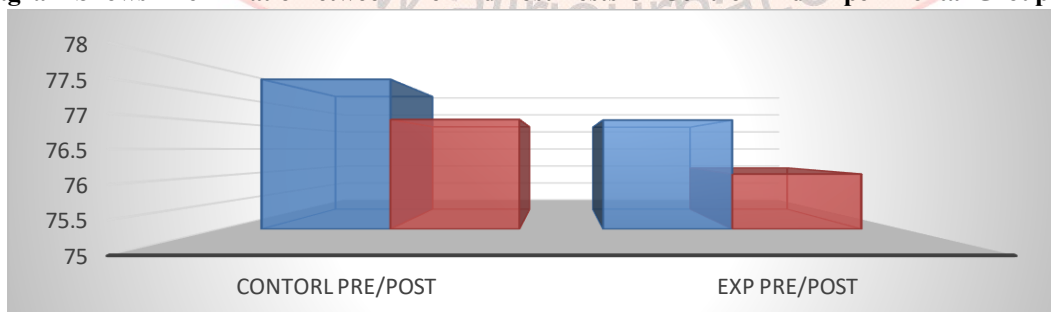
**Analysis of t-ratio on pre and post-test for control group & experimental group on Aggression**

Variables	Group	Mean		SD		Df	't' ratio
		Pre	Post	Pre	Post		
Arm Strength	Control	77.80	77.05	2.84	2.64	19	3.43
	Experimental	77.04	76.3	3.52	3.07		2.68

\*Significance at .05 level of confidence.

The table shows that the mean values of the pre-test and the post-test of the control group on Aggression are respectively 77.80 and 77.05. The resulting "t" ratio was 3.43 because the resulting "t" ratio was less than the required table value of 2.093 for the level significant at 0.05 with 19 degrees of freedom, it turned out not to be statistically. significant. The mean pre-test and post-test values of the experimental groups for aggression were 77.04 and 76.3, respectively. The resulting "t" ratio was 2.68 because the resulting "t" ratio was greater than the required table value of 2.093 for a significance level of 0.05 with 19 degrees of freedom, it turned out statistically significant. The result of the study showed that there was a significant difference between the control group and the experimental group in terms of aggressiveness. From the research results, it can be concluded that the experimental group reduced aggression through four weeks of circuit training exercises.

**Diagram Shows The T Ratio Between Pre And Post Tests Of Control And Experimental Group Onaggression**





### Discussion & Findings

The result of this study showed a significant improvement in the subjects of the experimental group who regularly did circuit training exercises. The subject's interest used in this study to improve their circuit training exercises could also explain the result and this conclusion is supported by the fact that all previous similar studies have been conducted on circuit training exercises. The four-week period before the experiment turned out to yield a valid result. The results of the study show that there was a significant difference between Kabaddi players on the physical fitness variable and the psychological variable, also when comparing the mean values of the physical fitness variable and the psychological variable.

### Conclusions

Within the limits and delineations of this study, the following conclusions have been drawn from the results. It was concluded that there was a significant improvement in some physical and psychological variables of arm strength and aggression among Kabaddi players due to the circuit training exercises. It was concluded that the Arm Strength fitness variable was significantly influenced by circuit training compared to the control group among Kabaddi players. It was concluded that the psychological variable Aggression was significantly influenced by circuit training compared to the control group in Kabaddi.

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