



## **EFFECT OF OPEN KINETIC CHAIN EXERCISES ON BMI AND PERCENT BODY FAT AMONG BASKETBALL PLAYERS**

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### **ABSTRACT**

*The study's goal was to see how a twelve-week open kinetic chain workouts training programme affected basketball players' BMI and % body fat. It was expected that twelve weeks of open kinetic chain workouts training would have had a substantial influence on selected BMI and % body fat among basketball players. For this study, 30 basketball players from Puducherry were chosen at random as subjects, with ages ranging from 18 to 25. The current study used a pre-test–post-test randomised group design with a control group and an experimental group. The participants were divided into two equal groups of fifteen, dubbed Group 'A' and Group 'B'. Group 'A' received training in open kinetic chain exercises, while Group 'B' received no training. Data was gathered before and after a twelve-week training period. To determine the effect of open kinetic chain exercises training on selected BMI and percent body fat among basketball players, the data was examined using the paired 't' test approach. The significance threshold was set at 0.05. Basketball players' BMI and percent body fat were found to be significantly affected by open kinetic chain activities training.*

**KEYWORDS:** Open Kinetic Chain Exercises, BMI, Percent Body Fat, Basketball players.

### **INTRODUCTION**

The "kinetic chain" is a concept used to describe how your body moves. To put it another way, you can travel in either an open or closed kinetic chain. The distinction is whether the moving portion is free-floating in space or is anchored to a hard, unyielding surface. This is a closed kinetic chain movement if it is fixed. It gives you resistance in your trunk. The components of the chain are the body parts through which the resistance moves. Closed kinetic chain movements involve the connecting parts moving at the same time and can damage the back. Joint isolation exercises are another name for kinetic chain workouts. When walking, you take one stride forward with one leg and then cross your trunk over that leg to proceed forward. As your leg travels forward, it pulls your pelvis to the side. As a result, the pelvis on the opposite side rotates backwards. Your spine also twists in response to the leg and pelvis extending to propel you forward in space. This is how the kinetic chain works (Augustsson & Thomee, 2000).

### **METHODOLOGY**

The study's goal was to see how a twelve-week open kinetic chain workouts training programme affected basketball players' BMI and % body fat. It was expected that twelve weeks of open kinetic chain workouts training would have had a substantial influence on selected BMI and % body fat among basketball players. For this study, 30 basketball players from Puducherry were chosen at random as subjects, with ages ranging from 18 to 25. The current study used a pre-test–post-test randomised group design with a control group and an experimental group. The participants were divided into two equal groups of fifteen, dubbed Group 'A' and Group 'B'. Group 'A' received training in open kinetic chain exercises, while Group 'B' received no training. Data was gathered before and after a twelve-week training period. To determine the effect of open kinetic chain exercises training on selected BMI and percent body fat among basketball players, the data was examined using the paired 't' test approach. The significance threshold was set at 0.05.

**RESULTS**

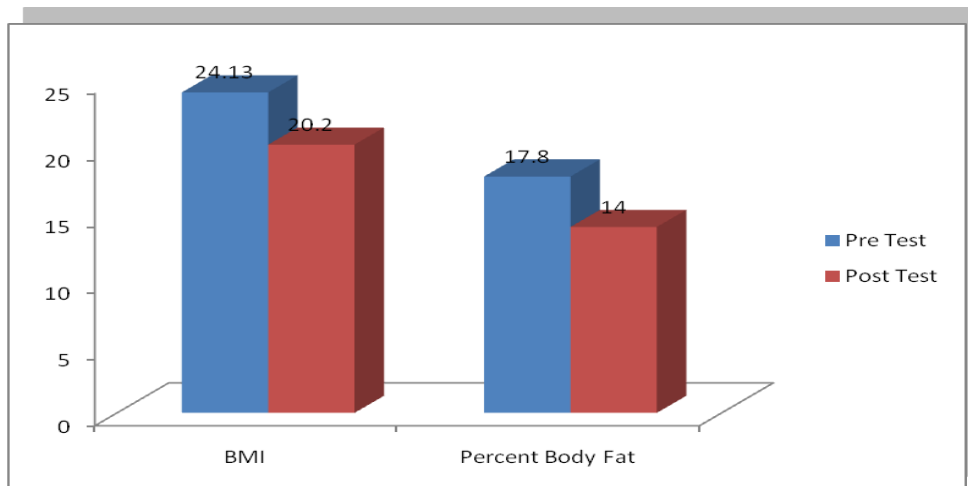
**TABLE I**  
**SIGNIFICANCE OF MEAN GAINS & LOSSES BETWEEN PRE AND POST TEST SCORES ON SELECTED**  
**VARIABLES OF OPEN KINETIC**  
**CHAIN EXERCISES GROUP**

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	BMI	24.13	20.20	3.86	1.23	0.33	11.10*
2	Percent Body Fat	17.80	14.00	3.80	1.34	0.34	12.30*

\* Significant at 0.05 level

The acquired 't' ratios for pre and post test mean differences in the specified variables of BMI (11.10) and % body fat are shown in the table above (12.30). When compared to the table value of 2.14 degrees of freedom (1,

14), the derived ratios were judged to be statistically significant at the 0.05 level of confidence. The mean gain and losses from pre to post test were shown to be significantly improved.



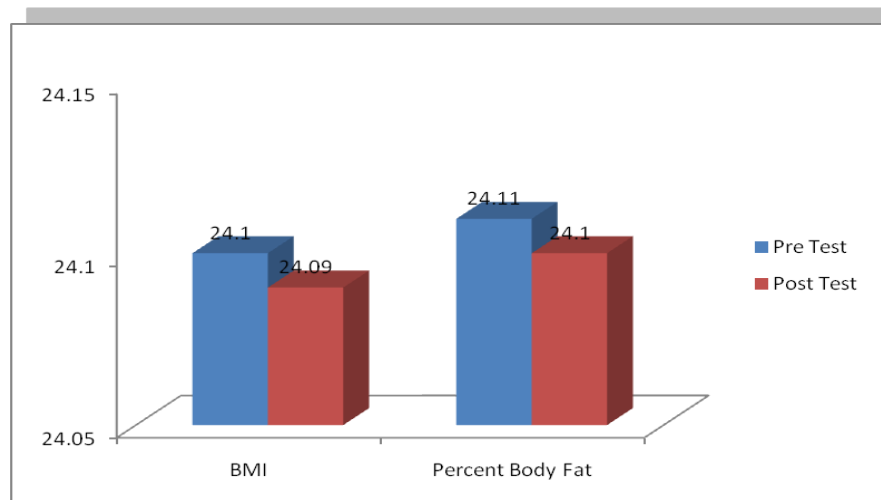
**TABLE II**  
**SIGNIFICANCE OF MEAN GAINS & LOSSES BETWEEN PRE AND POST TEST SCORES ON SELECTED**  
**VARIABLES OF CONTROL GROUP**

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	BMI	24.10	24.09	0.01	1.27	0.40	0.23
2	Percent Body Fat	24.11	24.10	0.01	0.90	0.22	0.80

\* Significant at 0.05 level

The acquired 't' ratios for pre and post test mean differences in the specified variables of BMI (0.23) and %

body fat are shown in the table above (0.80). When compared to the table value of 2.14 degrees of freedom (1, 14), the derived ratios were judged to be statistically insignificant at the 0.05 level of confidence.



## CONCLUSION

Basketball players' BMI and percent body fat were found to be significantly affected by open kinetic chain activities training.

## REFERENCES

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