

## COMPARISON OF STRENGTH ENDURANCE BETWEEN BADMINTON AND TABLE TENNIS PLAYERS OF MANIPUR

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### ABSTRACT

The purpose of this empirical study was to find out the difference in strength endurance between Badminton and Table Tennis Players of Manipur. For this, pre- test, before giving the training session and post- test, after giving a 6 weeks circuit training programme are being furnished. Altogether 80 players, 40 each from Badminton and Table Tennis who are keenly participated in the different level of tournaments say state and national were selected as subjects of the present study. The necessary data were collected by administering the Cooper's 12 minutes Run- Walk Test. For testing the statistical significance of the strength endurance between Badminton and Table Tennis players, 't' test was employed with the setting of significance level at 0.05. The results of the study confirmed that there is no significant difference of strength endurance between the study populations as evidenced by the pre- test 't' value of 1.68 which is lesser than the tabulated value (1.98). But, the performance of 6 weeks training programme shows a statistical significant difference of strength endurance between Badminton and Table Tennis players of Manipur having a 't' value of 2.83.

*Key Words: Strength endurance, Circuit training, Cooper's 12 minutes Run- Walk test, State and National.*

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## INTRODUCTION

Sports play a very important role in our society. It helps us to bring unity throughout the world. It is a kind of medicine which gives us the tendencies to become oneness. Games and sports teach sportsmanship which includes qualities like team spirit, co-operation, and fair play in the right manner. They teach us the value of discipline, dignity and inculcate among them the feeling of unity and equality. The spirit of team work and co-operation engenders a feeling of community life in them. There is a freedom of association and a chance of exchange views in free spirit in the favourable atmosphere of games and sports.

Physical fitness is a state of well-being that comprises skill and health-related components. Fitness is a condition in which an individual has sufficient energy to avoid fatigue and enjoy life. It is necessary for elderly people to maintain and improve their physical fitness in order to satisfy healthy, high quality of daily life<sup>1</sup>.

The American Association for Health, Physical Education and Recreation (1967) also defined fitness as “the state which characterizes the degree to which person is able to function efficiently”<sup>2</sup>.

Besides, total fitness is multi- dimensional, it is difficult to imagine the highest quality of life without including intellectual, social, spiritual and physical component<sup>3</sup>. The sports performance depends largely on physical fitness i.e. strength, speed, endurance, flexibility and various coordinative abilities. Therefore the improvement of physical fitness is the principle aim of sports training<sup>4</sup>. Every sports activity demands different types and level of different motor abilities and when sports man possess, he or she is said to have the specific physical fitness. Jones et.al states that “A totally fit individual has strength speed ability endurance and social and emotional adjustment to his age<sup>5</sup>.”

Strength endurance is the specific form of strength displayed in activities which require a relatively long duration of muscle tension with minimal decrease in efficiency<sup>6</sup>. Strength endurance is a measure of the ability of a muscle or muscle group to work continuously. It is also ability to resist a force over time or to make repeated muscle contractions against a force. Therefore, all athletes need to develop a basic level of strength endurance. Examples of activities to develop strength endurance are weight training, circuit training, hill running etc<sup>7</sup>

Strength and Endurance are two of the most components of fitness and good health. A strong body allows maintaining good posture, complete physical task and avoiding injury.

Endurance allows walking, running, swimming or working longer without fatigue<sup>8</sup>. Thus, the present study emphasised to find out and to compare the strength endurance between Badminton and Table Tennis players of Manipur.

## MATERIALS AND METHODS

### Selection of subjects:

For the purpose of this study, altogether 80 male players, 40 each from Badminton and Table Tennis who are keenly participated in different tournament like state and national levels were randomly selected<sup>9</sup>.

### Administration of training programme:

In this training programme 40 Table Tennis and 40 Badminton players were randomly selected. Subjects who were taken for the present investigation were given circuit training for six (6) weeks. Administrations of the training programme are cited below:

1. The run-walk test of 12 minutes to measure the strength endurance was recorded to the nearest 25 metres segment.
2. The circuit training i.e. 8 exercises as set 1 during four days (i.e. Tuesday, Thursday, Saturday and Monday) were recorded correctly to the maximum of 3 minutes and 20 seconds.
3. Conditioning training of maximum of 45 minutes was given during three days (i.e. Wednesday, Friday and Sunday) other than circuit training days to observe and train the endurance strength.
4. Shuttle run of 15 metres distance, 50 metres sprint, 100 metres sprint, alternate ground touch run for 30 metres and run with a stick or bat of 3kg of 20minutes were given as a part of conditioning training.
5. The Run- Walk test, circuit training and conditioning training were conducted to record the difference of strength and endurance among Badminton and Table Tennis players.

### Collection of data:

The data were collected before the training programme and after the completion of six weeks of training programme by administering Cooper's 12 minutes run-walk test<sup>10, 11</sup>. The test

was administered at the Main Stadium, Khuman Lampak Sports Complex. Before the administration of the test the subject were briefed on the objective and requirements of the variables that were to be tested.

### STATISTICAL ANALYSIS OF THE DATA

For testing the statistical significant difference between the mean value of Badminton and Table Tennis Players, t-test was applied with the help of statistical software. The level of significance was set at 0.05.

**Table I**  
**COMPARISION OF BADMINTON AND TABLE TENNIS PLAYERS (PRE-TEST)**

Group	Mean (in metre)	Standard Deviation (in metre)	t-test	Degree of freedom	Tabulated value of 't' at 5 ft.
Badminton	1.79	276.32	1.68	98	1.98
Table Tennis	1.69	279.73			

*Significant at 0.05 level of confidence.*

It may be seen from Table -1 that there is no significance difference between the performance of Badminton Pre-test players and Table Tennis Pre-test players.

It has been confirm that the calculated "t" value of 1.68 is less than "t" value of 1.98. Hence, it was found that there is no significant difference between the means of the performance of two experimental groups.

**Table II**  
**COMPARISION OF BADMINTON AND TABLE TENNIS PLAYERS (POST-TEST)**

Group	Mean (in metre)	Standard Deviation (in metre)	t-test	Degree of freedom	Tabulated value of 't' at 5 ft.
Badminton	2.08	329.76	2.83	98	1.98
Table Tennis	1.87	317.92			

*Significant at 0.05 level of confidence.*

It may be seen from Table -II that there is a statistical significant difference between the performance of Badminton Experimental Post-test players and Table Tennis experimental post-test players.

It has been confirm that the calculated “t” value of 1.68 is less than “t” value of 2.83 is less than 1.98. Hence, it was found that there is significant difference between the mean of Badminton and Table Tennis experimental post-test players.

## CONCLUSION

Based on the statistical result of the study, the following conclusions were drawn:

1. There is no pre-test significant difference of strength endurance between Badminton and Table Tennis players of Manipur
2. But the performance after the 6 weeks of circuit training program shows a significant difference of strength endurance between Badminton and Table Tennis players of Manipur

## References

1. Tanaka K, Nakamura Y and Sakai T (2004), “Role of exercise science in maintaining overall quality of life in humans”, Japan Journal of Physical Education, Health and Sport Science, 49: 209-229
2. American Association for Health, Physical Education and Recreation (1967), “Application of Measurement of Health & Physical Activities”, Published by Practice Hall, Inc., p.67
3. Garden Jackson (1985), “Fitness and exercise”, London Salameder Book Ltd., p.8.
4. Uppal AK (1980), “Effect of 10-weeks participation in physical education programme on selected strength variables in women”, SNIPES. 3(3): 31-34
5. Byer K. B. J. and Shainberg C.W. ((1972), Total Fitness, Published by Harper & Raw, P.78.
6. Stiff, M.C. (2000). Super Training. Super Training institute, Denver, CO.
7. Singh et al (2001), “Modern Text Book of Physical Education Health and Sports”, pp. 207-208
8. “Mills: Endurance Training for Middle Aged Men”, Unpublished Research Report, Department of Physical Education, Winston-Salem, N.C. Wake Forest University.

9. Kothari C.R. (2004), "Research Methodology: Methods and Techniques", New Age International Pvt. Limited, New Delhi.
10. Mathew, Donald K. (1973), "Measurement in Physical Education", Philadelphia, W.B. Saunders Co.
11. Clark, H. Harrison (1976), "Application of Measurement to Health and Physical Education", Eaglewood Cliffs, N.T. Prentice Hall, INC.

