Effect of triangle run exercise on endurance among cricketers

Ayush Gaikwad, Dr. Aakanksha Joshi
PT Intern, Professor
College of physiotherapy, Wanless Hospital, Miraj medical centre, Miraj

ABSTRACT

BACKGROUND :

Endurance is defined as ability to do motor movements, with the desired quality and speed, under condition of fatigue. Cardio respiratory endurance is one of the most significant components of general physical fitness which is measured by testing one’s aerobic capacity. It can be defined as- ability of heart and lungs to take in and to transport adequate amount of oxygen to the working muscle activities (that involves large muscle masses), to be performed over long period of time. In this study, the triangle run training method is a training method that can not only increase aerobic endurance but also has an influence on the ability to dribble can increase the endurance of cricket athletes. Therefore the triangle run training method is highly recommended to be included in training because it has a benefit or influence on athlete’s ability and fitness.

AIM: - To study the effect of triangle run exercise on endurance among cricketers.

MATERIALS AND METHODOLOGY: -

The materials that were used in this study are cones, measuring tape, stopwatch, bell, pen and paper, consent form. 46 subjects were included in this study. Players were given triangle run exercise with warm up exercise. Endurance of players was tested by using YO-YO test both pre and post interventions.

RESULT: -Triangle run exercise is effective for increasing endurance among cricketers.

CONCLUSION: - This study concluded that triangle run exercise is effective for increasing endurance among cricket players.

KEY WORDS: - Triangle Run Exercise, Yo-Yo Intermittent Test.

INTRODUCTION

• Sports are an active behavior that activates metabolism and influences the benefits of glands in the body to produce the immune system to protect the body from disease and stress problems.

• Cricket is a popular sport which is from England and are played in summer that has long been known to the world community, especially countries with historical backgrounds that adopt the culture and British traditions such as India, Pakistan, Australia and so on.1

• Cricket has become a professional multimillion dollar with more than 100 countries recognized by the international cricket council 2. Cricket is an internationally popular sport involving repetitive bouts of exercise, with bowling requiring the greatest anaerobic demands.3 Bowlers, batting, fielding are important requirements in this game. In cricket is a sport that does not require time in the match but is determined by over. Cricket is a team sport which consist of several game numbers such as 20 played consisting of 8 players, 6 consisting of 6 players. Cricket is almost similar to baseball. However, baseball sports are local while cricket is international.1

• Cricket is a unique sport in which, there are number of different formats like Test format, one day internationals, T-20 internationals. As the introduction of T-20 cricket and one day internationals match, the game has gone through major changes and physical demands made in cricketer’s body have also increased dramatically. 4

• Improvement in the performance of players is big challenge among the coaches and sports person.4

• Physical condition is one of the important conditions in improving athlete’s achievements, by having a good physical condition; an athlete can optimize his abilities when playing in a game. Elements of physical condition such as strength, speed, agility, balance, coordination, and flexibility are elements needed in every sport.1

• Cardio respiratory endurance is one of the most significant components of general physical fitness which is measured by testing one’s aerobic capacity. It can be defined as- ability of heart and lungs to take in and to transport adequate amount of oxygen to the working muscle activities (that involves large muscle masses), to be performed over long period of time.

• Endurance is defined as- ability to do motor movements, with the desired quality and speed, under condition of fatigue. The cardio respiratory endurance involves moderate contraction of large muscle group for long period of time during which
maximum adjustments of circulatory and respiratory system are necessary as in continues running, brisk walking, bicycling, aerobics, swimming etc.  

• In this study, the triangle run training method is a training method that can not only increase aerobic endurance but also has an influence on the ability to dribble can increase the endurance of cricket athletes. Therefore the triangle run training method is highly recommended to be included in training because it has a benefit or influence on athlete’s ability and fitness.  

• Yo-Yo test is one way to measures predictions of maximal aerobic strength or vo2max.  

• Another term for Yo-Yo test is Multistage 20m which means the test run continuously between 2 lines that are 20 meters away by hearing a beep that has been recorded.  

• With the help of advancement of sports and technology, many new findings are obtained both in terms of practice and theory that are supportive and are useful for improving vo2max and sports performance.

NEED FOR STUDY  

• The purpose of the study is to evaluate the effectiveness of triangle run exercise on endurance in cricket athletes with the help of Yo-Yo test.  

• The previous study has been state that the triangle run exercise has significant effect on endurance of cricket athletes.  

• However, there is lack of literature to see the effect of triangle run exercise on endurance with the help of Yo-Yo test.  

• Thus, the need for study is to see the effect of triangle run exercise on endurance among cricketers.

AIM AND OBJECTIVES  

AIM  

• EFFECT of triangle run exercise on endurance among cricketers

OBJECTIVES  

• To find out the effect of triangle run exercise on endurance of the cricket athletes with the help of Yo-Yo IR test.

REVIEW OF LITERATURE  

• Riyan Hardinata, et al. (2021)  

This study aimed to evaluate the effectiveness of triangle run exercise to improve endurance in cricketers. The study was conducted by providing the triangle run training method as a treatment for soccer players. The triangle run training method is carried out by combining motion between sprints, jogging and walking. The results showed an increase in aerobic endurance of soccer players. The conclusion is that the triangle run training method can increase the endurance of soccer players.

• Dr. Mahesh Singh Dhapol (2017)  

This study aimed to evaluate the effect of SAQ (speed, agility and quickness) training on agility and endurance between cricket players.  

40 subjects were selected for the present study and their age range from 22 to 28 years. The subject was equally divided into 2 groups experimental and control group. Control group did not undergo any training program experimental group was treated with SAQ training. The results showed that there were significant difference in agility and endurance between experimental and control group of cricket players.


This study aimed to evaluate the effect of modification of triangle run exercise on endurance of male cricket athletes in Esaki.  

This research method uses the experimental method. The population and sample in this study were all male cricket athletes with 14 people. The instrument used in this study was the Yo-Yo test, cardio respiratory fitness (20 meter shuttle run test or Yo-Yo test). The results of this study indicate that the factor of triangle run training can have a significant effect on endurance in male cricket athletes in Besaki with result total count= 5.24 in p>0.005.

• Wawan Rafiko (2019)  

The study purpose was to find out the level of endurance in the Pekanbaru junior men’s tennis athletes. The population in this study was Pekanbaru tennis court athletes, which numbered 5 people. The sampling technique is the entire population (total sampling). The instrument used in this study was a Yo-Yo test and atests 300 METER run. The data obtained were analyzed using percentage descriptive statistical techniques.
MATERIALS AND METHODOLOGY

➢ MATERIALS

• 3 cones
• Measuring tape.
• Stopwatch
• Bell
• Writing materials like pen and paper.
• Consent form.

➢ METHODOLOGY

• Type of study: - Experimental study.
• Study design: - Randomized clinical trial.
• Study duration: - 6 Months.
• Type of sampling: - convenient sampling.
• Sampling size: - 46.
• Study setting: - cricket clubs in sangli district.
INCLUSION AND EXCLUSION CRITERIA

INCLUSION CRITERIA

• Age group: 18 to 25 years.
• Male and female players.
• Subjects willing to participate in the study.

EXCLUSION CRITERIA

• Musculoskeletal injury in past 1 year.
• History or presence of any cardio respiratory and vascular diseases.
• Any neurological disease or disorder.

PROCEDURE

Ethical committee clearance

Screening- Inclusion and exclusion criteria

Participants Included

A written consent was taken from the subjects in their vernacular language

Explain procedure to players

Pre-intervention Assessment.

Warm-up exercise With Triangle run exercise

Post-intervention assessment

Statistical Analysis

Data analysis was done

Result
Ethical Clearance Will be obtained from the institutional ethical committee. Subjects will be selected according to the inclusion criteria. Prior to the study subjects will explained the procedure. A written informed consent will be taken from the players prior to study.

- Players has selected as per the inclusion and exclusion criteria.
- Pre – intervention assessment has been taken.
- Triangle run exercise given for 6 weeks everyday.
- Post – intervention assessment has been taken.

![Fig.1: Whole procedure of the study was explained to the subjects.](image1)

![Fig.2: While performing Yo-Yo IR Test.](image2)
RESULTS

Data analysis was performed using Statistical Package for the Social Sciences [SPSS] software. Statistical analysis was done using Paired and Unpaired t-test.

**Conclusion:** 73.33% of the participants in the research on effect of triangle run exercise on endurance among cricketers were men, and 26.67% of the participants were women.

**Graph No.1:** Shows Distribution of Male and Female population.

**Graph No.2:** Shows Pre and Post – test results with respect to Age.
DISCUSSION

The purpose of the study is to evaluate the effectiveness of triangle run exercise on endurance in cricket athletes with the help of Yo-Yo test.
Cricket is a unique sport in which, there are number of different formats like Test format, one day internationals, T-20 internationals. As the introduction of T-20 cricket and one day internationals match, the game has gone through major changes and physical demands made in cricketer’s body have also increased dramatically.

Physical condition is one of the important conditions in improving athlete’s achievements, by having a good physical condition; an athlete can optimize his abilities when playing in a game. Elements of physical condition such as strength, speed, agility, balance, coordination, and flexibility are elements needed in every sport.

Endurance is defined as- ability to do motor movements, with the desired quality and speed, under condition of fatigue. The cardio respiratory endurance involves moderate contraction of large muscle group for long period of time during which maximum adjustments of circulatory and respiratory system are necessary as in continues running, brisk walking, bicycling aerobics, swimming etc.

Cardio respiratory endurance is one of the most significant components of general physical fitness which is measured by testing one’s aerobic capacity. It can be defined as- ability of heart and lungs to take in and to transport adequate amount of oxygen to the working muscle activities (that involves large muscle masses), to be performed over long period of time.

In this study, the triangle run training method is a training method that can not only increase aerobic endurance but also has an influence on the ability to dribble can increase the endurance of cricket athletes. Therefore the triangle run training method is highly recommended to be included in training because it has a benefit or influence on athlete’s ability and fitness.

Yo-Yo test is one way to measures predictions of maximal aerobic strength or vo2max.

Another term for Yo-Yo test is Multistage 20m which means the test run continuously between 2 lines that are 20 meters away by hearing a beep that has been recorded.

This study rejects the null hypothesis and supports the alternative hypothesis as there was a significant result of Triangle run exercise on endurance among cricketers in Sangli city.

Previous study done by Memet Muhamad 2019 at Bekasi, Indonesia. The study is done on male candidates only and study is never done in India. The study has proven that triangle run exercise is effective for increasing endurance.

Another study ‘The Effectiveness of the Triangle Run Exercise Method in Improving Aerobic Resistance Soccer Player’ done by Riany Hardinata 2021 at Indonesia on football players.

This study also proven that Triangle run exercise helps in improving aerobic resistance among soccer players.

CONCLUSION

This study showed that the null hypothesis can be rejected because the p-value is less than the alpha value, which in this case is assumed to be 0.05 and indicates a significance level of 5%. This allows us to accept the alternative hypothesis, which indicates that the triangle run exercise has a significant Effect on cricketers’ endurance.

LIMITATIONS AND SUGGESTIONS

Limitations:

1. Only 18 to 25 age criteria is included.

   ➢ Suggestion:

   1. Study can be done in different sports.

   2. Study can be done to compare male and female.

   3. Study can be done on larger population.

REFERENCES


