

## COMPARATIVE STUDY OF ISOMETRIC AND ISOTONIC TRAINING PROGRAMME MOTOR COMPONENT OF VOLLEYBALL PLAYERS OF LADAKH IN HIGHER ALTITUDE

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### **Abstracts:**

*Volleyball was Called Mignonette because of its Similarity with badminton. However, Alfred Halted Later Renamed it to volley ball because the objectives of the game were to volley the ball back and forth over the net. The game is still widely played by 80 million people worldwide, at least once a week. Now the volley ball is game of power and tactics and is played at a faster pace and this call sharper thinking, high standard of skill and technical application. Hence the researcher of this study intend to develop training programmer for performance of volleyball players in Ladakh. The object of the game is to play the ball the ball in such a way that the opponent who is unable to return. then the volleyball player need to develop their physical motor component and physiological component.*

**Keyword:** comparative Study isometric and isotonic in higher altitudes areas.

### **Introduction:**

Today I'll be looking at two different styles of exercise isometric and isotonic and seeing which side comes out on top. Isometric is largely known since the beginning of the century.

Isometric Exercise is a fantastic way to exercise the muscle while in a stationary position. Isometric exercise is experienced by pushing or pulling a fixed object like a wall or bar anchored to the floor. Research has shown that a muscle contraction generated by lifting weight. Although research shows that isometric exercise increase muscle tension significantly .

it still fails to change the length of the muscles. Isotonic exactly means equal tension. Isotonic contraction is a contraction in which the tension remains constant as the muscle shortens or lengthens. This can be carried out either with free weights like dumbbell or barbells or with fixed equipment's. In both these forms exercise is carried out against a fixed resistance.

Ladakh is situated about 11000 feet above the sea level the impact of flying of volleyball at high altitude has been a hot topic in discussion to assess the effect of altitude on match result and physiological performance of a professional volleyball player of Ladakh particularly for team playing a game at high altitude with the drop in air pressure making it difficult for the body to obtain sufficient oxygen at high altitude hypoxia called and dehydration can leads get breathlessness headache nausea dizziness and fatigue and possibly altitudes illness including syndromes such as acute mountain sickness, High altitude illness. Including syndromes such as acute mountain sickness high altitude pulmonary oedema and cerebral oedema. Activities such as exhibit symptom preventing from performing at full capacity.

The primary hypothesis test will be weather and by how much altitude effect state level volleyball performance by using the data covering a century of match quantify the dependence of volleyball result and scores on altitude in asses how altitude can be disadvantage or advantage for performance.

### **Statement of The Problem:**

The study will be designed to investigate comparative study off isometric and isotonic

exercise training Programme motor component of volleyball player of Ladakh in higher altitude.

- Vital capacity
- Respiration rate

**Objective of The Study:**

- Effect of isotonic and isometric training on strength of volleyball player.
- Effect of isotonic and iso metric training on power of volleyball player
- Effect of isotonic and isometric training on speed of volley ball player
- Effect of isotonic and isometric training on heart rate of volleyball player.
- Effect of isotonic and isometric on blood pressure volleyball player
- Effect of isotonic and isometric training on respiratory rate tennis player
- The purpose of the study also investigates effect of high altitude on all the training session on performance of Ladakh volley ball players.
- The purpose of the study also investigates influence of high altitude on Ladakhi volleyball players.

**Delimitations:**

- The study will be delimited volleyball player those belongs to Constituent Colleges of Ladakh
- The study will be delimited to 24 subject, comprised of 8 subject in each group
- The study will be delimited to 3 groups control group and experimental 1 isometric group 2. Isotonic group

**Motor Components:**

- Speed
- Agility
- Power
- Reaction time
- Strength
- **Physiology Variable**
- Blood pressure
- Respiration rate

**Limitations:**

- The knowledge of previous experience in training will not be into consideration.
- Diet health habit living standard rest, injuries and daily routine on which the scholar have no control will be also considered as one of the limitation of this study.

**Hypothesis:**

- There will be significant difference in selected motor and physiology variable of volleyball player after giving isotonic training.
- There will be significant difference in the selected motor and physiology variable of volley ball after giving isometric training
- There will be significantly isometric better than isotonic training Programme for develop the selected motor and physiology variable of volleyball player in higher altitude.

**Definition and Explanation of Study:**

**Isometric**

Isometric exercise is experienced by pushing or pulling a fixed object like a wall of Bar anchored to the floor. Research has shown that a muscle contraction during isometric exercise produced more force than contraction generated by lifting weight.

**Isotonic**

Isotonic exactly means equal tension. Isotonic contraction in which the tension remains constant as the muscle shorter or lengthens.

**Components of Motor fitness**

These factor are associated muscular movement each and its own way affect the quality of both general and specific skill.

The following motor fitness training are

- Strength
- Speed

- Agility
- Power
- Reaction time
- Heart rate
- Blood pressure
- Vital capacity
- High altitude respiratory rate

#### Significance of The Study:

- This study will be may help the trainer and volleyball player for selecting injuries and safe training in high altitude areas
- This study may help to find out which type of training is better improve selected motor components and physiological variable known to be one of the important factors in volleyball player's ability in Ladakh high altitude areas.

#### Review of Related Literature:

**Charles E .Micheal (1958)** Conducted a study on the effect of functional isometric exercise on arm reaction time.

**Shankar sure and Dr Septal Hoovanna (ISSN 0975-7732)** Conducted a study on the effect of six weeks' isometric and isotonic on body composition. The isotonic training produced significance increase in a sit-up as a compared to isometric training.

**Godavari's Das (1990)** have done study of comparative effect of isometric isotonic and combined isometric and isotonic exercises on the performance of selected track and field events and found the significant different in 100m run that is isometric

#### Methodology and Procedure:

In order to achieve all the object of the study proper methodical procedure will be required .in this chapter, describe the procedure of selection of subject, selection of variable, administration of the test, collection of data, experimental design and analysis of data.

#### Selection of Subject:

For the purpose of study 24 male volleyball player will be select as subject for the study.

#### Selection of Variable:

On the basis of review of literature, expert opinion, facilities instrument availability and keeping in mind the feasibility criteria and the specific purpose of the present investigate, select the motor and physiological variable.

#### Statistical technique:

A detail statistical technique will be computed after the collection of data on the selected variable for the purpose of study. These statistical techniques shall include the calculation of detailed descriptive statistic mean, standard deviation, and minimum range scores on each test items of motor component and physiological variable.

#### Reference:

1. *CHU,D (1996)Explosive power and strength ,USA Human kinetic publisher Inc.*
2. *DAVIS ,B et al.(2000) Physical education and study of sports.UK:*