

## **AGGRESSION AMONG DIFFERENT LEVELS OF HOCKEY**

### **PLAYERS: A COMPARATIVE STUDY**

Sartaj Khan and Joseph Singh

Department of Physical Education, T.M.U., Moradabad, India.

Department of Physical Education, H.N.B. Garhwal University, Srinagar, India.

**Journal:-International Recognized Double-Blind Peer Reviewed Multidisciplinary Research Journal**

ISSN Impact Factor : (UIF)

Volume - 5 | Issue - 5 | June - 2015 Available online at

Indian Streams Research Journal

2230-7850 3.1560

[www.isrj.org](http://www.isrj.org)

The purpose of the present study was to compare the level of Aggression among different levels of hockey players. Three hundred (N = 300) male subjects were selected as a sample. The age of the subjects were ranged from 17-25 years. Aggression of the subjects was assessed by sports aggression inventory constructed and standardized by Kumar and Shukla (1984). ANOVA (One Way) was used to interpret the results at .05 level of significance. It was concluded that there was a significant difference exists among inter-collegiate, north-zone intervarsity and all India intervarsity level hockey players on aggression.

**Keyword:-**Aggression, Inter-Collegiate, North-Zone Intervarsity and All India Intervarsity.

## **ACHIEVEMENT MOTIVATION OF INDIAN FIELD HOCKEY**

### **PLAYERS AT THREE DIFFERENT LEVELS OF COMPETITIONS**

MEHNDI HASAN, ABHISHEK KUMAR SINGH, **JOSEPH SINGH**

1Department of Physical Education, Singhania University, Jhunjhunu, Rajasthan, INDIA.

Email: mehndi2009@gmail.com

2Department of Physical Education, Babu Banarasi Das University, Lucknow, INDIA.

Email: abhisinh26@hotmail.com

3Department of Physical Education, H.N.B. Garhwal University, Srinagar, INDIA.

Email: josephsingh.2035@gmail.com

How to cite this article: Hasan, M., Singh, A.K., & Singh, J. (March, 2015).

Achievement motivation of Indian field hockey players at three different levels of competitions. Journal of Physical Education Research, Volume 2, Issue I, 71-81.

Received: October 17, 2014 Accepted: March 21, 2015

**Journal:-Journal of Physical Education Research, Volume 2, Issue I, March 2015, pp.71-81**

ISSN: Print-2394 4048, Online-2394 4056

This study conceptualized to compare the achievement motivation of Indian fieldhockey players at three different levels of competitions. To work on the purpose of the study 300 male Indian field hockey players played at different levels of competitions were selected. The age of the participants ranged from 17 to 25 years. For the purpose of the present study three strata were made, inter-collegiate, north-zone intervarsity, and all India intervarsity hockey players. Stratified random sampling technique (proportionate) was done and 100 participants were selected for each stratum. Achievement motivation of the subjects was measured by using sports achievement motivation test developed by Kamlesh (1990). In order to find out the achievement motivation of the field hockey players of different levels of competitions, One Way Analysis of Variance (ANOVA) was used to find out the significant difference among inter-collegiate, north-zone intervarsity and all India intervarsity level field hockey players. To know more about the pattern of differences existing within a set of population means, Least Significant Difference (LSD) Post-hoc test were used. The significance was tested at 0.05 level. Results of the study showed that significant difference exists among inter-collegiate, north-zone intervarsity and all India intervarsity level hockey players on achievement motivation. Thus it can be concluded that achievement motivation as one of the most important psychological component that influence the performance of the field hockey players.

**Keywords:** Achievement motivation, field hockey, inter-collegiate, north-zone  
Intervarsity, all India intervarsities.

## **STRENGTH AND SPEED OF UTTARAKHAND SCHOOL GIRLS: A COMPARATIVE STUDY**

Heera Singh Bishta **Joseph Singh**, Neeru Yadav

Ph.D.Scholar, Amity School Of Physical Education & Sports Sciences

Amity University , Uttar Pradesh, India

Asst. Professor ,Dept of Physical Education,H.N.B.G.U. A Central University,  
Srinagar, Garhwal, Uttarakhand, India

Asst. Professor, Amity School of Physical Education And Sports Sciences,  
Amity University Uttar Pradesh ,Gautam Budh Nagar, India

**Journal:- Online International Interdisciplinary Research Journal, {Bi-Monthly}, ISSN 2249-9598, Volume-07, Nov 2017 Special Issue**

**Abstract:-**

The purpose of the study was to compare the selected physical fitness variables between Badminton and Football school girls. To fulfil the objective of the study, 20 Badminton and 20 football school girls were selected who have participated in Uttarakhand school State. The data were collected in different district and state championship. All the subjects were under 19 age group category. Strength was measured through standing board jump and speed was measured through 60 yard dash tests. T-test was used to analyze the data between Badminton and Football school girls and investigator observed that there is insignificant difference between badminton and football school girls on strength and speed. Badminton school girls have much better strength and speed as compare to football school girls.

**KEYWORDS:** Strength, Speed, Badminton, Football.

**A STUDY OF COMPETITIVE SPORT ANXIETY IN FEMALE BADMINTON  
PLAYERS OF UTTARAKHAND**

Heera Singh Bisht, **Joseph Singh**, Neeru Yadav

Ph.D.Scholar, Amity School Of Physical Education & Sports Sciences,

Amity University Uttar Pradesh Gautam Budh Nagar, India

bAsst. Professor, Dept Of Physical Education, H.N.B.G.U. A Central,  
University, Srinagar, Garhwal Uttarakhand, India

cAsst. Professor ,Amity School Of Physical Education & Sports Sciences,  
Amity University Uttar Pradesh, Gautam Budh Nagar, India

**Journal:-Online International Interdisciplinary Research Journal, {Bi-Monthly}, ISSN 2249-9598, Volume-07, Nov 2017 Special Issue**

Abstract:-

Competitive sport anxiety, is common in badminton players, it is an important factor influencing the sports performance. Competitive sport anxiety is a distrustful response that takes place when a player undermines his or her capability in dealing with demanding circumstances. Competitive sport anxiety affects player's ability to perform effectively in any sport competition. The purpose of the current research is to evaluate the competitive sport anxiety of female badminton player of Uttarakhand. Participants consisted of sixteen female under-19 badminton players of Uttarakhand, who participated in school state badminton championship and reached in pre-quarter of the competition. The SCAT test was applied to measure the anxiety level of the female badminton players of Uttarakhand. The result of the study revealed that there is average anxiety level in female badminton players of Uttarakhand

**KEYWORDS:** Badminton, Competitive Sports Anxiety.

## **DISCREPANCIES IN UGC AND NCTE**

**Joseph Singh,**

HNBGU, Srinagar Garhwal( U. K.), India

**Journal;- International Educational E-Journal, {Quarterly}, ISSN 2277-2456, Volume-IV, Issue-II, Apr-May-June 2015.**

Abstract:-

B.Sc. In Health and Physical Education: These students are getting direct admission in M.P.Ed. (without doing B.P.Ed.). Student doing this course is also getting Two years advantage in life by directly doing M.P.Ed, by skipping the B.P.Ed. course. UGC say that for doing M.P.Ed. There is only one eligibility that is B.P.Ed. B.Sc. in health and physical education is not a recognised course and it is not there in UGC list of approved degree. B.Ed. / B.P.Ed.: B.A. B.Ed. and B.Sc. B.Ed. is a 4 years course which is not recognised by UGC. But NCTE approved this course. NCTE has scrapped the 4 years B.P.Ed. Course, stopping the entry of 10+2 aspirant coming to Physical Education, but NCTE allow this 4 years course for B.Ed. Aspirant. NCTE has stopped early entry in Physical Education course. B.Ed. M.Ed. (3 years integrated course) : This mentioned course is not there in UGC list of approved degree. While NCTE has recognised this course, it has given advantage to B.Ed. / M.Ed. Student of one year by giving this opportunity. If the student does this course separately, it will require 4 years. However, NCTE is discouraging such course in physical education and by not giving such opportunity to physical education student. UGC and NCTE: If a student take admission by seeing the NCTE website in 4 years B.A. B.Ed. or B.Sc B.Ed. and B.Ed. M.Ed. (3 years integrated) Courses, UGC don't recognise the above mentioned courses for forwarding the degree for teacher education. If in future UGC recognise above courses, they

must also think about us for such courses and direct NCTE to start above mentioned courses in Physical Education also. NCTE & UGC must act in coordination, so that, student must not suffer.

**KEYWORDS:** U.G.C, N.C.T.E., B.P.Ed., M.P.Ed., B.Sc. in Health and Physical

## **COMPARISON OF ORGANISATIONAL CLIMATE, OCCUPATIONAL STRESS AND WORK MOTIVATION OF PHYSICAL EDUCATION TEACHERS WORKING IN DIFFERENT MANAGEMENT OF SCHOOLS IN UTTAR PRADESH**

Joseph Singh

Department of Physical Education, HN BGU, Srinagar Garhwal (U.K.) India

**Journal:- Online International Interdisciplinary Research Journal, {Bi-Monthly}, ISSN 2249-9598, Volume-VII, Issue- II, Mar-Apr 2017 Issue**

The purpose of the study was to compare the organisational climate, occupational stress and work motivation of physical education teachers working in different management of schools in Uttar Pradesh. The subjects were physical education teachers of the different management of schools of various regions of the Uttar Pradesh. Two hundred and ten (210) each from government schools, government aided schools, and unaided schools totaling 630 subjects were selected. The following were the criterion measures chosen for testing the hypothesis in the study. Organisational climate was measured by organisational climate scale prepared by Sanjoy Pethe, Sushma Chaudhary and Upinder Dhar. Occupational stress was measured by occupational stress index prepared by Dr. A.K. Srivastava and Dr. A.P. Singh. Work motivation was measured by work motivation questionnaire prepared by P.K.G. Agarwal. The research scholar administered the questionnaires, through mail as well as direct contact with the respondents. To compare the differences the Analysis of Variance ('F' ratio test). To test the hypothesis, 0.05 level of significance was chosen. Insignificant difference was found in organisational climate of physical education teachers working in different management of schools in Uttar Pradesh. Significant difference in occupational stress of physical education teachers working in different management of schools, further post hoc test reveals that there were significant differences between Government and Unaided schools. It has been observed that unaided schools were noticeably affected by success/failure in terms of the job, potential psychological and situational conditions or job factors, which cause job stress than government schools. Occupational stress and burnout are associated with poor health in teachers. Insignificant difference was found in work motivation of physical education teacher working in different management of schools in Uttar Pradesh.

**KEYWORDS:** Organizational climate, occupational stress and work motivation

## **A COMPARATIVE STUDY OF PHYSICAL FITNESS VARIABLES BETWEEN DIFFERENT ACADEMIA INTERCOLLEGIATE SPORTSMEN.**

Akash Shukla<sup>1</sup>, Dr. Deepak Kumar Dogra<sup>2</sup>, **Dr. Mukul Pant**<sup>3</sup>, Satish Gulia<sup>4</sup>

<sup>1</sup>Research Scholar, Department of Physical Education, Banaras Hindu University Varanasi, U.P (India) <sup>2</sup>Assistant Professor, Department of Physical Education, Banaras Hindu University, Varanasi, U.P (India) <sup>3</sup>Assistant Professor, Department of Physical Education, Hemvati Nandan Bahuguna Garhwal University, Srinagar, U.K (India).  
<sup>4</sup>Assistant Professor, Department of Physical Education, Janta Degree College, Patla (Ghaziabad) U.P (India)

**Journal Name:- JOURNAL OF CRITICAL REVIEWS ISSN:- 23945125 Vol.7 issue.12 2020**

**ABSTRACT:** Purpose of the study was to compare the selected physical fitness variables among different academia i.e., physical education and non-physical education intercollegiate sportsmen. A cross sectional study was consisting of 44 male subjects namely physical education group (n = 22) selected from Department of Physical Education and non-physical education group (n = 22) selected from different Departments of H.N.B.G University, Srinagar, Garhwal, Uttarakhand (India). The age of the subjects were ranging from 18 to 25 years. To test the physical fitness variables i.e., pull-up test for muscular strength, modified sit-ups test for muscular endurance, 4X 10 meters shuttle run for agility, and 50 yard dash for speed were selected for this study respectively. And, the data on selected variables was collected at University Athletics Ground with permission. Further, descriptive statistics and independent „t“- test were applied to assess and compare the physical fitness variables between the selected group subjects and the level of significance was set at the 0.05 level. Statistically, there was no significant difference found between the physical education and non-physical education inter collegiate male sports persons on their selected physical fitness variables i.e. muscular strength („t“ = 1.26), muscular endurance („t“ = 0.64), agility („t“ = 0.28), and speed (0.82) respectively. Established findings of the present study, it was concluded that physical education and non-physical education different academia curriculum engagement were having no impact on physical fitness status of intercollegiate male sports persons.

**KEYWORD**– Academia, Fitness Components, Lifestyle and *Sportsperson*

## COMPARATIVE STUDY ON SELECTED MOTOR FITNESS AMONG BOYS OF UTTARAKHAND STATE

Mukul Pant\*  
Dr. K.M.Valsaraj\*\*

### ABSTRACT

The objective of the study was to compare the motor fitness components among boys of government schools of Uttarakhand state. The study was designed to find out the difference between motor fitness components among Rural and Urban High altitude boys studying in government schools of Uttarakhand state. The total 60 subjects (30 rural and 30 urban) were selected by using systematic random sampling. The age of the boys ranged between 14-15yrs. The data was collected by administering the test in their schools in free time. Keeping the feasibility in mind Muscular Strength, Muscular Power, Speed and Flexibility were selected as motor fitness components for the study. Independent 't' test was used for statistical treatment. The level of significance was set at 0.05 levels.

**Result:** - The result showed there was no significant difference between the mean score of High Altitude Rural boys and High Altitude Urban boys in Muscular strength, Speed, Muscular Power and Flexibility.

**Key Words:-** High Altitude, Rural area, Urban area, Motor Components.

### INTRODUCTION

Movement is considered as the basic concern for living organism on earth. A new born baby is considered to be alive when he / she screams or moves. In the field of education and Physical education action plays a great role. Physical Educators have known for decades that movements can greatly impact child's ability to learn. A healthy and physically fit individual is recognized in all walks of life. By improving the Physique and Fitness of body even the mental health can be improved. It is strongly felt that without physical fitness a person can neither be mentally sound nor socially and emotionally balanced. The

\* Incharge, Department of Physical Education, H.N.D. Garhwal University, Srinagar, Uttarakhand - India  
\*\* Associate Professor, Lucknow Christian College, Lucknow, UP - India



## Comparative Study on Will to Win Among Individual and Team Game Male Players at University Level

Mukul Pant, Kapil Misra and Shamsheer Singh Jangbahadur

See end of the article for  
authors' affiliations

Correspondence to :

Mukul Pant

Assistant Professor

Department of Physical Education,  
Hemwati Nandan Bahuguna Garhwal  
University, Srinagar, Garhwal  
Uttarakhand (India)

### Abstract

**Background :** Sports is not a fun or recreation at any level of competition. When we think about it at international level the result gets utmost precedence over other things. So many factors contribute in any player's success in sports, few of them are psychological one out of which will to win is one of the major personality attribute in the player, a coach would love to have. The present study was conducted to compare will to win among individual and team game male players at University level. **Materials & Methods :** For the purpose of this study 30 male team game players (15 each from Hockey & Football game) and 30 male individual game players (15 each from Badminton & Table Tennis game) aged between 20 to 24 years were selected from zonal

inter varsity championship held in northern Zone India in 2011. Kumar and Shukla 'will to win' questionnaire was used for collection of data. The response sheets were scored as per instructions and raw data were quantified and statistically processed. **Results :** The result of the study shows that there was insignificant difference among mean value of both the groups i.e. Individual game and team game male players with respect to will to win at 0.05 level of significance. **Discussion :** On the basis of obtained results, it has been observed that team game and individual game male players were similar with regard to psychological variable 'will to win'. Mann(2005) supported the result of this study with their research findings. **Conclusion :** The study shows that there is insignificant difference among both the groups on will to win at University level that means they are almost same on this psychological attribute at university level.

**Keywords :** Will to win, Team game & Individual Game



## A Comparative Study on Strength Ability of Uttarakhand Boys

Mukul Pant\*

### Abstract

*Life is nothing without movement and which is only possible by the mobility of different body organs. A new born baby is considered to be alive when he / she screams or moves. The child's growth is very much indicated by the basic movements like running, jumping, throwing etc. he performs in his daily life. These movements could be effectively performed by different variations of strength ability - muscular strength, explosive strength and strength endurance. The environment (altitude and locality- rural or urban) also plays vital role in it. Keeping it in view this study was framed to find out the difference between Strength ability among Rural High and Low altitude boys and Urban High and Low altitude boys studying in government schools of Uttarakhand state. The total 400 subjects (200 rural and 200 urban) belonging to high and low altitude areas in Uttarakhand state were selected by using systematic random sampling. The age of the boys ranged between 14-15yrs. The data was collected by administering the test in their schools in free time. Keeping the feasibility in mind, Muscular Power, Explosive Strength and Muscular strength Endurance were selected as strength ability variables. Descriptive statistics and two way ANOVA was used for statistical treatment. The level of significance was set at 0.05 levels. The results of the study showed that the urban society boys have better muscular power than others but the rural society boys have better explosive strength and Strength Endurance. The rural society boys of high and low altitude have better muscular power and strength endurance than urban society boys of high and low altitude in Uttarakhand state.*

**Key words :** High Altitude, Low altitude, Rural area, Strength Endurance, Muscle Power and Explosive Strength.

### Introduction

The importance of strength ability for the proper functioning of an individual can never be questioned. Strength permits greater freedom of body movement and is helpful for the maintenance of working capacity for longer time. It helps in preventing injuries and in increasing co-ordination of movement and shortening the pace for acquiring and perfecting movement, it constitutes to the formation of concepts and ideas and development of confidence. Strength is an essential quality for learning motor skills beside the influences of growth and maturation. Different variations of strength ability - Muscular power, Strength Endurance and Explosive Strength is essential for anyone wishing to make the most of himself in his life and many advantages result from achieving and maintaining an adequate level of physical fitness. Since, all three types are by products of basic strength and other fitness components, it invariably affect overall fitness also.

The puberty phase of human life is found to be most productive one for developing base for different motor abilities. It is believed that strength is trainable factor but the influence of one's physique and body composition seem to play a great role in its determination as achievement of high level performance is only possible in an individual with adequate genetic predisposition and under optimal environment condition.

India is vast country with unique cultural, social, geographical, ethnic and climatic differences. The strength of Indian male varies according to regional variations of the country, which ultimately affects growth and development. Sodhi, Padhmanathan and Prakash (2007) have reported that the regional variation of morphological characteristics of Indian children occur due to socio-economic, climatic and genetic variations. In the light of all above mentioned background research scholar generally felt the research needed to be conducted to objectively find out the relationship between selected motor fitness components and Body Mass Index in Uttarakhand boys.

### Methodology

For the purpose of the study total 400 students aged between 14-15 years, studying in government schools,

## Relationship of Selected Motor Variables to The High Jump And Shot Put Performance

Krishnakant \*

*The purpose of this study was to find out the relationship of selected motor variables to the high Jump and shot put performance of athletes. Twenty five male athletes who participated in Intercollegiate Athletics, organized by HNBU University at Dehradun, 2013 served as subjects for this study. The selected motor variables i.e. muscular strength endurance, speed, explosive strength, and agility. Finding reveals that there were higher significant positive relationship between explosive strength (0.856), speed (0.859) and muscular strength endurance (0.462). The only insignificant relationship between agility (0.363) with the high Jump performances of the athletes as the obtained values are higher than the table value which is 0.396 required for the significant at 0.05 level of significance. On the other hand there were significant relationships of motor variable with the shot put performance of the athlete as the value of explosive strength (0.741), speed (0.639) and muscular endurance was (0.582) and the only insignificant variable is agility as the value was (0.286) which is less than the required value for to be significant.*

**Key words:** Motor Variables, High Jump, Shot Put

**Introduction :** High Jump is one of the most prominent events at the Olympics games. Basic speed is the hardest aspect to improve high Jump and sprinting ability is largely determined by inherited trait. The white muscle fibre composition of the body is indispensable. Coaching is extremely important as it can give much help to the high Jumper, since athlete has to gain as much as ground possible through the jump. The horizontal as well as vertical component of force is essential for the jumper. Coaching may improve technique of high Jump but it cannot give leg speed to athletes who do not have it. High Jump should give as much credit to their trainers and coaches.

Strength of muscle is necessary if one is to perform normal daily activities in an efficient manner. Strength is excess of this amount enables the student to perform them more easily and effectively. This excess over daily demands is needed for two reasons. First it is needed for emergency situations where survival is a factor, second, after daily normal activities are completed. The students should have sufficient strength to live life more fully and completely in leisure time pursuits. Strength can be measured by such test items as the chins, dips, pushups and standing broad jump.

Motor ability variables namely muscular strength, muscular endurance, flexibility, speed, agility, reaction time etc. play a very vital role in most of the games and sports. A wicket keeper requires a specific muscular strength, muscular endurance, flexibility, speed, agility, reaction time etc. Reaction time, agility muscular strength, and muscular endurance with which an individual can react in a given situation have been of great concern and interest to sportsman and trainers.

High Jump is one of the most prominent events at the Olympics games. Basic speed is the hardest aspect to improve high Jump and sprinting ability is largely determined by inherited trait. The white muscle fibre composition of the body is indispensable. Coaching is extremely important as it can give much help to the high Jumper, since athlete has to gain as much as ground possible through the jump. The horizontal as well as vertical component of force is essential for the jumper.

---

\* Department of Physical Education, HNBU, Srinagar Garhwal (U. K.)



## Biomechanical Analysis of Head Load Impact on Posture of The Forest Dependent People of Uttarakhand State

Rajiv Pandey \*  
Joseph Singh, Krishnakant & Hiralal Yadav \*\*

Fuel wood is being carrying as head load for cooking energy in rural areas of developing countries since generations. The study endeavors to evaluate the head load effect of carrying fuel wood on posture of forest dependent people of India through evaluation of craniovertebral, craniohorizontal and sagittal shoulder postures angles. The primary data i.e. these three angles was measured from 33 individuals through standard method by putting adhesive markers on tragus of ear, mid-point of lateral side of left humerus and a contoured surface marker along spine from C7 to T12 by capturing photo through camera.

The measurements were compared with prescribed standard angle for normal people. The study results that carrying fuel wood had a significant effect on the postures in comparison to standard. The effect in the posture may be of permanent in nature. These changes may lead to craniofacial pain, headache, neckache and shoulder pain, muscle stiffness and tenderness however clinical validation is essential before subjecting to some regulations.

**Key words :** Public Health, Drudgery, Craniovertebral Angles; Craniohorizontal Angles; Sagittal Shoulder Postures.

**Introduction :** Biomass energy, including fuelwood, charcoal and non-woody biofuels, accounts for more than 90% of the total rural energy supplies in developing countries (Bhattachayra and Salam, 2002) due to easy availability to many of the world's poor and affordability as a domestic energy source (Karekezi *et al.*, 2004). Load carrying on the head is a weight-bearing activity which produces downward, vertical forces through the spine and leads to pain and headaches (Pandey, 1997) besides imposing a considerable amount of strain on the axial skeleton (Joosab *et al.*, 1994). The repeated carriage of heavy loads places additional stress on the spine structures of these poor (Datta and Ramanathan, 1971; Deng and Goldsmith, 1987) making them more prone to postural change, and ultimately leading to lower back problems besides fatigue and causing misalignments of spine (Chansirinukor *et al.*, 2001). These frequent loading beyond capacity create injury through fatigue failure, accumulation of fatigue damage (Adams *et al.*, 2002) or early degenerative changes in bone and soft tissues (Joosab *et al.*, 1994) besides influencing the growth, development and maintenance of the alignments of body (LeVeau and Bernhardt, 1984). These may be linked to craniofacial pain, headache and neckache and shoulder pain, with a decline in the ranges of cervical joint motion, muscle stiffness and tenderness. These changes in posture particularly sagittal plain has linked with changes in musculoskeletal structure and can lead to pain (Ayub *et al.*, 1984; Darling *et al.*, 1984; Mannheimer and Rosenthal, 1991; Thurnwald, 1991).

\* Associate Professor, HNB Garhwal University, Srinagar, Garhwal, Uttrakhand  
\*\* Assistant Professor, HNB Garhwal University, Srinagar, Garhwal, Uttrakhand

## Comparison of Motor Fitness Component between Basketball and Volleyball Female Players of North-East Zone Inter University

Krishna Kant \*  
Ramesh Chand Yadav \*\*  
Ruchi Sah \*\*\*

The purpose of the present study was to compare the motor fitness component between basketball and volleyball female players of north-east zone inter university. **Methodology** Fifteen basketball and volleyball female players who were participated in north east zone inter university tournament for the session 2009-10 acted as the subjects for the study. Variables selected for the study are as follows: muscular strength, muscular endurance, Speed, flexibility, coordinative ability **Result:** Findings reveals that there was significant difference found in case push-ups, total body speed and eye hand co-ordination for the basket ball females players in comparison to the volleyball female players in comparison to basketball female players. Whereas no significant difference is found in case of sit and reach for flexibility, eye foot co-ordination in volleyball and basketball players.

**Key Words :** comparison, motor fitness, basketball, volleyball.

Even the research findings show that high level of technique perfection done cannot produce success in competitive sports. Most of the games demand a higher level of speed, strength, endurance, flexibility, co-ordination and optimum fitness of organism.

The early leadership in physical education was provided by man and women trained in medicine who believed in proper exercise as a form of best preventive medicine. It was only after world war – II, the use of the term motor fitness became more common when certain tests were developed by military services for vigorous muscular work. Some tests were also developed by physical educators, exercise physiologies, sports medicine physicians for physical fitness testing and cardiovascular testing.

A comprehensive list of components of motor ability for performance of various physical activities (including sports) include muscular strength, muscular endurance, muscular power, cardio-pulmonary endurance), agility speed, balance, flexibility, reaction time, co-ordination (eye foot co-ordination, eye hand co-ordination, whole body co-ordination). In addition, traits like simple motor response, reflexes sensory input and awareness of space and tempo (characteristic speed and rhythm of movement) are also considered important in motor

Sports is one of the avenues of mankind's never ceasing strive for excellence. Its uniqueness lies in the intimacy between the physical happenings of our bodies and their repercussions on our minds, as well as in the general re-cognizability of the social and aesthetic values. Sports evoke experience that is exclusively human and independent of the changing forms, patterns customs of a civilization which involves profoundly modifying concepts of our environment.

From its very simple form, sports have emerged into highly organized form of play and play is a general innate tendency. Play is very important for preservation, growth and development

\* Lecturer, Department of Physical Education, Lucknow Christian College Lucknow.

\*\* Lecturer, Department of Physical Education, CSJM University, Kanpur.

\*\*\* Research Scholar, Jiwaji University, Gwalior.



## Comparison of Reaction Time between Male and Female Basketball Players

Krishnakant \*

*The purpose of the study was to compare the reaction time of basketball male and female players of HNBG University.. The study was confined to 12 male and 12 female interuniversity players, who represented in inter university team of HNB Garhwal University in the disciplines of Basketball. The reaction ability was measured by the scores of the subjects the distance measured in centimeters from the top of the planks to a point where the subjects stopped the ball. Only two trials were given and the best one was recorded as the score. To compare the reaction ability of the male and female basketball player's independent t-test was used. The result of the study reveals that there was significant difference was found in the reaction ability of male and female basketball players as the t-value 3.84 was more than the table value 2.074.*

**Key Words :** Reaction Time, Basketball

**Introduction :** Basketball is a team sport in which two teams of five players each try to score points against one another by propelling a ball through a 10 feet (3m) high hoop (the goal) under organized rules. Basketball is one of the most popular and widely viewed sports in the world. Points are scored by shooting the ball through the basket above; the team with more points at the end of the game wins. The ball can be advanced on the court by bouncing it (dribbling) or passing it between teammates. Disruptive physical contact (foot) is not permitted and there are restrictions on how the ball can be handled (violations). Through time, basketball has developed to involve common techniques of shooting, passing and dribbling, as well as player's positions, and offensive and defensive structures. While competitive basketball is primarily an indoor sport, played on a basketball court, less regulated variations have become exceedingly popular as an outdoor sport among both inner city and rural groups.

The degree to which the components of general motor ability contribute to particular game or activity depends upon the type of variety of movements involved in them. Out of all the components that contribute one's general motor ability, Reaction time may dominate one's ability to perform in situations demanding quick response and change in direction in all games & sports.

Reaction time is most significant factor for better performance in games requires very quick actions and movements. It depends upon the nervous process of an individual. It is useful to a great extent in sports involving quick change of body direction or its parts. It depends primarily on specific muscle co-ordination.

**Methods :** Twelve male and female basketball players who participated in the inter university tournament were act as the subject for the study. All the students were the students of one of the associated colleges of the HNB Garhwal University. The age of the subject was ranging from 18 to 25 years.

### **Administration of the Test and Collection of Data**

**Reaction Ability :** Ball reaction exercise test was used to measure the reaction ability. Two wooden planks of 4 m. in length each were kept inclined by a supporting stand having a height of one meter and twenty centimeters; so that it could enable volleyball to roll freely from a height of 1.20 m. The lower ends of the wooden planks were kept at a distance of 1.5 m. away from the starting line, outer sides of one of the planks was graduated in centimeters.

---

\* Asst. Professor, HNB Garhwal University, Srinagar Garhwal (U. K.)

## **A Comparative Study on Flexibility of Physical Education Male and Female Student of HNB Garhwal University**

*Dr. Krishnakant \**

**Introduction :** Physical Education is an integral part of the total education of every child from kindergarten through grade 12. Therefore, every student should have the opportunity to participate in a quality physical education program. It is the role of quality physical education programs to help students develop health-related fitness, physical competence in movement activities, cognitive understanding, and positive attitudes toward physical activity so that they can adopt healthy and physically active lifestyles. Quality programs are also important because they provide learning experiences that meet a student's developmental needs, which in turn helps to improve the mental alertness, academic performance, readiness, and enthusiasm for learning

Physical education is a broad field that has its roots in physiology, movement, pedagogy and sport. The Health and Physical Education domain provides students with knowledge, skills and behaviours to enable them to achieve a degree of autonomy in developing and maintaining their physical, mental, social and emotional health. This domain focuses on the importance of a healthy lifestyle and physical activity in the lives of individuals and groups in our society. This domain is unique in having the potential to impact on the physical, social, emotional and mental health of students. It promotes the potential for lifelong participation in physical activity through the development of motor skills and movement competence, health-related physical fitness and sport education. Engaging in physical activity, games, sport and outdoor recreation contributes to a sense of community and social connectedness. These are vital components of improved wellbeing.

Flexibility refers to the range of movement about a joint. The flexibility of a joint is dependent upon the extensibility (ability to extend without causing tissue damage) and elasticity (ability of muscle to return to its original size and shape after being stretched or shortened) of the structures surrounding it (e.g. the ligaments and fibrous joint capsule).

Joint flexibility is an important factor in the performance of skills and especially in injury prevention. Testing flexibility can help diagnose if the player is at risk from injury. Soccer players at all levels are often shown to have poor levels of flexibility, especially in the hamstring and adductor groups. Indeed, a specialised flexibility program undertaken by Swedish professionals was found to reduce the incidence of injury. Players may focus on strength training and does not strike a right balance between strength development and flexibility. thus the investigator interested in knowing whether there is any difference between the students of physical education on flexibility.

**Methods :** Fifteen male and female physical education students of HNB Garhwal University were act as the subject for the study.. The age of the subject was ranging from 18 to 25 years.the criterion measures for the study was flexibility and measured by sit and reach test.

**Administration of the Test and Collection of Data**

**Test :** The Sit and Reach Test

**Equipment:** - Flexibility measuring Box and mat

---

\* Asst. Professor, HNB Garhwal University, Srinagar Garhwal (U. K.)





# The Effect of Six Weeks of Brisk Walking on Aerobic/Cardiovascular Function of Sedentary College Students

## KEYWORDS

Brisk walking, Aerobic/Cardiovascular function, Sedentary

**KrishnaKant**

Department of Physical Education, H.N.B.G. University, Srinagar, Uttarakhand

**ABSTRACT** The purpose of the present study was to determine the effect of six weeks of brisk walking on aerobic/cardiovascular function of sedentary college students. The sample was consisted of thirty (N 30) sedentary college students and their age ranged between 18-25 years of age, the subjects were briefed in details about the study. The criterion measures for the study was aerobic/cardiovascular function and it was measured by 1 mile walk test in nearest of min/sec. The total research period was of 12 weeks out of which six (6 weeks) of brisk walking programme was employed. Mean aerobic/cardiovascular function differed statistically significantly between Observation points (F (4, 116) = 53.23, P < 0.000), insignificant difference was found in case first observation and second observation (MD=0.05, p=1.000), whereas significant difference was found in second and third observation (MD=2.53, p=0.000), also in third observation and fourth observation (MD=2.22, p=0.000) and fourth and fifth observation (MD=2.58, p=0.000).

## 1 Introduction

**Introduction**  
Cardiovascular exercises benefit any age group. However, any exercise of aerobic capacity should be structured properly and should be scaled moderately to fit the particular needs of each person. cardiovascular exercise (aerobic exercise) forms an important pillar within the entire anti-aging exercise program. It is one of the greatest anti-aging bullets that is available to anyone. A list of benefits from aerobics exercise resembles that obtained with growth hormone: gain of muscles and strength, loss of fat, increased energy, greater well being and a decrease in anxiety and depression. Moreover, aerobic exercise also increases the level of HDL cholesterol, lowers blood pressure, improves the immune system and helps protect the body against a host of diseases, including cardiovascular diseases, stroke, hypertension, diabetes, and osteoporosis. Thus the investigator interested in whether six weeks of brisk walking programme is effective in increasing the aerobic/cardiovascular function of sedentary college students.

## 2. Material and Methods

## 2.1 Subjects

For the purpose of the study thirty (N=30) male sedentary college students of Lucknow Christian College, Lucknow between 18 to 25 years of age were selected as subjects for the present study and the subjects were briefed in details about the study.

## 2.2 selections of variables

Based on literary evidence, discussion with expert and scholar's own understanding aerobic/cardiovascular function was selected as variable for the present study.

### 2.3 Procedure

Periodisation of training and collection of data was showed in table 1.

For the detail of training protocol interested person may contact to the author.

#### 2.4 Administration of test

Aerobic/cardiovascular function

Test: -

### The 1-Mile Run

**Equipment:** -  
stop watch.

Procedure: -

The aerobic/cardiovascular function was measured by 1-mile run. Aerobic-cardiovascular performance during exercise can be measured by a running performance over a distance of 1 mile. Warm-up for several minutes, then run/walk as rapidly as possible for 1 mile.

Scoring: -

times recorded to the nearest of second

Periodisation of training and collection of data presented in Table 1

Table- 1 Periodisation of training and collection of data

Person 1				Person 2				Person 3			
Training	Weeks	Days	Time	Training	Weeks	Days	Time	Training	Weeks	Days	Time
1	1	1	1:00	2	1	1	1:00	3	1	1	1:00
	2	2	2:00		2	2	2:00		2	2	2:00
	3	3	3:00		3	3	3:00		3	3	3:00
	4	4	4:00		4	4	4:00		4	4	4:00
	5	5	5:00		5	5	5:00		5	5	5:00
	6	6	6:00		6	6	6:00		6	6	6:00
	7	7	7:00		7	7	7:00		7	7	7:00
	8	8	8:00		8	8	8:00		8	8	8:00
	9	9	9:00		9	9	9:00		9	9	9:00
	10	10	10:00		10	10	10:00		10	10	10:00
2	1	1	1:00	3	1	1	1:00	4	1	1	1:00
	2	2	2:00		2	2	2:00		2	2	2:00
	3	3	3:00		3	3	3:00		3	3	3:00
	4	4	4:00		4	4	4:00		4	4	4:00
	5	5	5:00		5	5	5:00		5	5	5:00
	6	6	6:00		6	6	6:00		6	6	6:00
	7	7	7:00		7	7	7:00		7	7	7:00
	8	8	8:00		8	8	8:00		8	8	8:00
	9	9	9:00		9	9	9:00		9	9	9:00
	10	10	10:00		10	10	10:00		10	10	10:00
3	1	1	1:00	4	1	1	1:00	5	1	1	1:00
	2	2	2:00		2	2	2:00		2	2	2:00
	3	3	3:00		3	3	3:00		3	3	3:00
	4	4	4:00		4	4	4:00		4	4	4:00
	5	5	5:00		5	5	5:00		5	5	5:00
	6	6	6:00		6	6	6:00		6	6	6:00
	7	7	7:00		7	7	7:00		7	7	7:00
	8	8	8:00		8	8	8:00		8	8	8:00
	9	9	9:00		9	9	9:00		9	9	9:00
	10	10	10:00		10	10	10:00		10	10	10:00

Note:- obs = observation

The Total research period was of 84 days. obs A=day1, obs B=21<sup>st</sup> day, obs C=42<sup>nd</sup> day, obs D=63<sup>rd</sup> day and obs E=84<sup>th</sup> day).

## 2.5 Statistical Analysis

To determine the level of Aerobic/cardiovascular function, descriptive statistics was applied. To determine the effect of brisk walking on Aerobic/cardiovascular function in sedentary college students one factor repeated measures analysis of variance was used to compute the data.

### 3 Findings

The findings and discussion of findings with regard to the present study have been presented in two sections. Sec-

## Significance of Brisk Walking for Sedentary People

Dr. Krishna Kant \*

In today's times, people are leading a very unhealthy lifestyle. Inadequate sleep, eating disorder, lack of proper regular exercise, increasing rate of obesity and other health diseases, shooting stress levels are some of the facts that define the contemporary world's lifestyle. It can be said that in the present era, human beings have got so engrossed in earning money, that they have virtually stopped paying attention to their physical and mental fitness. People do not realize the fact that money cannot buy them happiness. There is a saying that "if wealth is lost, something is lost, but if health is lost, everything is lost." So, it is high time, we start giving importance to our health and make a constant effort to work towards maintaining our all round fitness. There are distinctive types of workout that one can perform in order to keep fit, but one exercise that is suitable for all age groups is brisk walking.

***Exercise is like a generic medicine, and all exercise has some benefit***

According to Ayushveda (2008) walking is one of the most relaxing, refreshing and enlivening form of exercise which reaps numerous physical, emotional and psychological benefits. To stay fit and healthy one does not need to spend a bounty on gym facilities as the natural way of remaining healthy can be achieved by indulging in the healthy practice of brisk walking.

Brisk walking can reap numerous health benefits which range from keeping one's heart in a healthy shape, to helping in the process of weight management. Further, walking helps in refreshing and rejuvenating the mind along with reducing stress and fatigue. Brisk walking implies picking up a pace which is faster than normal leisure speed but something which is not exhausting. Thus, if somebody wants to reap the numerous benefits of brisk walking one should pick up a pace which is fast, involving the work out of the entire body but that pace should be within comfortable range and should not exhaust you in a couple of steps.

***"Long-term walking is your best prospect for a lifetime exercise"***

Brisk walking essentially means walking at a fast pace. It is believed that walking briskly burns almost as many calories as running or jogging for the same distance, and poses less risk for injury. Brisk walking is also considered aerobic activity. No unpleasant side effects either. One might be wondering if there are any disadvantages.

**According to Mason (2010) "If everyone were walk briskly, 30 minutes a day, we could cut the incidence of many chronic diseases by 30-40%."**

### **Pace of Brisk Walking**

Brisk is also a term familiar to most people, and it is used frequently to designate an accelerated walking pace. In the direction it is defined as "quickly and active; lively: a brisk walk." The brisk pace starts at about 17 minutes per mile at the slow end of the range and stops out at 14 minutes per mile.

The brisk pace is related as a moderate-intensity exercise and because of this it has great sustainability for people of all ages even some in their eighties. Equally important, it delivers an adequate amount of perceived exertion for most people. By that I mean that brisk walker's feel physically and mentally challenged enough that they do not become bored. Each walk is a rewarding exercise for mind and body.

---

\* Assistant Professor, Department of Physical Education, HNB Garhwal University, Srinagar, Uttarakhand



## Relationship of Selected Physical Variables with the Performance of Cricket Players

Dr. Krishnakant \*

*The Purpose of the study is to find out the relationship of arm strength, leg strength, agility and flexibility with the performance of Cricket Player. 30 Cricket Player were selected as a subject for the study from the intercollegiate competition of HNB Garhwal University, Srinagar, Uttarakhand. The criterion measures for the study was arm strength, leg strength, agility, flexibility and cricket performance the following tests were employed for arm strength, the Rogers formula was employed in which height was measured in inches, weight in kilograms and push-ups, pull-ups in numbers, leg strength in kilograms, agility (shuttle run 40 yards) in seconds flexibility i.e. spine flexibility. Modified sit and reach test in inches. For shoulder-wrist flexibility shoulder and wrist elevation test in inches and the cricket performance was graded by a panel of experts on the basis of their skills, techniques and match result. Pearson's product-moment correlation coefficient was used to compute correlation between cricket performance and selected variables i.e. arm strength, leg strength, agility and flexibility and findings shows that shoulder wrist flexibility and agility were found significant at 0.05 level of confidence. The finding reveals that shoulder – wrist flexibility and agility of the subjects were key variables for better performance in Cricket.*

*Key Words: - Relationship, Physical Variable, Cricket Performance*

**Introduction :** Much has been written about the game of cricket - its origins, how it's played, where it's played, the nature of the game. Yet to those not initiated into the game - 'looking in' from outside - cricket is an enigma at the best of times, it is seemingly boring and hence lacking in excitement, stretching pointlessly over time and occasionally without a purpose.

On the contrary for most of those who are 'in' and 'looking out' - cricket is in fact a 'wonder sport' - which encompasses a multitude of attributes and characteristics seldom found so conveniently compressed into one single sporting activity. Above all cricket is fun!

Broadly, apart from the sporting skills that cricket develops in the players, as importantly it also develops the intangible attributes of:

- A sense of sportsmanship and fair play
- Building the characters of the players
- Mental thinking by the players at strategic and tactical levels
- Ability to read the opponent's mind
- A sense of discipline - to accept without question the decisions of the umpire

The other aspect about cricket is that it is probably one of the fastest evolving sports in the world, constantly adapting itself to the 'demands' of a changing global audience. However through this process of evolution that is constantly taking place, the beauty of cricket is that it retains the essence of the game – which is the issue of 'fair play'. This process of 'fair play' has become a cliché, in that the English language has adopted the phrase "it's not cricket" when any matter presented, is seen to have an unacceptable bias.

Given this process of evolution Cricket has become hugely complex in its structure and form. It is driven by a set of Laws (and not rules) which are possessively guarded by its custodians –

---

\* Assistant Professor, Department of Physical Education, HNB Garhwal University, Srinagar, Uttarakhand

## **COMPARATIVE STUDY OF EMOTIONAL INTELLIGENCE BETWEEN COACHES OF SELECTED SPORTS**

Sambhu Prasad, Asst. Professor, Bharati Vidyapeeth Deemed University, College of Physical Education, Pune (Mah.)

**Dr. Hira Lal Yadav, Asst. Professor HNBGU Srinagar Garhwal, Uttarakhand**

**Journal Name:- International Journal of Physical Education, health and Social Science(IJPEHSS) ISSN:2278-716X Vol.2, Issue2 . 2013**

### **ABSTRACT**

A survey study was carried out on ninety male Coaches (n=90) of football, athletics and kho-kho, thirty from each sports, age ranged from 35-40 years, belonging to maharashtra state with a view to see the emotional intelligence of coaches of selected sports. The survey was carried out to see emotional intelligence status between coaches of selected sports by using Emotional intelligence Scale of Anukooln Hyde, Sanjyot Pethe & Upinder Dhar. The Emotional intelligence Scale measure four aspect of emotional intelligence (i.e. self awareness, self motivation, self management and managing relationship). The responses of each statement was measured on five point likert scale (i.e. strongly agree, agree, uncertain, disagree and strongly disagree). The result was analyzed by using one way analysis of variance (ANOVA) and the level of significance was set at 0.05. The findings shows significant difference in emotional intelligence between coaches of selected sports ( $F=27.19$   $p<0.05$ ), further LSD post hoc test was employed. Thus this study conclude that football coaches have good emotional intelligence as compared to coaches of athletics and kho-kho.

**Key word :** Emotional Intelligence , coaches, football and kho-kho.

## **Lactate Dehydrogenase (LDH) Responses of Long Distance Runners under Actual Competition**

**Hiralal Yadav Asst. Professor, H NBGU Srinagar, Garhwal, Uttarakhand, India**

**Journal Name:- International Educational E- Journal, (Quarterly), ISSN:-2277-2456, Volume-II, Issue-IV, Oct-Nov-Dec-2013**

Physiological study in relation to exercise and actual physical demand during event is very important to critically understand physiological basis of performance. The fatigue causing factors workload, recovery pattern from fatigue etc. should be very specifically understood in real terms. Understanding this background, the research scholar took up research project to investigate in-

depth and detailed Physiological responses of two Long distance running events 5000mts and 10.000mts. For the purpose of this Lactate Dehydrogenase (LDH) were chosen as the Indicators of physiological responses and fatigue of long distance runners. The purpose of the study was to assess Lactate Dehydrogenase (LDH) responses of Long distance runners under actual competition. For the purpose of this study Lactate Dehydrogenase (LDH) were chosen as the indicators of Physiological responses of long distance runners. The blood sample for Lactate Dehydrogenase was collected by an expert pathologist, and it was analyzed in the standard pathology lab of national standard. The LDH was measured in units/liter. In order to analyze the data descriptive statistics and t- test was applied and level of significance was set at 0.05 level. Comparison between the pre-test and post test means of lactate dehydrogenase of 5000mts runners revealed that t-value is 5.025 which is significant at 0.05 level with degree of freedom 9. Comparison between the Pre-test and Post-test means of Lactate Dehydrogenase of 10,000mts runners revealed that t-value is 6.75 which is significant at 0.05 level with 18 degree of freedom. The post- test mean scores of Lactate Dehydrogenase (LDH) (432.0) are significantly higher than the pre-test mean scores of LDH (383.0) after 5000mts distance running. This clearly implies Lactate Dehydrogenase accumulation significantly increases as result of 5000 mts. The Post-test mean scores of LDH (407.20) are significantly higher than the Pre-test mean scores of LDH (371.10) after 10,000m distance running. Hence it can be also infer categorically that 10000meter distance running event causes significant increase in Lactate Dehydrogenase accumulations.

### **Biomechanical Analysis of Head Load Impact on Posture of the Forest Dependent People of Uttarakhand State**

Rajiv Pandey \* Joseph Singh, Krishnakant & Hiralal Yadav \*\*

**Journal Name:- Sodha Pravaha, ISSN: 2231-4113, Vol.III, Issue 3 , July 2013**

#### **Abstract:-**

Fuel wood is being carrying as head load for cooking energy in rural areas of developing countries since generations. The study endeavors to evaluate the head load effect of carrying fuel wood on posture of forest dependent people of India through evaluation of craniovertebral, craniohorizontal and sagittal shoulder postures angles. The primary data i.e. these three angles was measured from 33 individuals through standard method by putting adhesive markers on tragus of ear, mid-point of lateral side of left humerus and a contoured surface marker along spine from C7 to T12 by capturing photo through camera. The measurements were compared with prescribed standard angle for normal people. The study results that carrying fuel wood had a significant effect on the postures in comparison to standard. The effect in the posture may be of permanent in nature. These changes may lead to craniofacial pain, headache, neckache and shoulder pain, muscle stiffness and tenderness however clinical validation is essential before subjecting to some regulations.

**Key words :** Public Health, Drudgery, Craniovertebral Angles; Craniohorizontal Angles; Sagittal Shoulder Postures.

ISSN 0975-7414

June 2014

PERSIST  
Vol. VI No.I

## Blood Lactate Response and Recovery Pattern of 5000m and 10000m Distance Runners

Dr. Hiralal Yadav\*

### Abstract

To investigate the physiological responses and recovery pattern of Long distance runners i.e. 5,000mts and 10,000mts in relation to Blood Lactate. The study was delimited to Junior National level athletes. The study was further delimited to long distance runners. viz. 5,000mts and 10,000mts. The Recovery patterns were investigated by Blood Lactate. It was hypothesized that there will be significant recovery in Blood Lactate as a result of different duration of recovery among 5,000 mts and 10,000 mts runners. For the purpose of this study 20 male Junior National level Long distance runners ( 10 athletes each of 5,000mts and 10,000mts) from Tata Athletics Academy, Jamshedpur (Jharkhand) were selected. The blood lactate was measured by lactate scout analyzer and reading was recorded in mmol/liters. The purposive sampling technique was employed. The data on Blood lactate was taken prior to the actual event i.e. 5,000mts and 10,000mts at resting condition. The subjects were then asked to run exact distance of their event like a competition in a trial run. Immediately after the finish of the respective races their data was collected on blood lactate. Then the athletes were subjected to active recovery for 15 minutes and the data were again collected on the same variable. The data on biochemical variable i.e. blood lactate was taken in similar fashion subsequently at recovery of 30 minutes and 45 minutes from the finish of the race. The mode of the recovery followed by the athletes was active. In order to analyze and compare the blood lactate recovery pattern of long distance runners of 5,000mts and 10,000 mts , Two way Analysis of variance was used .LSD Post Hoc Mean comparison was applied for the significant F- values. The level of significance was set at 0.05. The long distance running events like 5000mts and 10,000mts are not absolutely aerobic event. The anaerobic proportion of Long distance running 5000mts and 10,000mts is of significant level and fatigue caused in these events are due to anaerobic glycolysis and lactate accumulation is also in significant proportion along with aerobic part of the activity. Lactate response in terms of recovery from the effect of 5000mts and 10,000mts event is directly proportional to duration of rest and recovery period. This signifies more the duration of rest period better will be the lactate recovery. The 15 minutes duration of rest after the event provides significant recovery from fatigue in terms of Blood lactate.

**Key words :** Blood Lactate, Recovery Pattern, Distance Runner.

### Introduction

Successful distance running primarily requires the development of aerobic endurance. The deviation of the activity and the amount of static muscle contraction involved, the more the performance in that activity will be limited by the functioning of the heart, blood vessels, blood and lungs. The degree to which circulation and respiration limit one's performance depends on many factors, chief of which is the intensity of the exercise. Distance running is a relatively low intensity, low duration activity consisting mostly of rhythmic, non-static muscle contractions and is limited mainly by the aerobic capacity. (David R. Lamb, 1983).

The field of exercise physiology has become increasingly sophisticated. New research procedure and measurements techniques coupled with advances in equipment, computer technology, and other related disciplines such as biochemistry have contributed to the rapid advancement of the knowledge base. Exercise biochemistry involves examination of the effects of exercise at the cellular level, specifically within the muscle. Although the field of exercise physiology is becoming increasingly specialized, many professionals in this field recognize that to fully investigate and understand human performance an interdisciplinary approach is necessary. (Deborah A. Wuest, 1992).

\* Asst. Professor, H. N.B. Garhwal University, Srinagar, Garhwal, Uttarakhand.



## **HEART RATE RESPONSE AND RECOVERY PATTERN OF LONG DISTANCE RUNNERS**

**Hiralal Yadav, Asst. Professor, H. N.B. Garhwal University, Srinagar, Garhwal, Uttarakhand, India**

**Journal Name:- International Educational E- Journal, (Quarterly), ISSN:-2277-2456, Volume-III, Issue-IV, Oct-Nov-Dec-2014**

### **Abstract:-**

The purpose of the study was to find out the Heart Rate Response and Recovery Pattern of Long Distance Runners. To investigate the recovery pattern of Long distance runners i.e. 5,000mts and 10,000mts in relation to Heart rate. The study was delimited to Junior National level athletes belonging to long distance viz. 5,000mts and 10,000mts. It was hypothesized that there will be significant recovery in Heart rate as a result of different duration of recovery among 5,000 mts and 10,000 mts runners. For the purpose of this study 20 male Junior National level Long distance runners ( 10 from each) from Tata Athletics Academy, Jamshedpur (Jharkhand) were selected. The age of the subjects ranged between 16-20 years. The Heart rate was measured by Palpation test and it was recorded in beats/min. The data on Heart rate, was taken prior to the actual event i.e. 5,000mts and 10,000mts at resting condition. The subjects were then asked to run exact distance of their event like a competition in a trial run. Immediately after the finish of the respective races their data was collected on heart rate. Then the athletes were subjected to active recovery for 15 minutes and the data were again collected on the same variable. The data on heart rate was taken in similar fashion subsequently at recovery of 30 minutes and 45 minutes from the finish of the race. The mode of the recovery followed by the athletes was active. In order to analyze and compare the physiological responses and recovery pattern of long distance runners of 5,000mts and 10,000 mts , Two way Analysis of variance was used. LSD Post Hoc Mean comparison was applied for the significant F- values. The level of significance was set at 0.05. Statistical findings showed the recovery from fatigue as indicated and assessed by three rest period of 15 minutes, 30 minutes and 45 minutes showed the first and immediate phase of 15 minute rest after an event showed higher rate of recovery in comparison to 30 & 45 minute of rest. This recovery pattern was more effective and found to be better for 5000mts runners than that of 10,000mts runners. Both 5000mts and 10,000mts runners achieved an intense Heart rate 175.8 and 177.5 respectively immediately at the end of the event. This attainment of Heart rate is result of cumulative demand work load of respective Long distance running event. The post exercise heart rate depicts that athletes are running with heart rate ranging between 175.80 and 177.50 for 5000mts and 10,000mts runners which is obviously the Heart rate beyond the anaerobic threshold (AT). In general 10,000mts runners are usually having higher cardiovascular endurance and higher anaerobic threshold (AT) level. Heart rate assessment is one of the most

effective and comprehensive method to examine load intensity, load factor or fatigue evaluation. The 15 minutes duration of rest after the event provides significant recovery from fatigue in terms of Heart rate.

## **LACTATE RESPONSE AND RECOVERY PATTERN IN LONG DISTANCE RUNNING- AN OVERVIEW**

**Hiralal Yadav, Asst. Professor, HNB Garhwal University, Srinagar ,Garhwal, Uttarakhand, India**

**Journal Name:- International Educational E- Journal, (Quarterly), ISSN:-2277-2456, Volume-IV, Issue-III, July-Aug-Sept-2015**

### **Abstract:-**

The purpose of the study was to present an analytical overview of the lactate response and recovery pattern in long distance running. The study was further delimited to long distance runners. viz. 5,000mts and 10,000mts. The Recovery patterns were investigated by Blood Lactate. It was hypothesized that there will be significant recovery in Blood Lactate as a result of different duration of recovery among 5,000 mts and 10,000 mts runners. For the purpose of this study 20 male Junior National level Long distance runners ( 10 athletes each of 5,000mts and 10,000mts) from Tata Athletics Academy, Jamshedpur (Jharkhand) were selected. The age of the subjects ranged between 16-20 years. The blood lactate was measured by lactate scout analyzer and reading was recorded in mmol/liters. The subjects were then asked to run exact distance of their event like a competition in a trial run. Immediately after the finish of the respective races their data was collected on blood lactate. Then the athletes were subjected to active recovery for 15 minutes and the data were again collected on the same variable. The data on biochemical variable i.e. blood lactate was taken in similar fashion subsequently at recovery of 30 minutes and 45 minutes from the finish of the race. The mode of the recovery followed by the athletes was active. In order to analyze and compare the blood lactate recovery pattern of long distance runners of 5,000mts and 10,000 mts , Two way Analysis of variance was used .LSD Post Hoc Mean comparison was applied for the significant F- values. The level of significance was set at 0.05. The long distance running events like 5000mts and 10,000mts are not absolutely aerobic event. The anaerobic proportion of Long distance running 5000mts and 10,000mts is of significant level and fatigue caused in these events are due to anaerobic glycolysis and lactate accumulation is also in significant proportion along with aerobic part of the activity. Lactate response in terms of recovery from the effect of 5000mts and 10,000mts event is directly proportional to duration of rest and recovery period. This signifies more the duration of rest period better will be the lactate recovery. The 15 minutes duration of rest after the event provides significant recovery from fatigue in terms of Blood lactate.

**KEYWORDS :-** Lactate , Recovery pattern, Long Distance Running etc

## **RESPIRATORY RATE RESPONSE AND RECOVERY PATTERN OF LONG DISTANCE RUNNERS.**

**Dr. HiralalYadav \* Asst. Professor, H NBGU Srinagar, Garhwal, Uttarakhand, India**

**Journal Name:- Asian Resonance , ISSN:0976-8602 Vol-IV Issue-III July 2015**

### **Abstract:-**

The purpose of the study was to find out the Respiratory rate Response and Recovery Pattern of Long Distance Runners. The study was delimited to Junior National level athletes belonging to long distance viz. 5,000mts and 10,000mts. It was hypothesized that there will be significant recovery in Respiratory rate as a result of different duration of recovery among 5,000 mts and 10,000 mts runners. For the purpose of this study 20 male Junior National level Long distance runners (10 from each) from Tata Athletics Academy, Jamshedpur (Jharkhand) were selected. The age of the subjects ranged between 16-20 years. The Respiratory rate was measured by Palpation test and it was recorded in Numbers/min. The data on Respiratory rate, was taken prior to the actual event i.e. 5,000mts and 10,000mts at resting condition. The subjects were then asked to run exact distance of their event like a competition in a trial run. Immediately after the finish of the respective races their data was collected on Respiratory rate. Then the athletes were subjected to active recovery for 15 minutes and the data were again collected on the same variable. The data on Respiratory rate was taken in similar fashion subsequently at recovery of 30 minutes and 45 minutes from the finish of the race. The mode of the recovery followed by the athletes was active. In order to analyze and compare the physiological responses and recovery pattern of long distance runners of 5,000mts and 10,000 mts in relation to their Respiratory rate, Two way Analysis of variance was used. LSD Post Hoc Mean comparison was applied for the significant F- values. The level of significance was set at 0.05. It is observed that there is a significant difference between 5,000mts and 10,000mts runners as the mean difference of respiratory rate 1.74 which is greater than the critical difference 1.02. It may therefore be concluded that the 10,000mts runners have better Respiratory rate (23.8) than 5,000mts runners (22.06). It may therefore be concluded that The long distance running events like 5000mts and 10,000mts are not absolutely aerobic event. The 15 minutes duration of rest after the event provides significant recovery from fatigue in terms of Respiratory rate.

**Keywords:** Respiratory Rate, Physiological Responses, Recovery Pattern, Long Distance Runner.

## **PHYSIOLOGICAL EFFECT OF 800MTS AND 1500MTS DISTANCE RUNNING ON HEART RATE**

**Dr. Hiralal Yadav \* Asst. Professor, H NBGU Srinagar, Garhwal, Uttarakhand, India**

**Journal Name:- SODHA PRERAK ISSN:-2231-413X Vol.VI Issue 1 January 2016**

### **Abstract:-**

To find out the effect of Middle distance running i.e. 800mts and 1500mts on heart rate .The study was delimited to Interuniversity level athletes. The study was further delimited to middle distance runners. viz. 800mts and 1500mts. The Physiological effect was investigated by, heart rate .It was hypothesized that there will be significant effect of middle distance running on heart rate at different duration of recovery. For the purpose of this study 20 male Interuniversity level athletes (10 athletes each of 800mts and 1500mts) were selected. Heart rate was measured by palpation method. The purposive sampling technique was employed. The data on heart rate was taken prior to the actual event i.e. 800mts and 1500mts at resting condition. The subjects were then asked to run exact distance of their event like a competition in a trial run. Immediately after the finish of the respective races their data was collected on heart rate. Then the athletes were subjected to active recovery for 15 minutes and the data were again collected on the same variable. The data on physiological variable i.e Heart rate were taken in similar fashion subsequently at recovery of 30 minutes and 45 minutes from the finish of the race. The mode of the recovery followed by the athletes was active. In order to analyze the effect of middle distance running on heart rate two way analysis of variance was used .LSD Post Hoc Mean comparison was applied for the significant F- values. The level of significance was set at 0.05. Statistical findings showed the work load intensity immediately at the end of 800mts and 1500mts event approximately 80 % of maximum, when observed in terms of heart rate. This recovery pattern was more effective and found to be better for 800mts runners than that of 1500mts runners.

**Key words:-** Recovery pattern, Heart rate etc.

## **RELATIONSHIP OF PACE AND HEART RATE IN MIDDLE DISTANCE RUNNING**

\*Dr. Dalveer Singh Kaunteya, Assistant Professor, KR PG Degree College, Mathura U.P., India

**\*\* Dr. HiralalYadav, \*\*Assistant Professor, Department of Physical Education, Birla Campus, H.N.B.Garhwal University, Srinagar GarhwalUttarakhand, India**

**Journal Name:- Sambodhi (UGC care Journal) ISSN:2249-6661 Vol.43 No.04(XI) October-December(2020)**

### **Abstract:-**

Middle distance running involves popular race distances with performance dependent on a number of physiological factors. The physiological characteristics of successful runners are different from those of sprinters and long distance runners. The purpose of the study was to find out the relationship of Pace and Heart rate in Middle Distance running. For the purpose of this study 30 male athletes belonging to state and Inter-University level 800mts runners from sports hostel, stadium and Universities were selected as the subjects of the study. The age of the subjects ranged between 17-30 years The study was delimited to state and Inter-university level athletes. The study was further delimited to middle distance runners. viz. 800mts only. The variable under investigation was Heart rate at Rest and Heart rate After the completion of the 800 mts. Race. The study was delimited to male athletes of age ranging 17-30 years. It was hypothesized that there is no significant relationship of pace and Heart rate in middle distance running. The purposive sampling technique was employed as the study was based on middle distance runners of state and Inter-University level belonging to 800mts event. Co-efficient of correlation of Resting Heart Rate is 0.208, which was not significant at 0.05 level of significance with 28 degree of freedom. As the coefficient of correlation 0.208, Which is lesser than the tabulated value 0.361. Co-efficient of correlation of Post Heart Rate is 0.371, which was significant at 0.05 level of significance with 28 degree of freedom. As the coefficient of correlation 0.371, Which is more than the tabulated value 0.361. There is no significant relationship of Resting Heart Rate with the performance of 800mts runners. There is significant relationship of Post Heart Rate with the performance of 800mts runners.

**Key words:-** Heart rate, Middle Distance Running, Pace, etc.

## **RELATIONSHIP OF PACE AND BLOOD LACTIC ACID AMONG MIDDLE DISTANCE RUNNERS**

**\*Dr. Hiralal Yadav, Assistant Professor, Department of Physical Education, Birla Campus, H.N.B.Garhwal University, Srinagar Garhwal Uttarakhand, India**

**\*\*Dr. Dalveer Singh Kaunteya, Assistant Professor, KR PG Degree College, Mathura U.P., India**

**Journal Name:- Sambodhi (UGC care Journal) ISSN:2249-6661 Vol.43 No.04(XI) October-December(2020)**

### **Abstract:-**

The study was to find out the relationship of pace and blood lactic acid among middle distance runners. The study was delimited to state and Inter-university level athletes. The study was further delimited to middle distance runners. viz. 800mts only. The study was delimited to male athletes of age ranging 17-30 years. The selected Physiological variables were as follows:- Pre Blood Lactic acid & Post Blood Lactic acid. It was hypothesized that there is no significant relationship of pace and selected physical and physiological variables in middle distance running. The purposive sampling technique was employed used For the purpose of this study 30 male athletes belonging to state and Inter-University level 800mts runners from sports hostel, stadium and Universities were selected as the subjects of the study. The age of the subjects ranged between 17-30 years. The performance of 800mts run was assessed by 800 mts trial run and performance will be recorded in nearest secs. The blood lactic acid was measured by lactate scout analyzer test and the reading was recorded in Mmol/liters. The data on Pre Blood lactate were taken prior to the actual event i.e. 800mts at resting condition.. The subjects were then asked to run exact distance of their event like a competition in a trial run. Post blood lactate was also taken. Co-efficient of correlation of Pre Lactic acid is 0.146, which was not significant at 0.05 level of significance with 28 degree of freedom. As the coefficient of correlation 0.146. Which is lesser than the tabulated value 0.361. It indicates that there is no significant relationship of Pre Lactic acid with the performance of 800 mtsrunners. Coefficient of correlation of Post lactic acid is 0.675, which was significant at 0.05 level of significance with 28 degree of freedom. As the coefficient of correlation 0.675. Which is more than the tabulated value 0.361. It indicates that there is significant relationship of Post lactic acid with the performance of 800mts runners. The lactate accumulation of 20.09Mmol/lit for 800m runners was after completion of the race signifies the intense pace of the event in two laps. The blood lactic acid depends on three factors namely resting lactic acid level, rate of formation and rate of dissimilation during work and after work. There is no significant relationship of Pre Lactic acid with the performance of 800 mts runners and there is significant relationship of Post lactic acid with the performance of 800mts runners.

**Key Words:-**Pace, Blood Lactic acid, Middle Distance Runners etc.