A Comparative Study of Vo2 Max and Different Playing Positions of Mysore University Inter- Collegiate Male Kabaddi Players

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INTRODUCTION

Games and sports have been part of human life almost since the time immemorial beit a necessity for his survival i.e.hunting for food shelter and safety from wild animal or other enemies ,or as a pursuit of pleasure.The games and sports have been indispensable to mankind, and have become mode of come part of culture. The gamesand sports are e great unifying force and have tremendous effect on the national and international integration. Through the origin of sports is lost in antiquity, it is quite certain that physical activity has been a part of the life of even primitive men. For himit might have been a basic necessity of life,more than fun and diversion, for his survival depended on it. Hunting, fishing, hurling missiles were activities on whichhis survival depended.Gradually along with the process of evolution, such activities become more of play and become part of the culture of the tribes. People use sports and games as a mode of transmitting the cultural heritage of their tribes.

Games sports and physical activities persisted despite the rise and fall of ancient civilizations and become strongly embedded in the history of civilizations as a culture heritage, which was passed on from one generation to another. Today, games and sports have emerged as universal cultural phenomena.

Sports and games propagate the feelings of nationalism and help in creating a new generation of individuals with the feelings that the difference basedon caste, community and religion have no meaning and faith in love and peace, in purity, in the feeling of goodwill and brotherhood serves to a greater extent towards humanity.

Sports and games provide a common platform wheresportsperson for different regions, professing different religions and faiths, speaking different languages, havingdifferent customs and traditions interact with each other in harmonious and emerge as a homogenous group. Such type of thinking insight and mental approach can play positive role in nation integration. Sports and games help in creating such understanding and can play decisive and pivotal role in bringing about national integration.

HISTORY OF KABADDI

Kabaddi attained national status in the year 1918. Maharashtra was The pioneer state to bring the game to the national platform and give popularity. Standard rules and regulations were formulated in 1918 but were brought out in print in the year 1923 and in this very year, An All India Tournament was organized at Baroda with these rules. Kabaddi has not looked back since then and numerous tournaments are organized all over the country throughout the year.

Kabaddi received its first international exposure during the 1936 Berlin Olympics, demonstrated by Hanuman VyayamPrasarakMandalSAmaravati, Maharashtra. Thegame was introduced in the Indian Olympics Games at Calcutta, in the year 1938. It was in 1950, that the All India Kabaddi Federation came into existence. Regular conduct of National level championship as per laid down rules and regulations began With effect from the year 1952. After the formation of the Amateur Kabaddi Federation of India, the first men's Nationals were held in Madras, while the women'sNationals were held in Calcutta in the year 1955.

The rules were modified and some changes were introduced to the Game during the national championship held at New Delhi in the year 1954. Efforts were made to demonstrate the game in the world youth Festival held at Moscow in the year 1957, but due to various unforeseen Reasons, this could not be accomplished. The game wasincluded in the curriculum of the Indian University sports control board as a main sports discipline in the year 1961.

The game got further recognition when the school game federation of India includedit in the school games in the year 1962. This body has taken up the responsibility of organizing state and national level national level competitions for school going children all over the country in various sports on a regular basis, every year.

Kabaddi was included in the curriculum of Regular Diploma courses in coaching conducted by the National Institute of Sports, the premier institute to develop sports inthe country with effect from the ye1971. Thereafter, qualified coaches in Kabaddi are

being produced every year. These qualified coaches are equipped to train players at different levels in a systematic manner with sports science back up.

In the year 1974, the Indian men's team toured Bangladesh as part of the cultural exchange programme to play five test matches in different parts of the country. The Bangladesh returned the visit in the year 1979and played five test matches in India.

The Asian Amateur Kabaddi Federation was formed in the year11978, during the silver jubilee celebrations of National Kabaddi championships in India, organized at Bhilai, Madhya Pradesh. The first Asian Championship in Kabaddi was organized in Calcutta, in the year1980. Federation cup Kabaddi matches also commenced in the year 1981.

Kabaddi was included as a demonstration in the IX as Asian Games hosted by India inthe year 1982.In the year 1984 an open Inter-National tournament was organized at Bombay, in India. During the Tri-Centenary celebrations of the city of Calcutta, an Inter-National Invitation Kabaddi Tournament was organized in the city.

The South Asian Federation included Kabaddi as a regular sports discipline from the year 1984. Kabaddi was played for first time in the SAF Games, which is played oncein two years. For the first time in the Inter-National Kabaddi scenario, India faced defeat at the hands of Pakistan and had to be satisfied with second place, winning the silver medal, in the VI SAF Games at Decca, Bangladesh, in the year 1993.

The Second Asian Championship was hosted by India and was organized at Jaipur, Rajasthan. Malaysia and Japan participated for the first time in this championship. In the XI Asian games held in the year 1990 at Beijing, China. Kabaddi was included in the main disciplines. This was a major landmark in the history Kabaddi. India won thegold medal, which was a proud and unforgettable moment for Kabaddi lovers who had strived to bring Kabaddi to the Asian platform.

India has been the reigning champion in the succeeding Asian games held in various cities so far. The Kabaddi World Cup was first played in 2004 and then in 2007 and2010. So far India is the unbeaten champion in Kabaddi World Cup. But unfortunately 2018 Indian kabaddi team was lose the game.

Kabaddi was being introduced to the African countries as a demonstration sport in theAfro Asian games, which was hosted by India. This is a feather in the cap for Kabaddilovers and has been made possible thanks to the efforts of MridulaBhadauria, President, Amateur Kabaddi Federation of India, “Jamaican Singh gehlot”, president, International kabaddi federation and Asian kabaddi federation.

DEVELOPMENT OF KABADDI GAME

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Kabaddi received its first inter-National exposure during the 1936 Berlin Olympics, demonstrated by Hanuman VyayamPrasarakMandal, Amaravathi, and Maharashtra. The game was introduced in the Indian Olympic Games at Calcutta; in the year 1938.It was in 1950, that the All India Kabaddi Federation came into existence. Regular conduct of National level championships as per laid down rules and regulations began with effect from the year 1952.After the formation of the Amateur Kabaddi Federation of India, the first men's Nationals were held in Madras ,while the women's Nationals were held in Calcutta in the year 1955.

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The Amateur Kabaddi Federation of India, the new body, came into existence in the year 1972.This body was formed with a view to popularize the game in the neighbouring countries and organize regular National level Men and Women tournaments. After the formation of this body, sub-union and junior sections were included in Kabaddi national level tournaments, as a regular feature. Kabaddi was included in the curriculum of Regular Diploma courses in coaching conducted by the National Institute of Sports, the premier institute to develop sports in the country with effect from the year 1971.Thereafter, qualified coaches in Kabaddi are being produced every year. The neighbouring countries NepalandBangladesh also send theircoaches Kabaddi, regularly.These qualified coaches are equipped to train players at different levels in a systematic manner with sports science back up.

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exhibition Kabaddi matches. Federation Cup Kabaddi matches also commenced in theyear 1981.

Kabaddi was included as a demonstration game in the 1X Asian Games hosted by India in the year 1982.In the year 1984; an open Inter-National tournament was organized at Bombay in India. During the Tri-Centenary celebrations of the city of Calcutta, an inter National Invitation Kabaddi Tournament was organized in the city.

The South Asian Federation included Kabaddi as a regular sports discipline from the year 1984. Kabaddi was played for first time in the SAF games at Dacca,Bangladesh.Since then Kabaddi is being included in every SAF Games, which is played every once in two years. For the first time in the Inter-National Kabaddi scenario, India faced defeat at the hands of Pakistan and had to be satisfied with second place, winning the silver medal, in the VISAF Games atDacca, Bangladesh,in the year 1993.

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An International Women Kabaddi tournament commenced in the year 1995, called the Nike Gold Cup, sponsored by NIKE,Japan. The III Asian Championship was hosted by SriLanka in the year 2000.For the first time,Sri-Lanka secured a silver medal, defeating kabaddi stalwarts Pakistan, in this Championship. Kabaddi will be introduced to the African countries as a demonstration Sports in the Afro-AsianGames, which 1s to be hosted by India in the year 2002.This is a feather in the cap For Kabaddi lovers and has been made possible thanks to the efforts or Mr.J.S.Gehlot,President, Amateur Kabaddi Federation of India and the Indian Olympic Association.

DEVELOPMENT OF KABADDI GAME IN INDIA

Kabaddi is essentially an Indian game, which commands huge popularity in the India as well as its hinterland. In India, kabaddi is popular in different names. In the southern parts of India, the game is referred to as Chedugudu or Hu-Tu -Tu. In easternIndia, it is fondly called Hududu (for men) and Kitkit (for women). The game is known as Kabaddi in northern India. Breath control, raid, dodging and movement of hand and feet are the basic skills that one has to acquire, in order to play kabaddi. The player

hasto acquire power and learn both offensive and defensive skills to excel inthe game, which combines the characteristics of rugby and wrestling. Read on to explore the history of kabaddi in India.

The origin of kabaddi can be traced to the pre-historic times. In India, kabaddi was primarily devised as a way to develop the physical strength and speed in young men. During its inception, kabaddi was played to boost the self-defence skills and to

develop quick responsiveness to attacks. It also sharpened the reflexes of counter attacks of the individuals, who mostly played in groups or teams. Kabaddi also finds place in Hindu mythology. The dramatized version of the great Indian epic, theMahabharata, has made an analogy of the game, wherein the warrior Arjuna's son Abhimanyu faces a tough time, when he is trapped in the 'Chakravyuha' set by his enemies of the War.

Historians suggest that some other ancient scripts have proved that kabaddi existed in the pre-historic times in India. In Mahabharata, Arjuna had a unique talent in the game of kabaddi. He could effortlessly sneak into the wall of enemies, destroy themall and come back unscathed. As per the Buddhist literature, Gautam Buddha played kabaddi for recreational purposes. It says that he loved to play the game and took it as a means to exhibit his strength, which helped him to win his brides. It is quite evident from the manuscripts discovered by the historians that kabaddi was a much adored game in the ancient times.

In the modern times, kabaddi was given the national status of a game in India in 1918. The state of Maharashtra is accredited with upbringing the game to a national platform. Consequently, the standard set of rules and regulations for the game were formulated in the same year. However, the rules and regulations were brought to print only after a few years, in 1923. During the same year, an All India Tournament for kabaddi was organized at Baroda, wherein the players strictly followed the rules and regulations formulated for the game. Since then, the game has come a long way. Its popularity increased and a number of tournaments were organized at national level, throughout the country. The game was introduced at the 1938 Indian Olympic Games held at Calcutta, which fetched it international recognition.

With a view to increase the popularity of kabaddi as a sport in India, the All India Kabaddi Federation (AIKF) was founded in 1950. Since its establishment, the AlKF has been working towards uplifting the standard of the game. To serve the purpose, it has been conducting National level kabaddi championships on a regular basis since 1952, in accordance with the set rules and regulations (for the game). In 1955, the firstmen's national tournament was organized in Madras (the present day Chennai), while the women's nationals were held in Calcutta (the present day Kolkata). The Amateur Kabaddi Federation of India (AKF) came into existence in 1973, in order to

popularize the game in the neighbouring countries of India as well as to organize national level tournaments.

In 1961, the Indian University Sports Control Board (IUSCB) included the game of kabaddi in its curriculum, as a prime sports discipline for the students. This raised the status of kabaddi as a game in India, futher. Thereafter, the game was introduced as one of the important games in the school by the School Games Federation of India (SGF) in 1962. This decision played the pivotal role in urging the school going children to participate in state and national level competitions for the game, organizedby the SGFL. Another development in the history of kabaddi in India took shape in 1971, when the National Institute of Sports (NIS) included Kabaddi in the curriculum of Regular Diploma courses.

The popularity of kabaddi has increased over the passing years, from being a popular game in the rural India to a sport recognized at the national level. A number of championships, both at the national and international level, have been organized for kabaddi, wherein the Indian national kabaddi team has delivered remarkable performances. The introduction of Federation Cup Kabaddi matches in India in 1981is a milestone in the history of kabaddi in India. India touched another milestone in 2004, when she hosted the first ever Kabaddi World Cup, in Mumbai. The country won the World Cup, as well. She has produced a number of talented Kabaddi players, so far, who have earned international recognition and brought laurels to the country.

QUALITIES REQUIRED FOR A KABADDI PLAYERS

To excel in any sports and games, a player need possess many qualities, those are mainly required as follows;

1. Physical

2. Physiological 3.Psychological 4.Anthropometry

The following physical characteristics are needed to be factored into every player'sprogramme to enable them to excel in physical facets of the game.

VO2 max to Kabaddi

Fitness can be measured by the volume of oxygen you can consume while exercising at maximum capacity. VO2 max is the maximum of oxygen in millilitres, one can use in one minute per kilogram of body weight. Those who are fit have higher VO2 max values and can exercise more intensely than those who are not as well conditioned.

Numerous studies show that one can increase his VO2 max by working out at an intensity that raise his heart rate between 65 and 85% of its maximum for at least 20 minutes three to five times a weak A mean value of VO2 max for male athletes is about 3.5 litters/minute and for female athletes it is about 2.7 litters/minute.

When one exercises his muscles work harder than normal and, as a result, they requiremore energy than normal. Since the ATP energy used by his muscle is generated with the aid if oxygen, it follows that an increase in exercise intensity will result in an increase in muscular oxygen demands. Therefore, increased exercise intensity ultimately corresponds to an increased VO2. This is the reason that one's breathing gets progressively faster and deeper as his exercise intensity increases; his body is trying to provide more oxygen to his working muscles so that it can generate enough ATP energy to keep moving.

NEED FOR THE STUDY

S.K. Dey, G.L. Khanna and Batraet.al.conducted a study to find out morphological and physiological studies on Indian national kabaddi players.The found that Maximum oxygen uptake capacity has no significant correlation with endomorphy, mesomorphyandectomorphy. Significant positive correlation was also observed inback strength when correlated with age, height and weight comprises the multiple correlation coefficients and regression equations for body fat percentage, lean body mass and somatotype.

G.L. Khannaand P. Majumdar,et.al.conducted a study to find out a physcological responses during match play in Indian national kabaddi physiological players.The researcher found that average neart rate and oxygen consumption during the match ere146.5(SD 9.25) beats min-' and 2.25(0.59) litre min' respectively. During raiding the maximum heart rate attained varied from 162.4(11.3) to 177.4(4.2) beats min-. Out of
40 min of match play a raider raided on average on 8.15(2.03) occasions. Significantly higher oxygen consumption during the match. The average time per raid was 20.8(6.26) S. The match heart rate and oxygen consumption was 72.3-83.3% of the maximum heart rate, and 43.5-70.5% of VO2max respectively.

The researcher is interested to know whether the inter-collegiate level players also influenced by same factors as the national players do. Hence the researcher selected
one physiological variable to test the effect on the performance of inter-collegiate male kabaddi players of university of Mysore.

This study was to determine the physical and physiological nrofile of kabaddi players and the

physiological demands of playing a kabaddi match. Maximum aerobic capacity (V02max), maximum lation(VEmax), 02 pulse, respiratory equivalent (RE), maximum heart rt rate, and 02 debt were assessed on 16 players.

STATEMENT OF THE PROBLEM

The title of the present study is " A comparative study of Vo2 max and different playing positions of mysore university inter collegiate male kabaddi players .

Objectives of the study

The study outiined the following objectives:

1. To assess the level Vo2 max of inter-collegiate male kabaddi players.

2. Tostudy thedifferance between Vo2max and kabaddi players playing indifferent positions.

Delimitation

1. The present study was delimited to one hundreden (N=105) male kabaddiplayers.

2. The study was delimited to only inter-collegiate male kabaddi players ofUniversity of Mysore.

3. The subject age was raging between 19-25

4. To assess Vo2max only wet spirometer test was used.

5. The playing positions considered for this study were; Right cover, Leftcover, Right corner, Left corner, Right-in, Left-in and Center position.

Limitations

1. Certain factors like personal habits, life style, daily routine, diet, climatic condition which might have an effect on the results of this study could not be taken into consideration.

2. No special motivational techniques were used during Hence, the difference due to lack of motivation was recognized as a limitation for this study.

DEFINITION OF TERMS:

Vo2 Max:

The of Oxygen that a person can use. In other words, it's a measurement of your ability to consume oxygen.

Comparative :

Measured or judged by estimating the similarity or dissimilarity between one thing and another:relative.

different playing positions :

The position of the seven players on the mat in standard style kabaddi are categorised into right and left coners. Right and left covers with the right-in and left-in positions providing support to the cover defenders. The central position which is usually notpart of the defensive unit is occupied by riders.

Inter-collegiate :

Sports events held between colleges especially under the auspices of one of theassociations regulating and supervising such contests.

Players :

One who participates in game or sports. Or person who takes part or skilled in some game or sports is called players.

HYPOTHESIS

There is no significant relationship between the vo2max and Kabaddi playersdifferent playing position inter-collegiate male kabaddi players

SIGNIFICANCE OF THE STUDY

This research may be justified on the basis of the following Contributions.

1. This study may help the coaches/trainees to understand which vo2max helps to Vo2max

2. The results of the study may be helpful in desiging appropra training programne 10 relationship of voZmaxto inter-collegiate kabaddi players.

3. The study may be helpful to identiy potential males based on strength enduranceaspects to

groom outstanding kabadid players.

4. The present study may help the kabaddi coaches, trziners and physical educationteachers to understand the facios that indicate kabaddi performance at intercollegate level.

REVIEW OF RELATED LITERATURS

In this chapter we discuss about the related literature heip he investigators to justify the inclusion of specific technic in is study and these literature also provide explanation, theories, ideas of hypothesis valuable in understanding and formulating the problem and to identify research procedures and statistical technics employed by others, so that his results are placed in proper connection with the published body of knowledge.

T. Singh and L. Singh

Aerobic capacity is the hghest amount of oxygen consumed during maximal exercise in actividesthat use the large gups. High aerobleeicieney players have good performance and quick recovery in mormal condition and oienance of fatlgue. Aeroblecapacty s great importance in the game of soccer in order to tolerate the higoOgca intensity of the game Thepurpase of the study was to find out the signtficantdiference of n aiongfhedlyerent playing pasitton of soccer players. For ihis study, tatal 45 player, 15 each defender, midjielder 2nd Jorward players benveen 18 to30 pears of age who had been particlpating at least senior siate league louraents were seleciedrandomby, Yo-Yo intermittent récovery test level-I was administered to obtain the data. To Jind out the characteristics and means diference among the three groups, descriptliveanahysis and ANOYA were emaployed and tested at 0.05 tevel of confidence. The finding of the study revealed that there were insignifcantdiferencet in the means comparison among defender, midflelder and forward as the obtinedwalue of F-2.22. s less than the iable value F-3.22 at 0.05 level of confidence. VOpmar is considered to be the best indicator of aerobic capacity.

Dr.DaudayalYadav* ,Dr.Jaswant Singh and Ms. Anita Chaudhary***[1]**

Kabaddi is basicaly an Indian game, which requires both skill and power, and combines the Characteristics of wrestling and rugby. The evaluation of the performance implicates the recogninon and denomination of the individual level ofthe components of the sporting pejormance or ofacondilioning situation. Kabaddi is an intermittent type of sport and us demands can be met by an optimum level of aerobic and anaerobic capacity. For the purpose of this study sample of one hundred fifty (N=150) male kabaddi players of age ranging jrom 18-25 years, of intercollegiate, North zone, and All India level kabaddi players, who parucipated in inier-college, north zone and Inter zone Kabaddi competitions Held at CC.S.niversit,

Meerut, India were selected. Spiro meter was used to assessed the vital capaciy of different level kabaddi players. Analysis of variance (ANOVA) was applied to assess the mean difference among the different level kabaddi players. Results of statistical analysis revealed that the mean vital capacity of all India level Kabaddi players was greatest followed by North -Zone and intercollegiate level kabaddi players.

Toni Modric, SimeVersic, and DamirSekulic

The aim of this study was to identify associations between aerobic fitness (AF) and game performance indicator (GPI) in elite football. Participants were professional football players (males, n = 16; age: 23.76 t 2.64; body height: 181.62 7.09 cm; body mass: 77.01 + 6.34 kg). AF testing was conducted by direct measurement and included VO2max, running speed at aerobic threshold (AeT), and running speed at anaerobic threshold (AT). The GPI were collected by the position- specific performance statistics index (InStat index). The players wereobserved over one competitive half season, resulting in 82 game performances, grouped according to the positions in game: defenders (n = 39), midfielders (n = 32) and forwards (n = 11). VO2max was not found to be a good discriminator of AF among different playing positions. AeT (F-test 26.36. p = 0.01) and AT (F-test = 7.25, p = 0.01) were highest among midfielders, and lowest among forwards. No correlations were found between AF and GPL. This study confirmed that AeT and AT are better indicators of AF than

[1] **Assistant Professor**, Department of Physical Education, C.CS. University, Meerut (U.P.) Assistant Professor, Department of Physical Education, Dr. B. R. A. University, Agra (U.F Research Scholar, Department of Physical Education, OPJS University, Jhunjhunu, Rajasthan

V02max in football players at different playing positions. The lack of associations between AF and GPI was discussed with regard to calculation of InStat as a GPI.

Dr. D Jim Reeves Silent Night

The aim of this study is to find out the elfect of interval and circuit training on Vo2 max of kabaddi players. Forty five maekabaddi players selected trom the Anna University V 2one colleges, Tamil Nadu. Ihey were divided into three groups, namely, interval training (group), circuit training (group-) and control (group). The two groups were experimented with intcrval and circuit training respectively tor 12 weeks. The collected data trom the three groups prior to and post experimentation were Staustcy e to nd out ne signiicintanerence any. Dyappuyngtneanulysis or to determine the paired mean differences.if any. in all he eases statistical diemifieanoS levels. Twelve weeks of interval and circuit training had significant increase on Vo2 max of kabaddi players.

Muthuraj and Y. Wise blesseil Singh[2]

It all conducted a stuty of fin out effect of concurrent strength and endurance training and detraining on vital capacity The purpose of the study was to determine the effect of concurrent strengthand endurance training and deteraining on vital capacity. The data collected from the to groups prior to and post experimental where statistically analysed by analysis of covariance (ANC OVA) The data post exepermention and detraining period (three cessaitions) were analysed by two way (2 x 4) factorial ANOVVA with last factor repeated measures, Although coneurrentstength andendurance training improve vital capacity (5.91%) all taining induced gains had been bolishedafter thirty days of detraining,

P.SatyaRoshni Nesh Parekh

It all conducted a study of find out association between agility and Vo2 max in Badminton and Tennis Plavers The purpose of thsstuy was to tind correlation benveenagility and VO2 max in tennis and badminton playes In this sthidy sample of 37 male

[2] **M.Muthuraj and Y Wise Ressed Sngh** Effect of e www.entsivwngihwnienbweneinnaaslot MithnjYahoeemP.Satkyn and RoshniNileshPerekh. "Aoeiainnbetveenapiliy and VObmav h bon a yathenatiohaljounhal of fhealihienmesenlenh SN 22401 www.org

Badnminton and 37 male Tennis players were taken with the age group of 18-25 yrs. Both the Tennis and badminton players were subiected to T Test to measure the stdyconeludes that there was no difference in agility between tennis and Badminton players, also there was no ditterence in Vo2max between tennis and Badmintonplayers and the VO2max is indireetly proportional to agility in both Badminton and Lawn Tennis players.

T .S. SanthoshKumar and Dr. A. Pushparajan[3] et. al.

Conducted a of find out the effect of varied modalities of training on power and study vo21 max of male college cricket players. The purpose of this study was to tavestigatethe interference effect of varied modalities training on slosive power and vO2 max of male cricket players. T-test and One- ANOVA, ANCOVA and Schaffer's post hoc test was applied for way aminingthe hypothesizes. The result of statistical analysis showed that there is significant difference on VO2 max between combination (10.6 %) versus weigh/sprint (7.4 %) and aerobic (5.1 %) (p = 0.95) and on explosivepower between combination (26.5 %) versus weight/sprint (19.5 %) and aerobic (9.82
%) (p =0.31). Conclusion: combination of weight/sprint with aerobic training produced significant improvement on Vo2 max and explosive power better then the weight/sprint training aerobic training and

control group.

G. Vinayagam and Dr.selvamuthukrishnan et.al.[4]

Conducted a study of find out effect of circuit resistance and combined training on physical physiological and psychological variables among inter-collegiate playersPhysical Fitness is the capacity to carry out responsible vigorous physical activity and includes qualities in pertain to the individual health and well being The longer you

[3] **T.Santhoshkumar and Dr.A.Pushparajan.**"The effect of varied modalities of training on power andVO2max of male college cricket players".Ph.D Research scholar, karpagamUniversity.coimbatore, India Dr.A.Pushparajan Dean, department otpysica education, karpagam University, coimbatore, India. International journal of innovative research and development.iSSN22/8 0211-0211(online) Publication June,2013. Volume 2, Issue 6. www.ijrd.com Page

[4] **G.Vinayagam and Dr.Selvamuthukrishnan.** "Efect of circuit resistance and combined training on Phrysical physiological and ynological variables among inter-collegiate players Ph.D. Research scholars, Hindustan University and sports, Chenna Director of physical education, Hindustan University and sports Chennai. E-ISSN NO2455-295X, Volume:4, 1SSUE:2, Feb 2018. hilip.R, Hayes, Sarah.J, Bowen, Emma.J and Davies. "The relationships between local muscular endurance and kinematieuring a run exhaustion at VO2max" Human performance laboratory, divVISionot spots sciences,northumbr1ay,Newcastle-upon-tyne, United kingdom. Journal of strength and conditioning research,2004 18(4),898-903, 2004 national strength and conditioning association.

keep running and exercise well the longer you will stay well. Physical Fitness is the basic criteria for every individual in the society. To lead a successful life an individualhas to undergo fitness programmes in his daily life. It is an important programme for sportsman. Through titness a sportsman easily adapts motor abilities and conditioning.Sports specialists traditionally define the term fitness as a physical capacity to performm a task. 1he types of physical capacities ecessary to participate in a sporting contest vary between sports and norts. From the many components of physical fitness mo.

Hayes Sarah J. ,Bowen,Emmu.J and Deviese.V et al. Philip. R., Hayes,

A study of find out the relationship between local muscular Condi endurance and kinematic changes during a run to exhaustion at Vo2 max.Theurpose of this study wasto examine the relationship between cular endurance of both the hip and knee extensor and flexor local roups and the kinematic changes during a run to exhaustion at 02max.Six sub elite runners (age 24.2 6 4.2) participated in this vV they were considered as a homogeneous group based upon study; theirvV 02max scores (coeificient of variation 5 3.9%). Several etafistically significant negative correlations emerged between the change in stride length and concentric hip extension (HEcon), r5 20.934; eccentric hip extension (HEecc), r 5 20.818; eccentric knee flexion (KFecc),r5 20.957, and change in maximum hip extension (Dmax HE), r 5 20.857; and D max HE with HEcon, r 5 20.846. We concluded that the local muscular endurance of both HEconandKFeccare important in maintaining a stable running style.

Vijender Rathihas[5]

A conducted study of find out The purpose of this study was to find out the relationship of Breath holding capacity with Vital capacity among swimmers. For the purpose of this investigation 20 male and female swimmers of Lakshmibai National

[5] **Vijender Raththi** et al. "Relationship of breath holding up with vital capacity among swimmers". Department of physical education, Noida college of physical education, dhoom Manipur, dadri, GB Nagar (U P) lndia Volume 1, sue 2, October 2014,71-74 Ule P.O and Enumah.U.G. "Maximum oxygen uptake and cardiovascular response of proless1onal male 10otball and bplayers to Chester test. Department of medical rehabilitation, faculty of health sciences and technology,Nnambiversiy.Nnewy campus newi, Nigeria. All correspondence to Peler 1bikunie (nDpo) Department ot medical on, Nnamdiazikiwe. 10SR Journal of spots and physical education (1OSR-JSPE) e-lSSN2347-6137,p.isSN 2347. 6745, Volune 3, issue 4(July.Aug 2016) PP 01-05 www.iostjournals org.

University Physical Education, Gwalior were selected for the study their age ranging between 18-24 years. The data ot Breath holding and Lung capacities of between l8- 24 and female swimmers were obtained by administrating the 20 male standardized test and measurement procedures. The statistical technique ras Pearson's productmovement correlation to find out the totionship of Breath holding and vital capacities among swimmers. The ance of rcorrelation coefficient was seen with 8 degree of m and at 0.05 level of confidence among swimmers.

Thikunle.P.O. and Enumah.U.G. et.al.

Conducted a study of find out um oxygen uptake and cardiovascular response of professional football and basketball players to Chester step test.The purpose of male this study was to estimate the maximum oxygen uptake (VO2 max) and compare the cardiovascular response of professional male football players and basketball players to Chester step bench test. In the result, Significant differences were recorded between the vo2 max of football players 81.15kg/ml/min and basketball players 72.39kg/ml/min; heart rate 72.10bpm and 93.58bpm; systolic blood pressure147.90mmHg and 142.46mmHg; while there was no statistically significant difference in their diastolic blood pressure 81.820mmHg and 81.020mmHg. The study showed that football players had significantly higher Vo2 max (81.140.66ml/kg/min), than the basketball players (72.38-0.78 mi/kg/min), indicating that football players had more aerobic capacity than basketball players.

Dhananjay Singh and Shrikrishna Patel et.al. [6]

Conducted a study of find out comparative study of maximum oxygen consumption ofdifferent Game players. The purpose ot the study was to investigate whether there ganne players. The ere signteant differences between ditterent sports and games in ionto maximum oxygen consumption. In order to ascertain relkatio significant nt differences among dilterent sports and games in relation to maximum

[6] **Dhananjay Singh and Shrikrishna Patel.** "Comparative study of maxımum oxygen consumption otditlerent game players Assistance professor, department of physical education, C S.J.M. University,kanpur, India Asistance professor faculty of cducation,D A.V. Training college. Afiliated to.C.s.JM. University, kanpur, India. P-ISSN, 2394-1683, E-ISSN,2394-1693, uPESH 2014:1(2): 17.19, C 2014 DPESH,www.kheljoumal.com. Received: 18-09-2014, Accepted: 09-10-2014. WojcuechBajorek and Joanna Porch."Level of Vo2 max capacity volleyball players" Faculty of Physical education, University of Rzeszow, Rzeszow. Poland. Scientific review of Physical culture, Volume 6, isue4

unmOXygenconsunmption ANOVA Test was employed. For further Post-Hoc Test (Schette's Test) is applied. The Cross Country ad shown highest Vo2 max (71.43) in comparison to all other analysis runners sports. Further the Basketball players (65.58),Hockey players and Sprinters (65.01) had more or less same Vo2 max with a games and sports. Further (6239) and Sprinemall range of variation. On the other hand Judo players had shown sall lowestVo2 max., SWimmers also shown a lower Vo2 max (57.77) Towest Vo2 ma n comparison to all other sports/games except Judo (57.77).

WojciechBajorek and Joannariech et.al. Conducted a study of find out aim of the study was to evaluate the level of maximal aerobic Theeanacity of volleyball players from the AZS UR Rzeszów club. The aminations were performed during the 2014/2015 season. The study evaluated maximal oxygen uptake (Vo2max) in individual players from the team. The maXimum oxygen uptake was computed based on four formulas. The multi-level 20m shuttle test (the Beep test) was used to measurethe running speed. The results were interpreted using the tables with the number of completed levels. The standard deviation was 1.92, with mean running speed ofl2.1Skm/h and mean number of sections covered by the players being 67.The examinations conducted by the authors were aimed to provide answers to the following questions:

1. Is there a difterence in the level ot Vo2max for the four differerentfomulas?

2. Is there a strong corelation between the results of the maximal gen uptakecomputed for the four different formulas?

Gilberto Gonzalez-para, Rignoberto Mora and Bernhard Hoeger et.al.[7]

Conducted a study ot find out Triathlon is considered an endurance et.al. conducted as sport composed by the individual disciplines of swimming, cyeling and aning which are generally completed in this sequential order. It has n suggested that triathlon performance can be predicted by maximal en uptake (VOZmax). However, it has also been suggested that some variables sOuch age, gender, fitness, training and ventilator muscles may afiect VO2max. It is the aim ot this research to measure and analyze the

[7] **Gilberto gonzalez-paraRigobertomora and Bernhard hoeger**. "Maximal oxygen consumptbion n natienaleltetnathletes M mutidisciplinary mathematics group (GMM), fhculty of engineering, Uhiversity of the Ahdes, Ntetala, venenieiaVeSoIs of the Andes, Merida, Veneniela. Department of Physical education, University of the Andes, Mernda Page 34 Sbnitted for publication June 2012. Accepted for publication November 2012

vO2max of 6 national elite triathletes and one national juvenile triathlete, with long experience, training in a high altitude city (1650m). We compare VO2max for female and male groups. We found difflerences at the VO2max values for these groups. Additionally, we also found high values of VO2max for these young elite triathletes despite their relative short age, but long sport age.

Alex crisp[8]

Has a conducted a study of find out time to exhaustion at v02 max velocity in basket ball and soccer athletes The purpose of study was to compare the maximum distance traveled (Dmax) and time to exhaustion (Tlim) at the minimal velocity that elicits VO2 max out(vV02 max) in basketball and soccer athletes. There was no significant diference for the variable Dmax (basketball: 1344.7 + 415.4 m, soccer: 1228.3 +
369.6 m). There was no significant difference between the groups on the kinetics of blood lactate removal and peak blood lactate ale-para, Value There was a moderate correlation of Tlim with VO2 max (r= value 0.44), v VO2 max (r= -0.55), VLVI (r=- 043), and peak lactate (r=0.47) only for soccer athletes. The findings suggest that these differences are modality. ity. Soccer athletes had superior physiological parameters of likely to be due to physi1ological characteristics inherent in each sports metabolism while the basketball athletes had higher Tlim.

Mukesh Kumar Mishra, Ajay Kumar Pandey and Devarshi Chaubey et.al.[9]

Conducted a study of find out a comparative study of vo2 max among the basketball, football, volleyball and hockey male players. For purpose of present study 59 male players of different games from heGG.V.Bilaspur were selected randomly as the subjects for the study. The ace of the subjects were ranging from 20-25 years. Maximum Oxygen Consumption (VO2 Max) was determined by the Rockport walking test (Kline et. al., 1987)I7] was used. Descriptive statistics, one way ANOVAand Post-Hoc Test (Scheffe's Test) were used with SPSS 16.0 version. The level of

[8] **"Alex crisp.**et.al. "Time to exhaustion at Vo2 max velocity in basketball and soccer athletes".Human performance researchjournal of the American socicly of exercise physiologists. ISSN 1097-9751, Volume 16, number 2, April 2013

[9] **Mukesh Kumar Mishra, Ajay Kumar Pandey and Devarshi Cha uvbey.** "A Comparative stuay orvoL max amomgtne 100tball, volleyball and hockey male players Rescarch scholar department ol physical education.GGV.,Bilaspur 2016 ipra college of education, bi laspur. 1SSN Print2394-7500, Received: 10-08-2015, Accepted:12-09. 13, DAR 2015:1(11)245-247. International journal of
applied rescarch 2015

significance was set at 0.05. The results of the study indicate that the significant difference was found among Basketbal, Volleyball, Football and Hockey in relation toVO2 Max (F= 4.927, p<0.05). Another result of the study shows that the Football players (67.6700) have highest level of VO2 Max in comparison to Basketball (65.5550), Volleyball (60.2667) and Hockey players (62.3858)

T.A.Astorinohas[10]

A conducted a study of find out changes in running cconomy, performance, vo2 max, and injury status in distance runners running during competitive The present study was undertaken to test multiple measures of running perfomance in collegiate runners. At baseline, VO2max With training, only three of nine subjects revealed a meaningtulincrease in RE, and VO2max was unaltered. At baseline, there was a significant correlation between RE at the highest speed and VO2max ($r = 0.69$, $p<0.01$) and run time ($r= 0.62$, $p<0.05$). Injuries including shin splints, ankle sprains, stress fractures, and groin puls occurred in over 50% of athletes in-season, leading to reductionsn training and missed competitions. These data indicate 1) a significant, positive relationship between RE and both performance and V02max, 2) little change in RE or VO2max with training, yet improved performance, and 3) high incidence of injury in distance athletes.

Z.Solis and R.Tollefrud et.al.conducted a study of find out comparison of maximal oxygen uptake between division long distance swimmers and long distance runners The purpose of this study is to determine if long- distance sWimming workouts result in a higher or lower VO2max than cross-country running, or if there is no significant difference. This study will include 32 volunteers from the Gustavus men and women'sswim and crosS-country team. 15 distance swimmers, eight male and seven female and 15 cross-country runners, eight men and seven women will be selected to participate in the study just before the end of the respective seasons in order to measure their VO2max at its peak. A comparison study will be used to analyze the results.

[10] **TA. Astorino**."Changes in running cconomy performance vO2max and injury status in distance runners running during competitive.Journal of exercise physiology online, volume 11, publication of the year 01-12-2008.Z.Soils and R Tollefsrud"Comparison of maximal oxygen uptake between division long distance swimmers and long- distance runners" GustavusAdolphus college, International journal of.

Ryan Adam Vanbay et.al.[11]

Conducted a study of find out a comparison of two different treadmill protocols in measuring maximal oxygen consumption in highly trained distance runners. Thepurpose of this study was to prospectively investigate the specificity effect of two different treadmill protocols on maximal oxygen consumption (VO2max) in highly readmill protocols nners (n-16). VO2max values were significantly the GOV02max incomparison to the SOVO2max protocol trained dIstanceun higher from the GoVO2,
1.2 mLO2/kg/min, p. 005). The % VO2max @VT was not (76.1 and 71.2 mL02/kg/ different between the GOVO2max and Sov02max significantly different rotocols.

SantuDhara and KallolChatterjee et.al.[12]

Conducted a study of find out of vo2 max in relation with body mass index (BMI) of physical study ton students. The main purpose of the study is to find out the educationstudents. The relationship between VO2 max physical education students, 'Cooper 12 Minute Run/Walk test (1968) was used, recorded the total distance in they hadtraveled in 12 minutes and put it in the Formulas: kilomet vO2max = (22.351 x Kilometers) -11.288. And to measure the BMI of the students, the heignt and weight were respectively taken from the cubjects and put it in the Formula for Body Mass Index: Body Mass Index Weight (kg) / Height (m)2. The collected data were calculated by using descriptive statistic and Coefficient of Correlation "" and level of significance was set at 0.05 levels. There were a very low positive co- relation was exist on VO2 max with Body Mass Index (BMI) of Physical Education students.

[11] **Ryan Adam Vanhoy**. "A comparison of two different treadmill prolocols in measuring oxygen consumption in highly trained aistaice runner A thesis submitted to the faculty of the University of North Carolina at chapel Hill in partial tulthlment tor the oegee or master of arts in the department of exercise and sports science (exercise physiology).Under the direction of Drcrudio.L. Battaglini.Chapel hill 2012. Approved by Claudio L Battaglini, Ph.D Robert G. McMurray, Ph D. Edgar w.shields,Ph.D.

[12] **SanthuDhara and KallolChatterjee.** "A study of VO2max in relation with body mass index (BMI) of physical education ViSVa-bharathi University,pin-731235,W.B.India. Received 9 may 2015, revised 26 may 2015, accepted 20 June 4013, Kescarch journal of physical education sciences ISSN 2320-9011, Volume.3(6),9-12, June (2015) Page 37

METHODOLOGY

The main purpose of the study present investigation was to compare the Vo2 max of inter-collegiate male kabaddi players Playing in different positions. In the present chapter selection of subjects, sample of the present study, variables selected for the study, procedure of measuring vo2 max and variables, collection of data, design of and statistical technique employed have been presented.

Selection of subjects

The subject for the present study were inter-collegiate male kabaddi players who partcipated in the inter-collegiate tournaments during the year 2018-19 n university ofMysore.

Sample size

To achieve the purpose or present investigation, one hundreden five (N=105)malekabaddi players participated in inter-collegiate tournaments of universityof Mysore, were selected as subjects.

Sl.No	Positions	No.of Players
1	Right corner	15
2	Left corner	15
3	Right cover	15
4	Left cover	15
5	Left In	15
6	Right In	15
7	Centre	15
	Total	**105**

Selection of variables

After the Thourgh search researcher finished following variables for the study.

Procedure of test administration

Variables	Test	Criteria of measurements
Lungs capacity **Vo2 Max**	**Wet spiro metertest**	**Litres**

SUMMARY

The main purpose of the study present investigation was to compare the Vo2 max of inter-collegiate male kabaddi players Playing in different positions. The subject for the present study were inter-collegiate male kabaddi players who partcipated in the inter-collegiate tournaments during the year 2021-22 n university of Mysore. To achieve the purpose or present investigation, one hundreden five (N=105)malekabaddi players participated in inter-collegiate tournaments of university of Mysore, were selected as subjects. The playing positions considered for this study were; Right cover, Left cover, Right corner, Left corner, Right-in, Left-in and Center position.

To accomplish the purpose of the study Statistical Techniques employed are The descriptive procedure displays univariate summary statistics for servals variables in a signal table. The crosstabs procedure forms two-way and multiway tables and provides a variety of tests and measures of association for two-way

tables. Theindependent-samples T Test procedure compares means for two groups of cases.

MAJOR FINDINGS

1. with the right corner position was 2381.25 per players with the right cover was2620.0 per players with the left corner position the mean score was 2500.0 for the players with left cover position the mean score was 2393.33,for the playerswith left in position was 1853.33, for players with the right in position the mean score was 2613.33 and lastly the players with the centre position was 2193.33

2. There is a slight differce in vital capacity of kabaddi players playing in different positions.

3. An significant difference was observed that mean vital capacity scores of kabaddi players playing in different position was Delightedly same.

CONCLUSION

No study has been conducted till date to study the Differences in lung capacity of kabaddi players according to their positions. The present study was conducted to provide a reference to coaches and sports scientists working to enhance and compare the performance of kabaddi players based on their positionally specific physiological requirements. It can not be over rule the fact that physiological factors do support the performance of kabaddi players.

RECOMMENDATIONS

1. A study maybe conducted tofind out why There is a slight differce in vitalcapacity of kabaddi players playing in different positions.

2. The physiologiscal factors like aerobic and anaerobic capacities may be considered to find thedifference in kabaddi players playing in different positions.

3. A similar study can be under take to find the relainoship among physique, fitness and performance of kabaddi players.

4. A similar study may be taken on large samplesand with different age category.

5. A inter-relatonship study to know the relationship among psychological,physiological and motoer fitness variabales may be taken for investigation.