International Federation of Physical Education, Fitness and Sports Science Associations

IFCSS

ISSN 0975-7732

Volume 19 No. 1
HALF YEARLY
July 2018 to December 2018

ASIAN JOURNAL OF PHYSICAL EDUCATION & COMPUTER SCIENCE IN SPORTS

A Peer Reviewed (Refereed) International Research Journal

Journal Impact Factor 4.171
Index Journal of

J-Gate
largest E-Journal Gateway

JISRA JIF

I2OR

DRJI

Published by :
Indian Federation of Computer Science in Sports
www.ifcss.in

CONTENTS

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp1-3
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Effectiveness of Fast Bowlers Performance Relation with Specific Physical Fitness Variables

B. Gowri Naidu,
Assistant Professor,IIIT- Srikakulam, RGUKT-A. P, India.

Abstract
The purpose of this study was effectiveness of fast bowlers' performance between specific physical fitness variables. The 150 male fast bowlers were selected Inter- University representation in the academic year of 2015-2016, 2016-2017 and 2018-19 in Andhra Pradesh on non-randomly by purposive sample was used. Karl Pearson coefficient of correlation was used to Analysis of the collected data on specific physical fitness variables were speed (0.585*), dynamic balance, (0.364*), dynamic Flexibility (0.259*), aerobic endurance (0.239*), muscular endurance (0.462*), agility (0.299*), reaction ability (0.379*), accuracy (0.271*) coordination (0.573*) and power (0.565*) coefficient of correlation with fast bowlers' performance had been positively with significant level 0.05.Remaining fitness variables did not correlate on this current study.Key words: Specific Fitness, Variables, Performance, Fast Bowlers etc

Introduction

Cricket is a game played with a bat and a ball. The game can last anywhere from 4 hours to 5 days depending on the format. Played between two teams of eleven players, each team takes it in turn to bat, whilst the opposite team fields the ball. The batting will continue until each batsman is out or a specified number of overs have been bowled. At that point the teams switch roles and the opposing team comes in to bat. The team with the most runs at the end wins. It is a unique sport in that is a series of individual battles put together to create a team game.Fast bowlers are considered some of the most significant players on the cricket field. Bowling in cricket involves an initial run-up, numerous rotations and circumduction of a straight arm about the glen humeral joint to propel a ball at a batter. Put simply, the bowling action compromises of a short phase of acceleration, followed by a bound, a landing and a launch – think of a javelin throw. However, unlike Javelin this unhealthy, stressful movement is repeated numerous times, over months, days and hours. This complex movement has been researched thoroughly over many years. Current research has shown that at front foot contact, ground reaction forces can be as high as 8 to 12 times bodyweight. Epidemiological research has also shown that young and adolescent fast bowlers are at the highest injury risk, which has led most of the interventional studies to predominately focus on reducing injury incidence in this population. Less attention has actually been focused on the enhancement of bowling performance. There has however been recent increased interest from scientists, researchers and strength and conditioning coaches in the long-term development of the youth population.A major giver to high level fast bowling performance is the velocity at which a bowler can deliver the ball. However, there is limited scientific information on the characteristics which relate to fast bowling ball speed. A number of reviews have concluded that although past investigators have correlated certain biomechanical attributes to high bowling speeds, none confirm any strong relationships between components of the technique and faster bowling speeds. Despite this lack of consensus, run up speed is one important determinant of release speed as well as other correlating attributes such as strength, greater physical stature and overall muscle morphology. This lack of research led criteria means that skills coaches are still inconclusive as to what attributes contribute to creating a fast bowler. Despite, or because of this lack of clarity, Strength and Conditioning coaches are evermore interested on how to develop physical capacities to enhance bowling performance. Essentially fast bowlers are a prize asset in any professional cricket team. With only around six in a squad, keeping them available to train and play is critical to winning games, trophies and championships. This is a tricky business at times and requires an integrated approach involving all the members of the coaching/support team as well as intricate workload management, physical conditioning and player monitoring. The high level of skill required to play Cricket,

a successful player needs good balance and core strength, speed for running between the wickets and in the field, and fast bowlers particularly need very good speed and power. However, which of these are more important? And what are the specific fitness components needful for effective and successive fast bowlers?

Methodology: This study would be decided the effectiveness of fast bowlers' performance association with specific physical fitness variables.Selection of the Subjects:150 male fast bowlers were selected Inter- University representation in the academic year of 2015-2016, 2016-2017 and 2018-19 in Andhra Pradesh State on non-randomly by purposive sample had been used.

Figure-ISpecific Physical Fitness Variables

S. No	Specific Physical Fitness Variables	Test
1	Coordination	Baseball throw
2	Reaction ability	Nelson Reaction Test
3	Dynamic Balance	Balance Test
4	Static Balance	Balance Test
5	Dynamic Flexibility	Flexibility Test
6	Static Flexibility	Sit and Reach Test
7	Accuracy	Accuracy Test
8	Power	Standing broad jump
9	Maximum Strength	1Rm Test
10	Anaerobic endurance	Margarian Kalamen
11	Aerobic endurance	Vo2max Test
12	Muscular Endurance	Push Ups
13	Endurance	600 Yard Run
14	Agility	Shuttle Run
15	Speed	30 Mts Run

Collection of the Data and Tools

The data had been collected by administrating the standard procedures for taking specific physical fitness variables as well as fast bowlers' performance and tools were used stopwatches, push up stands, spirometer and Flexible measuring tape for flexibility. The score had been recorded time in the nearest one tenth of the seconds and nearest centimeters.

Statistical Analysis and Discussions

In order to find out the relationship of specific physical fitness variables with fast bowlers'performance with the Karl Pearson coefficient of correlation had been used and testing the Hypothesis the level of confidence is 0.05.

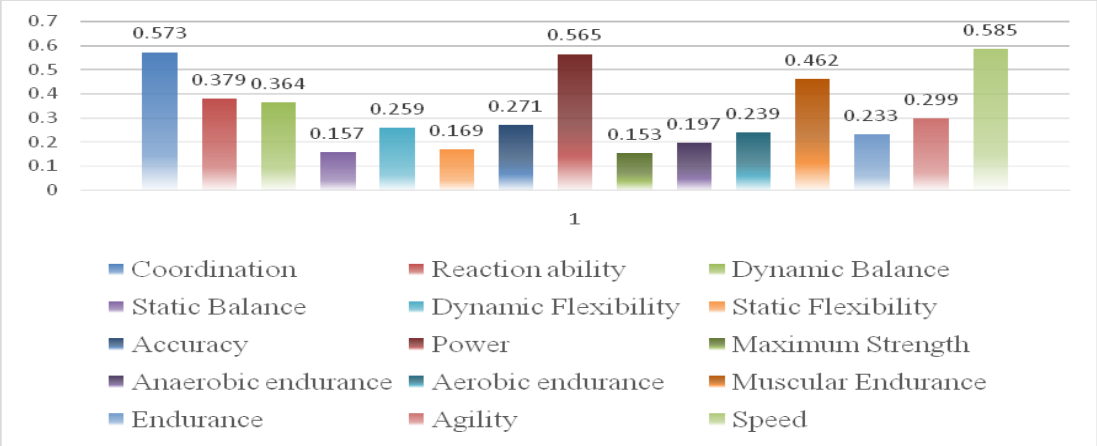
Figure-II:Specific Physical Fitness Variables Association with Fast Bowlers Performance

S. No	Specific Physical Fitness Variables	Coefficient of Correlation 'r'
1	Coordination	0.573*
2	Reaction ability	0.379*
3	Dynamic Balance	0.364*
4	Static Balance	0.157
5	Dynamic Flexibility	0.259*
6	Static Flexibility	0.169
7	Accuracy	0.271*
8	Power	0.565*
9	Maximum Strength	0.153
10	Anaerobic endurance	0.197
11	Aerobic endurance	0.239*
12	Muscular Endurance	0.462*
13	Endurance	0.233
14	Agility	0.299*
15	Speed	0.585*

N=150, r.05 (150) =0.238, *Significant at 0.05 level.

An analysis of the above table reveals that fast bowlers had been significantly related to specific physical fitness variables were speed (0.585*), dynamic balance, (0.364*), dynamic Flexibility (0.259*), aerobic endurance (0.239*), muscular endurance (0.462*), agility (0.299*), reaction ability (0.379*), accuracy (0.271*) coordination (0.573*) and power (0.565*)as obtained values of correlation were greater than the value of r= 0.238 the correlation to be significant at 0.05 specific physical fitness variables were Endurance, Maximum Strength, Static Flexibility, Static Balance and Anaerobic endurance as their correlation values are less than the value of r=0.238 need for significance at 0.05 level of confidence.

Figure-IIISpecific Physical Fitness Variables and Fast Bowlers Performance



As for the results finally, the study exposes that fast bowlers' performance would be significantly related tospecific physical fitness variableswerespeed (0.585*), dynamic balance, (0.364*), dynamic Flexibility (0.259*), aerobic endurance (0.239*), muscular endurance (0.462*), agility (0.299*), reaction ability (0.379*), accuracy (0.271*) coordination (0.573*) and power (0.565*). As per the analysis,suggestion to the coaches, physical directors, physical education teachers, physical instructors to concentrate on the above specific physical fitness variables while selecting or screening for fast bowlers in a basic level. It would be given effective and good performance in a specific competition.

References

Borrow Harold M. and McGee Rosemary (1979), A Practical Approach to Movements in Physical Education. Philadelphia: Leaand Febiger.

Verma J. P. (2000), A text book on sports statistics, Venus publication, Gwalior. (M.P.).

Nelson N. P. and Johnson C. R. (1970), Measurement and Statistics in Physical Education, Belmont, California, Wordsworth Publishing Company Inc.

Gowri Naidu, B. and Vijay Mohan, N., 2017. "Criterion anthropometric measurements with relation to fast bowler's performance". International Journal of Current Research, 09, (02), 46438-46440.AIBA. (2017).

Gowri Naidu, B. and Vijay Mohan, N., 2017. "Training performance Physical Fitness Components Association with Hockey Playing"International Journal of Multidisciplinary Educational Research, Volume 6, Issue 3(8), March 2017.

Gowri Naidu, B. and Vijay Mohan, N., 2016. "Performance Physical Fitness Components as Predictors of Kho-Kho performance ability" Research Journal of Physical Education Sciences, Vol. 4(9), 1-3, November (2016).

Gowri Naidu, B. and Vijay Mohan, N., 2017. "Criterion performance physical fitness components relation with Kabaddi playing ability" Research Journal of Physical Education Sciences, Vol. 5(2), 1-3, February (2017).

Gowri Naidu, B., 2016. "Relationship of selected performance physical fitness components to the performance of jumpers" International Journal of Physical Education, Sports and Health 2016; 3(6): 319-322.

Gowri Naidu, B. and Vijay Mohan, N., 2017. "A study of performance physical fitness components of runners, jumpers and throwers" International Journal of Physical Education, Sports and Health 2017; 4(2): 103-105.

Sandhya Rani, T. and Satish Varma, R., 2017. "Performance physical fitness components relation with Badminton players performance ability" International Journal of Health, Physical Education and Computer Science in Sports2017; Volume No. 27, pp 435-436.

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp4-5
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Relationship Of Selected Anthropometric Variables To Athletic Performance

C.Govardhan, Full Time Ph.D Scholar,
Department Of Physical Education
Dr.P.Gopinathan
Assistant Professor
Sports Psychology And Sociology,
Tamil Nadu Physical Education And Sports University,Chennai - 600127.

Abstract
The purpose of the study was to determine the relationship of anthropometric variables to Athletic Performance. To achieve the objectives of the study four anthropometric variables were selected as independent variables and Athletic performance as dependent variable, which was assessed by testing the achievements. Forty men Athletes took part in the Tamil Nadu Physical Education and Sports University Inter-Collegiate Athletic meet in the 2018-2019 sessions were selected as subjects. Pearson's product moment correlation (Zero order) was used as a statistical tool to find out the result of the study and significant level was fixed at 0.05. The result of the study reveals that the selected anthropometric variables of height, weight, arm length and leg length were significant relationship with Athletic performance.Key words: Anthropometric, athletic, height, weight, arm length, leg length,

Introduction

Athletics is a collection of sporting events that involve competitive running, jumping, throwing, and walking. The most common types of athletics competition are track and field, cross country running and race walking.Athletic events are comes under running, jumping and throwing. Further the running is divided into sprinting, middle distance, long distance running. Jumps is divided into high jump, long jump, triple jump, pole vault. Throwing events is divided into short put, discus throw, hammer throw and javelin throw. There are numerous factors which are responsible for the performance athletes to show excellent athletic performances.. The physique and body composition including the size, shape and form are a significant role in this aspect. In general at the time of selection of players due important are given the body constitution of players and efficiency of various organs of our body. The selected anthropometric are explained below.

Anthropometry Variables

Anthropometry is a branch of anthropology that is concerned with the measurement of human body. The measurement of the human body, its component parts and relative dimensions, such as body weight, height, length of arms and legs, pelvic bones, etc., is known as anthropometry. It is widely used a tool to identify the potential of the players in different sports and games. Anthropometry is a scientific tool presently used in several fields including medicine, anthropology, archeology, and forensic science to study and compare relative body proportions of peoples.

Standing Height:Height is an important factor to change the athletic performance and execute the skills in the better way.

Weight:Optimum Weight is one of the important factors for the athlete to perform the athletic achievements.

Arm Length:Arm length is also another important factor to perform athletic events.

Leg Length : Long leg length is advantage for making longer distance of stride in running events.

Purpose of the study

In considering the importance of the above anthropometric variables the present study was undertaken with the ultimate aim to determine and identify the relationship of selected anthropometric variables with Athletic Performance.

Methodology

The selection of subjects, variables and statistical procedure were explained.

Selection of subjects:Forty Inter Collegiate Athletes were selected from Tamil Nadu Physical Education and Sports University inter collegiate athletic meet in the 2018-2019 sessions were selected as subjects. The subjects were belonged the age group of 18 to 25 years.

Selection of variables

The anthropometric variables of height, weight, arm length and leg length were selected in this study. The entire test was conducted with standardized testing procedure.The dependent variable was athletic performance by conducting different athletic events performance.

Statistical Procedure:Pearson's product moment correlation (Zero order) was used as a tool to find out the relationship of selected anthropometric variables with athletic achievements. The level of significance was set at 0.05 and SPSS package was used for statistical analysis.

Results and Discussion:

Table – I:Coefficients of anthropometric variables with Kabaddi playing ability

S.No.	Anthropometric Variables Correlated	Correlation Co-efficient (r)
1.	Height and playing ability	0 .689*
2.	Weight and playing ability	0 .389*
3	Arm length and playing ability	0.641*
4.	Leg length and playing ability	0.472*

*Significant at 0.05 level $r_{.05}(38) = 0.31$, Table Value.0.333

Table I – had shown the relationship of selected anthropometric variables with athletic achievements. All the obtained correlation values were above the table value of 0.313. In this analysis all the selected variables were significant relationship with athletic performance. Among the anthropometric variables height was found the highest relationship with athletic performance (r = 0.689). The other anthropometric variables of weight (0.389), arm length (0.641) and leg length (0.472) are significant relationship with athletic performance. The result of the study were supported the studies conducted by the previous studies Bindu (2002), Bright Selva Kumar (2002), Chauhan (2003), Devaraju and Needhiraja (2012), and Gopinathan (2007).

Conclusion

From the above results and discussions the following conclusions were drawn The selected anthropometric variables of height, weight, arm length and leg length having significant relationship with athletic performance. The result of the study proved the important of anthropometric variables for athletic performance..Further the result of the study is helpful to the coaches to select the athletes by giving importance in body physique.

References

Bindu, C.M (2002). A Study of selected Anthropometric and physiological variables on the performance of Inter-University Women Cross country Runners, Unpublished Master's Thesis, University of Kerala

Bright Selva Kumar (2002). Prediction of Soccer Playing Ability from selected physical Fitness, Physiological, Psychological and Game Skill Variables, Unpublished Ph.D Dissertation, University of Madras.

Chauhan, M.S (2003). Correlation between selected Anthropometric variables and Middle Distance Running Performance, Journal of Sports and Sports Sciences, 26(3); 42-48.

Devaraju,K and Needhiraja,A,(2012). Prediction of Kabaddi playing ability from selected anthropometrical and physical variables among college level players no restriction, International Journal of Advanced Research in Engineering and Technology (IJARET), International Journal of Advanced Research, 3(1):118-124

Gopinathan, P (2007). Appraisal of Selected Anthropometric Physical Fitness and Physiological Variables as Prerequisites to Handball Performance, Unpublished Ph.D Dissertation, University of Madras.

http://www.enotes-com/forensic-science/anthropology

http://www.brianmac.co.uk/hrm1.htm

www.enotes-com/forensic-science/anthropology.

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp6-10
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Predictive Vision on Governance and total quality in sports.

Dr. Ibouchoukene Mohamed[1]. Dr. Aboura Rabah. Dr. Hadiouche Abdelnour[3], Pr. Labane Karim[4], Pr. Fahssi Mohamed Riadh[4].
[1, 2, 3, 4] University of Algiers 3- Institute of Physical Education and sports- Algeria.
Email : labakarim@yahoo.fr

Summary.
The aim of our study is to try to give a predictive vision on governance in the field of sports in Algeria.This predictive approach looks at the overall quality of governance in order to be at the continental level or even across the Arab world. To identify this and answer our questions, we conducted a survey of some leaders of the different sports institutions, namely the presidents of clubs (football, handball, athletics, judo), managers also have a sports experience and occupy currently responsible positions as managers of sports facilities. The results of the survey we reveal significant figures on the component related to sports development prospects. However, there are other aspects that are ambiguities in the management and organization that have an impact on good governance in sports.
Keywords :Sport governance, Total quality, Management and Sports organization.

1-Introduction.

The issue of governance in sport in Algeria, was always at the heart of concerns. It therefore continues to challenge scientists and managers to optimize the management and supervision of the sport whose aim is to achieve good governance of the Algerian sports movement. The purpose of this research focuses on the question of total quality management and sports organization in the different structures and sports institutions of the state. Note that these two parameters affect the nature of sports governance. For example, to solve the problem of relational management financially, reduce cost and increase market shares to grow the capital of shareholders, would be one of our initiative to offer. (Gog, J-M, 2006).There is also the know-how and competitiveness across globalization represents the true image of the sport governance. Lots of research has been done in the field of governance in general and in sport in particular. Therefore challenged the sport governance are multiple since the past decade. A number of issues emerge filigree: how decisions are made in sports organizations? How are influenced by the government, politically, economically and socially? What are the effects of modes of governance on the management styles that affect the profitability sports? Who should lead, manager, control? (Bayle. E and Chantelat. P, 2008, p11)

2-Theoretical approach on sports governance.

Sports governance, management structures and sports bodies are affected by good control of the sport, and especially the flow of ideas raised in the sports project, to provide a long-term vision. Bayle. E and Chantelat. P, talk about the governance of organizations, then this is the mastery of information that allows managers to handle situations in different structures, and many take the necessary measures to provide products and more ideas, take decisions to organize and give a promising sports management. (Bayle. E and Chantelat. P, 2008, p11) And to know how governance provides a good sports organization, we can say that there is a possibility to structure the projects and ideas of people manage their decisions. Are these decisions are influenced by the government? Is it another thought or another way to fit well the understanding between groups managing situations sporting events.

Chaker. A-N, cites that "Governance, the sport in particular can be defined in several ways. It can be, according to the people, referred to different meanings, especially if one takes a global perspective. .Sports governance is the establishment of effective networks of national sports agencies, non-governmental sports organizations and procedures that operate jointly and independently under the laws, policies and specific rules for private promoting ethical sporting, democratic, efficient and transparent. "(Chaker. A-N, 2044, p 7) We can say that the data cited by several others in the field of sports marketing that allow officials to govern the structures that arise on a well-built platform, and above which contains a rigorous strategy called true. The viability of the Algerian sports model is in play in all countries that manage effectively their sport in all disciplines, mass sport as elite sport are dependent on two major instances resources.Public authorities and fans of the sport. Neither of these two groups could support a continuing degradation level sport governance in the future. In another context, the sports organization and management of sports facilities could be influenced by good or bad governance.We note, moreover, that globalization requires some political strategy based on well considered decisions. Hums, Mrs A and others, offer coherent reflection on the political condition for good governance of sports organizations based on good policy decision like the following:

• Help to master the fundamentals of governance and conduct policies of these organizations ;

• Expose the mechanisms inherent to networks that develop in the international sports area : how each interacts with other sports organization and where decisions take?

• Contextualize relations between sports organizations and political power ;

• Ensuring identify specific models of global governance by showing the similarities and differences in a globalized sports world ... (Hums , Mrs A and others , 2011, p56)

3-Total quality, good references for sport governance.

Good governance in sport, it is the quality of management and organization of human and material resources with the requirements of sport, national or international.

And to choose a good management and good sports organization, you have to properly structure the actors in sport or federations, leagues and clubs, to refer to the conditions of the application of total quality in the known sport globally.

Ishikawa, K. speaks good sports management in a very interesting way, but we must know the rules of the practice of field data, and for that we must define the conditions for the application of total quality. (Ishikawa, K. 2007, p 45)

Total quality is a reference model for a good sports management then you have to put in evidence the expectations of the sports population, officials, practitioners or supporters, and there can say we are on the right track by compared to total quality data. (Adreaensens. B et al, 19993, p54)

Bannker . S and Majer . H, have given the system for applying total quality measures adapted to the sports organization and especially for sport governance. These measures are as follows :

- Sports administration officials , who give the programs and projects of sport , must create a policy to implement a true total quality.
- The objectives of their sports governance must realize the reality on the ground .
- The scientific work in the field of sports governance are references and bases to adopt a total quality policy.
- The administration of human and material resources , is the important basis that characterizes the competition to a good sports governance at the national and international levels. (Bannker . S and Majer . H 1999 , p52)

4-Focus on the methodological framework and discussion of results.

4-1-Materials and methods .

4-1-1-Topics.

To the tasks of our work we have carried out our investigations on forty (40) leaders and leaders of clubs (football, handball, athletics and judo) or twenty (20) heads of federations and leagues, and twenty (20) leaders of elite clubs . Sample characteristics are shown in Table No. 01

	Officials fed/ lig	Diregents clubs
Elected	+03times	+03times
N	20	20
Management general	25%	45%
Sport management	15%	88.50%
Age	56.17±0.89	53.89±1.39
President	1.67±0.70	2.34±1.63
General secretary	1.41±1.31	372±1.97
Member	13.36±1.19	18.29±1.26

4-1-2-Equipment.

We used the following search engines:

• A questionnaire to member leagues.

• An interview for the presidents of federations and clubs.

4-2 -Method of investigation.

4-2-1 -Analytical descriptive method.

This is the most appropriate method in this kind of study primarily to restore the data and consult with a questionnaire and interview with a member of the sampling.

4-3- Statistical method.

The method used is the parametric statistics (Champely 2004), which allows the characterization and cut the population and more specifically the series of values of a variable that includes using as the arithmetic average parameters (which is determined by the sum of the observed values divided by the number of series elements); variance and coefficient of variation :

$$\overline{x} = \frac{1}{n} \sum_{i=1}^{n} x_i$$

As it is very important to know how is it that the group is arranged around the middle it is grouped or scattered around it? The standard deviation is a dispersion index because it provides information on the dispersion around the mean. We calculate the standard deviation of the sample by using the following formula:

$$\sigma = \sqrt{\frac{\sum (x - \overline{x})^2}{n-1}}$$

¬ For analytical statistics was used Student test , to calculate the difference of means of two samples.

¬ And to all our calculations (mean , standard deviation and T Student) we used the Office Excel 2007 software.

5-Results.

Table No. 02 : Questionnaire Results.

	Officials fed/ lig	Diregents clubs
Sports management	Yes or no	Yes or no
Yes	17.77± 2.52	19.89±0.02
References to standards	6.05± 0.71	3.13±0.88
adapted	3 .37± 0.21	0.52±0.20
decisions	15.73± 0.70	19.72±0.36
With vote	8.5±5.73	3.22 ± 4.38
Others	0.94±0.32	1.74±0.59

Table No. 03 : Comparative analysis of the responses of federal officials and leagues with those of club leaders .

TEST	T STUDENT
Number	50%
Self governance	0.23
Decisions by vote	S*at 0.05
Always	S*2.13
By references to standars	S at p < 0.05
Never	S **at 0.01
With model	N.S at 0.05
Polytiques decisions	N.S at 0.05
View of ISO standars	N.S at 0.05
Others	S ** at 0.01

NS : no significant difference , * difference significant at p <0.05 , ** significant difference p <0.01 , *** significant difference at p <0.001

6-Discussion.

The analysis of the results of the sports organization settings made on our sample, we find that there is only three (03) significant differences (in various sporting events, references to known models, make decisions ...) .

For the sports management: there are no significant differences between the leaders of federations and leagues and club leaders for a threshold of 0.05.

For personal decisions we note that there are significant differences between the two samples to a threshold of 0.05.

As for the comparison of answers about the interview questions, we see that very significant differences exist (S **) regarding the response rate seen as iso benchmark management and sports organization (5 * 12) for a threshold of 0.01, the rest was found significant difference.

Regarding the sample of members or in sports facilities or clubs, we have made a non-influenced data collection by comparing only the mean and standard deviation for each group, and given the small number of group club members) against nine (09) in known structures.

Thereby calculating the Student's t could not be made. They are represented as follows:

• That there is no significant difference in total a sports organization settings % between them is very small.
• That there is no significant difference in sport management capabilities but we see that the club presidents shifts a non reduced rate.
• That n is not an effort to put sports structures to ISO standards approaching total quality.

7-Conclusion.

As part of our thinking , we well informed as sport governance is related to the requirements of the conditions of total quality, with reference to international rules of global structures such as federations and sports clubs .

And to establish the combination of good sports management and organization structures that manage or apply the decision and plots programs , we found in our country, few officials give a true professional dimension to the sports management Algerian , but after consulting some officials and leaders we can hope that there is a political will in whatever federations or liege and sports clubs .

Finally, we can say that the sport governance is linked to two main points: the specialists in sports management and policy-making officials .

-Bibliographical references.

-Adreaensens. B et autres, Marketing et qualité totale. Ed De boeck, Bruxelles,1993
-Bannker.Majer. Total quality management in high education. 2nd ed Putnam publishing group, New york.
-Bayle. E Etchantelat. P . La gouvernance des organisations sportives. Edition l'harmattan. Paris. 2008.
-Chaker. A-N ,la route vers une meilleur gouvernance du sport 1. Voir André Noël Chaker, Good Governance in Sport: A European Survey, Council of Europe Publishing, September 2004.

-Gogue, J-M . Qualité totale et plus encore. Ed l'harmattan, paris, 2006.

-Hums, M- A et autres, La gouvernance au cœur des politiques des organisations sportives, De boeck, Bruxelles,2011.
-Ishikawa, K. La gestion de la qualité : Outils et applications pratiques. Ed DUNOD, France,2007.

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp11-15
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Effects Of Swiss Ball Exercise With Green Tea And Moringa Tea Intake On West Hip Ratio, Good Cholesterol,Systole And Diastole Blood Pressure Among Middle Aged Men In Chennai

Dr.R.Venkatesan, Research Co-Ordinator,
Tamil Nadu Physical Education And Sports University, Chennai – 600 127

Green Tea: tea made from unfermented a leaf that is pale in color and slightly bitter in flavor, produced mainly in China, India and Japan. Green tea is an herb that differs from black and oolong teas because it is not fermented.

Moringa Tea: Instead of turning to several sources for your daily dose of vitamins and minerals, consider one cup of Moringa Tea, it has all the health benefits you need. Made from 100% Moringa Oleifera leaves, this tea is not only bursting with vitamins, minerals and antioxidants but is also refreshing and nutritious. There is no other plant leaf that contains such a concentrated amount of nutrients – this tea truly beats them all.

Statement of the Problem: The purpose of the study was to find out the Effects Of Swiss Ball Exercise With Green Tea And Moringa Tea intake On Waist hip ratio, good cholesterol and systolic and diastolic blood pressure Among Middle Aged Men In Chennai.

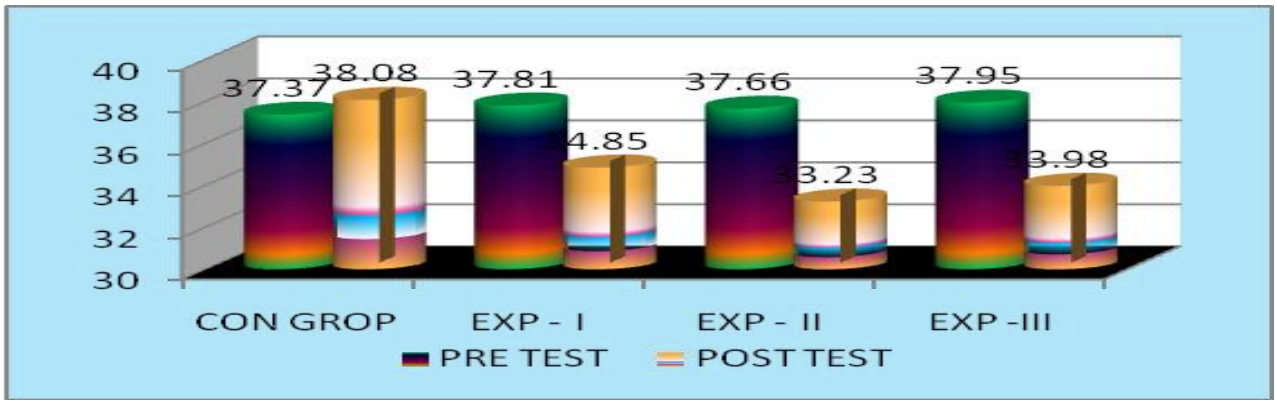
DEPENDENT VARIABLES - such as Waist hip ratio, good cholesterol and systolic and diastolic blood pressure. **INDEPENDENT VARIABLE: 1.** Experimental group I- fifteen selected subjects were Swiss ball exercise with green tea 2.Experimental group II-fifteen selected subjects were Swiss ball exercise with Moringa Tea3. Experimental group III 4.Control group-fifteen selected subjects were not given any supplements. **STATISTICAL TECHNIQUE**: Analysis of Covariance statistical technique was used, to test the significant difference among the treatment groups. If the adjusted post-test results were significant, the scheffe's post hoc test was used to determine the paired mean significant difference. Thirumalaisamy R. (2004).

COMPUTATION OF ANALYSIS OF COVARIANCE OF WAIST HIP RATIO: The following tables illustrate that statistical result of the Effects of Swiss Ball Exercise with Green Tea and Moringa Tea Intake on West hip ratio, good cholesterol, systole and diastole Among Middle Aged Men In Chennai and the adjusted post test mean and difference between the means of the groups under study were given in the tables

COMPUTATION OF ANALYSIS OF COVARIANCE OF WAIST HIP RATIO

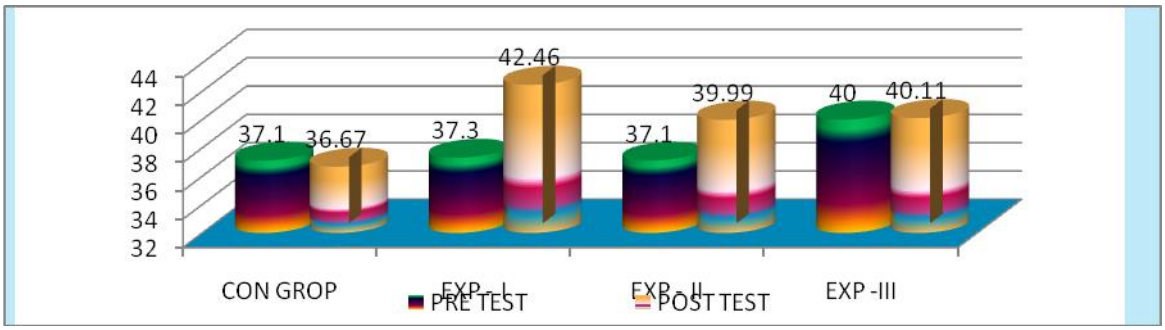
MEAN	EXP-I	EXP-II		CON	S.V	S.S	D.F	M.S	O.F	T.F
Pre test Mean	37.81	37.66	37.95	37.37	B	2.72	4	0.91	0.25	3.23
					W	191.80	56	3.43		
Post test mean	34.85	33.23	33.98	38.08	B	298.12	4	99.37	36.45	
					W	152.67	56	2.73		
Adj.Post test	38.77	33.25	33.78	34.33	B	286.70	3	95.50	159.04	
					W	33.05	55	0.60		

DISCUSSIONS AND FINDINGS OF WAIST HIP RATIO: This result indicated that the effect of Swiss ball



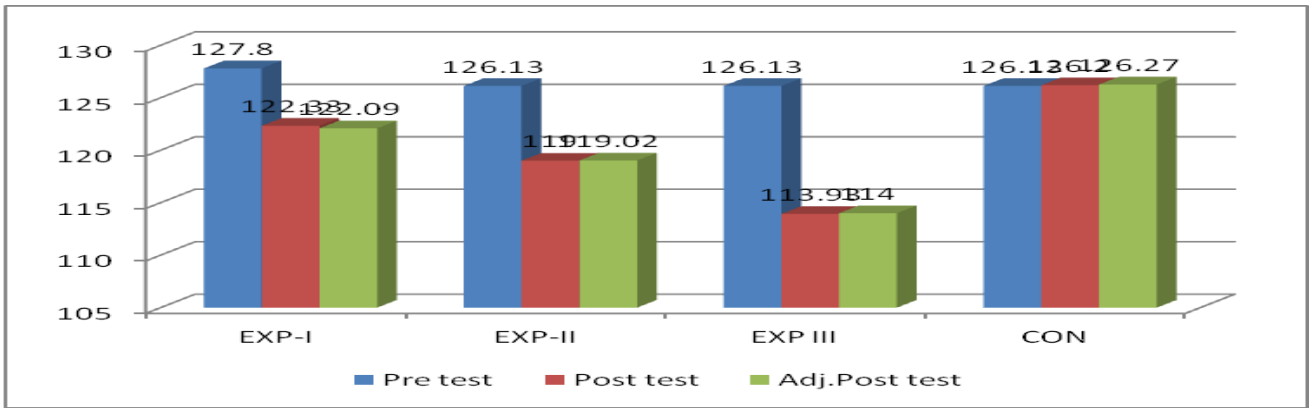
exercise with green tea and Moringa Tea intake had significantly decreased the waist hip ratio level among Middle Aged Men In Chennai when compare with control group. Swiss ball exercise with moringa tea have decreased waist hip ratio among the experimental groups. The further findings of the study indicated that Moringa Tea had significantly greater reduction in waist hip ratio than that of green with Swiss ball traini

COMPUTATION ANALYSIS OF COVARIANCE OF GOOD CHOLESTEROL										
MEAN	EXP-I	EXP-II		CON	S.V	S.S	D.F	M.S	O.F	T.F
Pre test Mean	37.3	37.1	40.0	37.1	B	63.23	4	21.08	1.05	3.23
					W	1122.05	56	20.04		
Post test mean	42.46	39.99	40.11	36.67	B	423.22	4	141.07	6.70	
					W	1178.39	56	21.04		
Adj.Post test	42.40	39.99	40.0	36.60	B	508.25	3	169.42	17.48	
					W	533.04	55	9.69		



DISCUSSIONS ON GOOD CHOLESTEROL: This result indicated that the effect of Swiss ball exercise with green tea and Moringa Tea intake had significantly increased the good cholesterol level among Middle Aged Men In Chennai when compare with control group.Swiss ball exercise with green tea and Moringa Tea intake had significantly increased the good cholesterol level among the experimental groups. The further findings of the study indicated that Swiss ball exercise with Moringa Tea had significantly greater increased in good cholesterol level among Middle Aged Men In Chennai when compare with Swiss ball exercise with green tea intake group.

COMPUTATION ANALYSIS OF COVARIANCE OF SYSTOLE BLOOD PRESSURE										
MEAN	**EXP-I**	**EXP-II**		**CON**	**S.V**	**S.S**	**D.F**	**M.S**	**O.F**	**T.F**
Pre test Mean	**127.8**	**126.13**	**126.13**	**126.13**	**B**	**31.25**	**3**	**10.41**	**0.65**	**3.23**
					W	**899.6**	**56**	**16.06**		
Post test mean	**122.33**	**119**	**113.93**	**126.2**	**B**	**1217.2**	**3**	**405.75**	**42.03**	
					W	**540.6**	**56**	**9.65**		
Adj.Post test	**122.09**	**119.02**	**114.0**	**126.27**	**B**	**1197.98**	**3**	**399.30**	**43.15**	
					W					

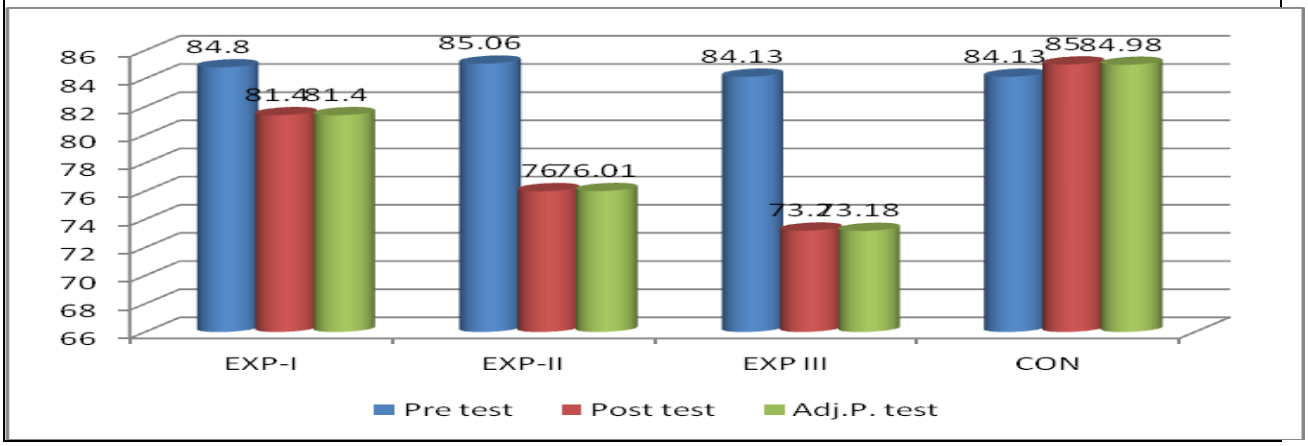


DISCUSSIONS ON SYSTOLE BLOOD PRESSURE: This result indicated that the effect of Swiss ball exercise with green tea and Moringa Tea intake had significantly Decreased the Systole Blood Pressure among Middle Aged Men In Chennai when compare with control group.

Swiss ball exercise with green tea and Moringa Tea intake had significantly Decreased the Systole Blood Pressure among the experimental groups. The further findings of the study indicated that Swiss ball exercise with Moringa Tea had greater decreased in Systole Blood Pressure level among Middle Aged Men In Chennai when compare with Swiss ball exercise with green Tea.

COMPUTATION ANALYSIS OF COVARIANCE OF DYSTOLE BLOOD PRESSURE

MEAN	EXP-I	EXP-II		CON	S.V	S.S	D.F	M.S	O.F
Pre test Mean	84.8	85.06	84.13	84.13	B	10.13	3	3.37	0.67
					W	280.8	56	5.01	
Post test mean	81.4	76	73.2	85	B	1265.4	3	421.8	134.21
					W	176	56	3.14	
Adj.Post test	81.40	76.01	73.18	84.98	B	1263.4	3	421.16	131.89
					W	175.6	55	3.19	



DISCUSSIONS ON DIASTOLE BLOOD PRESSURE: This result indicated that the effect of Swiss ball exercise with green tea and Moringa Tea intake had significantly Decreased Diastole Blood Pressure among Middle Aged Men In Chennai when compare with control group.

Swiss ball exercise with green tea and Moringa Tea intake had significantly decreased the Diastole Blood Pressure among the experimental groups. The further findings of the study indicated that Swiss ball exercise with Moringa Tea had significantly greater decreased in Diastole Blood Pressure among Middle Aged Men In Chennai when compare with Swiss ball exercise with Moringa Tea intake groups.

CONCLUSION:

The following conclusions were drawn within the limitation of this study

1. The obtained result shows that there were significant changes West Hip Ratio, Good Cholesterol, Systole And Diastole Blood Pressure due to influence of Swiss ball exercise with green tea and Moringa Tea intake among Middle Aged Men In Chennai.
2. Further it was it was discover that Swiss ball exercise with Moringa Tea had significant changes on waist hip ratio good cholesterol, systole and diastole blood pressure greater than that of Swiss ball exercise with green tea intake.

REFERENCE :

1. Montesano Domenico, Cossignani Lina and Blasi Francesca, Sustainable Crops for Food Security: Moringa (Moringa oleifera Lam.), Encyclopedia of Food Security and Sustainability, 10.1016/B978-0-08-100596-5.22574-2, (409-415), (2019).
2. Amany Abdel-Rahman Mohamed, Mohamed M.M.Metwally, Samah R. Khalil, Gamal A. Salem and Haytham A. Ali, Moringa oleifera extract attenuates the CoCl2 induced hypoxia of rat's brain: Expression pattern of HIF-1α, NF-kB, MAO and EPO, Biomedicine & Pharmacotherapy,10.1016/j.biopha.2018.11.019, 109, (1688-1697), (2019).
3. Ofelia Andrea Valdés-Rodríguez, Filippo Giadrossich, Arturo Pérez-Vázquez and Juan Carlos Moreno-Seceña, Above- and below-ground biomass and allometry of Moringa oleifera and Ricinus communis grown in compacted clayey soils, Flora, (2018).

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp16-19
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Effects Of Aerobic Training With And Without Moringa Oleifera On Resting Heart Rate, Iron, Mean Arterial Pressure And Testosterone Among College Men Athlete

Dr.R.Venkatesan,
Research Co-Ordinator
Tamil Nadu Physical Education and Sports University, Chennai – 600 127

Moringa Oleifera: Many studies show that Moringa oleifera may lead to modest reductions in blood sugar and cholesterol. It may also have antioxidant and anti-inflammatory effects and protect against arsenic toxicity. Moringa leaves are also highly nutritious and should be beneficial for people who are lacking in essential nutrients.

Health Benefits Of Moringa Oleifera: Boost Testosterone: One of the biggest marketing claims made by manufacturers of moringa supplements is its ability to increase testosterone levels, boost erections and enhance sexual performance. Essentially that it is an aphrodisiac. Moringa Oleifera on Lower Cholesterol: Modern societies are increasingly suffering from high amounts of cholesterol in the blood. Cholesterol is a big problem because it is linked to an increased risk of heart disease. Many plant foods such as chia seeds, flaxseeds, almonds and oats are found to effectively reduce cholesterol. Moringa also has similar cholesterol-lowering effects.

Statement Of The Problem: The purpose of the study was to investigate "Effects Of Aerobic Training With And Without Moringa Oleifera On Resting Heart Rate , Iron, Mean Arterial Pressure And Testosterone Among College Men Athlete".

Selection Of Variables: The following variables were selected for this study. I.DEPENDENT VARIBLES: 1. Resting Heart Rate ,2. Iron, 3.Mean Arterial Pressure 4.Testosterone.II.INDEPENDENT VARIBLES: 1. Aerobic training 2. Moringa Oleifera with Aerobic Exercise 3.Control Group

EXPERIMENTAL DESINGN: The subject were selected for this study through the random group design consisting of pre and post test, forty five college men athletes randomly divided into three groups, the group was assigned as an experimental group and control group. The groups are 1. Aerobic Training, 2. Moringa Oleifera with Aerobic Exercise,3.Control Group

TRAINING SCHEDULES AND SUPPLEMENTATION: During the training period, the experimental group underwent their walking program period of eight weeks for all days with Moringa Oleifera. The experimental group underwent walking for forty five minutes of duration seven days per week. **Statistical Technique**: Analysis of Covariance statistical technique was used, to test the significant difference among the treatment groups. Thirumalaisamy R. (2004).

Computation Of Analysis Of Covariance: The following tables illustrate the statistical results of Effects Of Moringa Oleifera With Aerobic Training On Selected Lipid Profile Status And Testosterone Among College Men Athlete and ordered adjusted means and the difference between the means of the groups under study.

COMPUTATION OF ANALYSIS OF COVARIANCE OF RESTING HEART RATE

MEANS	EXP-I	EXP- II	CON	S.V	S.S	D.F	M.S	O.F
Pre test Mean	**82.8**	**83.2**	**83**	**B**	1.2	2	0.6	**0.07**
				W	344.8	42	8.2	
Post test mean	**72.7**	**67.9**	**82.8**	**B**	1726.9	2	863.4	**102.37**
				W	354.2	42	8.4	
Adj. Mean	**72.8**	**67.8**	**82.8**	**B**	1740.8	2	870.4	**132.15**
				W	270.0	41	6.5	

Discussions And Findings Of Resting Heart Rate

This result indicated that the effect of Moringa Oleifera with aerobic training and aerobic training had significantly reduced the Resting Heart Rate Among College Men Athlete, when compared with control group in terms of means. Further findings of the study indicated that aerobic training with Moringa Oleifera had greater reduction in Resting Heart Rate than the aerobic training.

In Experimental Group had implementing the aerobic training with Moringa Oleifera prescription is influenced the significant reduction in Resting Heart Rate, when compare to the control group. It's all because of the supplementing the natural products is influenced and converted the excess cholesterol spent as energy for stamina and it avoid to formation of cholesterol in the body. So its concluded that the aerobic training with Moringa Oleifera had significantly influenced Resting Heart Rate and to avoid the unnecessary effect to the heart.

TABLE – II - COMPUTATION OF ANALYSIS OF COVARIANCE OF IRON								
Means	**EXP - I**	**EXP - II**	**Con.Grup**	**S.V**	**S.S**	**D.F**	**M.S**	**O. F**
Pre test Mean	**11.96**	**12.01**	**12.11**	**B**	**0.18**	**2**	**0.09**	**0.41**
				W	**9.39**	**42**	**0.22**	
Post test Mean	**12.53**	**14.43**	**11.86**	**B**	**53.21**	**2**	**26.60**	**48.80**
				W	**22.9**	**42**	**0.54**	
Ad.post test Mean	**12.55**	**14.43**	**11.83**	**B**	**53.92**	**2**	**26.96**	**50.70**
				21.83	**41**	**0.53**	**21.83**	

Discussion On Findings Of Iron:

From these analyses, it is found that the results obtained from the experimental groups had increase in the Iron when compared with the one from the control group. This is due to the inclusion of Moringa Oleifera with aerobic training in the analyses on Experimental Groups.

In Experimental Groups had implemented the aerobic training with Moringa Oleifera prescription is influenced the significant increase in total cholesterol, when compare to the control group. It's all because of the supplementing the natural products to influenced to increase the iron and hemoglobin. So once the ion level is increased it will boost up the oxygen carrying capacity and make the muscle work more.

COMPUTATION OF ANALYSIS OF COVARIANCE OF MAP

Means	EXP - I	EXP - II	Con.Grup	S.V	S.S	D.F	M.S	O. F
Pre test Mean	139	139	137.3	B	27.7	2	13.8	0.34
				W	1691.3	42	40.2	
Post test	128.7	114.1	139.3	B	4802.8	2	2401.4	71.94
				W	1402	42	33.3	
Adj.Post test Mean	128.6	114.0	139.4	B	4808.6	2	2404.3	71.13
				W	1385.8	41	33.8	

Discussion On Findings Of Mean Arterial Pressure

From these analyses, it is found that the results obtained from the experimental groups had significant reduction in Mean Arterial Pressure when compared with the one from the control group. This is due to the inclusion of Moringa Oleifera with aerobic training in the analyses on Experimental Groups.It is interesting to note that the results obtained from Experimental Group II had more effect than Experimental Group I on the reduction of Mean Arterial Pressure level. This is due to the implementation of Moringa Oleifera supplementation in Experimental Group II.It is concluded that the Mean Arterial Pressure is reduced means it will allow the heat an muscle work very smoothly and long duration without any fatigue. So due to this reason, we have to maintain the normal level of Mean Arterial Pressure in the body is always good for the internal systems.

COMPUTATION OF ANALYSIS OF COVARIANCE OF TESTOSTERONE

Means	EXP - I	EXP - II	Con. Grup	S.V	S.S	D.F	M.S	O. F
Pre test Mean	651.4	651.6	651.6	B	0.40	2	0.2	0.00
				W	17924.4	42	426.7	
Post test	680	734.5	651.4	B	53440.5	2	26720.27	38.3
				W	29289.4	42	697.3	

Adj.Post test Mean	**680.0**	**734.4**	**651.4**	**B**	**53413.9**	**2**	**26706.9**	**44.5**
				W	**24581.7**	**41**	**599.5**	

Discussion On Findings Of Testosterone:

From these analyses, it is found that the results obtained from the experimental groups had significantly increased in Testosterone level when compared with the one from the control group. This is due to the inclusion of Moringa Oleifera with aerobic training in the analyses on Experimental Groups. It is interesting to note that the results obtained the value of testosterone from Experimental Group II had greater increase from its lower level to maximal level than the Experimental Group I on the improvement of Testosterone. This is due to prescription of Aerobic Training With Moringa Oleifera to boost the volume of testosterone in the Experimental Group II. It is concluded that the experimental groups had greater improvement in volume of Testosterone in men athletes.

Results:

Within the limitations of the study, the following conclusions were drawn:

Experimental group II (Aerobic Training with Moringa Oleifera) showed greater reduction on Resting Heart Rate, Mean Arterial Pressure And greater improved in Iron, Testosterone than that Experimental group I due to training at the end of eight week period of time.

Findings:

After incorporate statistical technique, it was found that a significant decrease in Resting Heart Rate, Mean Arterial Pressure and greater increased in Iron, testosterone in experimental group I (Moringa Oleifera with aerobic exercise) due to eight weeks of Natural Supplementation with aerobic training.

Reference :

Montesano Domenico, Cossignani Lina and Blasi Francesca, Sustainable Crops for Food Security: Moringa (Moringa oleifera Lam.), Encyclopedia of Food Security and Sustainability, 10.1016/B978-0-08-100596-5.22574-2, (409-415), (2019).

Amany Abdel-Rahman Mohamed, Mohamed M.M.Metwally, Samah R. Khalil, Gamal A. Salem and Haytham A. Ali, Moringa oleifera extract attenuates the CoCl2 induced hypoxia of rat's brain: Expression pattern of HIF-1α, NF-kB, MAO and EPO, Biomedicine & Pharmacotherapy,10.1016/j.biopha.2018.11.019, 109, (1688-1697), (2019).

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp20-29
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Comparative Study On Management Skills And Challenges In Youth And Sport Offices Of Mekelle And Central Zones In Tigrai Regional State

ShishayWeldeslassie[a], Prof. S SHasrani[b] and Prof. Soumitra Mondal [c]

[a]lecturer in Sports Science, Department of Sports science, Axum University , Africa.
[b]Professor in Sports Science,Department of Sports science ,Mekelle University ,Africa
[c]Professor in Exercise Physiology, Department of Sports science,,Mekelle University ,Africa

Abstract
The purpose of this study was to compare the management skills and challenges in the youth and sport offices of Mekelle and Central Zones. Comparative survey specifically, Cross-sectional design was used to compare the various groups in the youth and sport offices of Mekelle and Central Zones. The researcher used simple random sampling technique to select ten Woreda and Sub city youth and sport offices from the -19- Woredas and Sub-cities of the two Zones. The researcher also used purposive sampling technique to select the whole population (108) of the selected Woreda youth and sport offices as a respondent. A total of -72- self made but standardized *5 liker test* questionnaire were distributed to all samples and -11- unstructured interview questions were also used to collect supportive information from the selected ten sport experts in the youth and sport offices of Mekelle and Central Zones. Pilot study was conducted to check the reliability of the questionnaires and the result of the test of reliability Alpha coefficient was between 0.642 and 0 .845 for all selected variables. One way analysis of variance (ANOVA) was used to compare the management skills such as time management skill, communication skill and decision making skillamong the governmental and non-governmental bodies in the youth and sport offices of Mekelle and Central zone. Further independent sample t-test was used to compare the motivating skills and the management challenges such as facility, finance andequipments among the youth and sport offices of Mekelle and central zones. There results obtained through post hoc multiple comparisons and t-test proved that, there were statistically significance difference among the youth and sport offices of Mekelle and Central Zones on the selected management skills and challenges except in motivating skills.
Key words: management skill, communication skill, time management skill, decision making skill, motivating skill, facilities, equipment and financial budget.

Introduction

Time management is not distinct and separable from management in general and its aim is to prevent dawdling and waste of time and regulate working time. This management emphasizes on preventing unnecessary activities, increase of efficiency, organizing and delegating tasks, Sport organizations are not exceptional to this. As a public organization, Sport and Youth offices plays a great role in planning and developing sport in cities and towns and serves as part of a social organ which continuously acts for supplying sport goals in one or several sport fields (Championship, public, professional, etc.). These directorates and offices are constituted from individuals and groups which purposefully collaborate with each other to fulfill the objectives of organization **(Mehdi *et al., 2014).*** Communication skills are related with speaking, writing, and reading, listening and thinking. The communication skill of an individual is among the abilities necessary for success and it is seen as an important advantage in most of the occupations.

Communication skills are important almost in every occupation and position; however, when management comes into question, it gains a special importance. So, communication skill is seen as one of the abilities that a manager must have and these managers have the properties of expressing and transferring their ideas to others clearly and being a good listener. Also they can establish good relations with the people from different positions inside and outside of their departments **(Erigüç and Durukan, 2013).** Decision making is the study of identifying and choosing alternatives based on the values and preferences of the decision maker. The managers of the Offices of Youth and Sports are part of decision making processes in sports and play a significant role in the development of Professional Sports in the country; as such it seems the analysis of their decision making styles would have a significant importance in the better guidance of the country's sports toward professionalism (***Benaret al.,*** **2013).** Understanding exactly what motivation is will help managers decide what actions to take to encourage their employees. Therefore, sport organizations irrespective of size and market strive to retain the best employees and players, acknowledging their important role and influence on organizational effectiveness. Thus, managers can increase their effectiveness by getting a better grasp on the real needs of the players ***(Iliuta, 2013).***There are three major problems on sport establishment. First, the lack of money support, Second, the lack of the frequency of the competition joining by the athlete, and the third, lack of the adequate of sport facilities. Especially for the last problem, it needs a work from all of the counterparts and the community to open up their eyes and to take action in order to understand that the major problem of sport world now a day is the lack of the adequate sport facilities. When there is no adequate sport facilities the sport managers may challenge to run the sport activities and to become successful in achieving their goals **(Awosika, 1982).** Sport equipment represents the tools that the coaches and the participants must have or use to facilitate the coaching of sports and for competitions. If sports program are to achieve any success and for effective management, there must be availability of sports equipment and supplies in high quality and quantity. Lack of sports equipment hinders the organization and management of sports Adequate computerized equipment are very essential in order to obtain optimum performance from the athletes in the Woreda when the athletes have been psyched to believe in equipment and stressing that effort should be made to properly equip athletes in the country**(Benson, 2012).** Sports consume a lot of money. The finances involved indifferent sports programmes are raised in various ways. Budgeting helps to identify the objectives of the sport organization, the resources available to carry out the objectives and it involves prepared costing of program in terms of estimated income and expenditure. Budget as a written estimate of anticipated income and expenditure should be clearly prepared document based on the financial information available **(Ladani, 2008).**

Methods

Design of the study

In this study the researcher usedcomparative research design specifically, cross sectional design i.e. the researcher investigated whether there was a significant difference among the various groups on their management skills and challenges in the youth and sport offices of Mekelle and Central zones. In addition, the researcher was collected data from the selected respondents' one times using questionnaire and interview.

Selection of subjects

In this study, the researcher selected ten Woreda/Sub-city youth and sport offices from the total of-19-Woredas and Sub-cities i.e. five out of the seven youth and sport offices from Mekelle zone and five out of the twelve youth and sport offices from Central zone of Tigrai region by a method of simple random sampling technique. The researcher also used purposive sampling technique to select all the population (108) as respondents from the ten selected Woreda and Sub-city youth and sport offices of Mekelle and Central Zones. All of the samples were participated willingly and voluntarily in this study.

Selection of variables and instruments

Based on the researchers experience and knowledge gained from different sources, the management skills and challenges such as time management skill, communication skill, and decision making skill, motivating skill; facility, finance and equipments respectively were considered as variables for the present study. In this study the researcher used *5 liker test* questionnaire and unstructured interview in order to collect concrete and relevant information about the above selected variables of management skills and challenges.

Data Collection Procedure

The researcher obtained a letter of cooperation from Mekelle university sport science department to the respondents. All the participants of the study were asked for their willingness and informed about the purpose of the study before the questionnaire distributed. Setting arrangement was applied in order to avoid cheating and collect correct data from the respondents. The questionnaire was distributed in a face to face manner. Moreover, during the administration of the questionnaires further clarification was given wherever it was needed. The questionnaire was distributed and collected by the researcher after completion of them from expected respondents. In order to collect relevant information that helps the researcher to support/ triangulate the data that were collected by using questionnaire, the researcher was forwarded unstructured questions to the selected 10-experts then the interviewees were justified about the questions raised by the interviewer based on their feeling. All the questionnaires were standardized through experts and experienced persons in management field including language professionals to assure their validity. After incorporating all the suggestions made by the experts and experienced persons in management and sport field including language professionals, the final questionnaire was prepared and subjected to further scrutiny by conducting a pilot study to ascertain its reliability. The two Woreda/Sub-city namely,Adihaki and T/maichow were selected randomly for the study. The data gathered for the pilot test were subjected to computer analysis using the statistical package for social sciences (SPSS) to determine the reliability coefficient of the questionnaire and also to ascertain whether the questionnaire used was appropriate for the study. The result of the test of reliability showed that Cranach Alpha coefficients were between 0.642 and 0 .845 for all selected variables. Spiegal(1992), Stevens (1986) reported that, an instrument is considered reliable if it lies between0 and 1 and the closer the calculated reliability coefficient is to 0, the less reliable is the instrument, and the closer it is to 1, the more reliable is the instrument.

Statistical Techniques

The Statistical Package for the Social Sciences (SPSS; version 20.0) was used for the data analysis. It was chosen to use parametric statistical tools even though the data was primarily ordinal. This can be justified by the interval like character of the given data and the greater accuracy and powerfulness of the paramagnetic test is maintained (Doering and Hubbared, 1979). One way analysis of variance (ANOVA) was used to compare the management skills such as time management skill, communication skill and decision making skill among the governmental and non-governmental bodies in the youth and sport offices of Mekelle and Central zone. Post-Hoc LSD multiple comparison was applied to identify the differences between the various groups in the youth and sport offices of Mekelle and Central zone.Further independent sample t-test was used to compare the motivating skills and the management challenges such as facility, finance and equipments among the youth and sport offices of Mekelle and central zones. The result was expressed by mean $\pm$standard error of mean and also to show whether there was statistical significance difference among the various groups in the youth and sport offices of Mekelle and Central zones, the researcher was used P (sig) value and T-value. The level of significance was set at 0.05 levels of confidences.

Results

TABLE 1

ANALYSIS OF VARIANCE (ANOVA) FOR DIFFERENCE AMONG THE FOUR CATEGORIES IN THE YOUTH AND SPORT OFFICES OF MEKELLE AND CENTRAL ZONES IN THEIR TIME MANAGEMENT SKILL

	Sum of Squares	Df	Mean Square	F	P(Sig.)
Between Groups	34.635	3	11.545	10.459	.000
Within Groups	114.800	104	1.104		
Total	149.435	107			

[F (2,172) =2.60(P>0.05)]

The result of the Analysis of Variance (ANOVA) revealed significant difference among the four categories in youth and sport offices of Mekelle and Central zone in their time management skill.

This is occasioned by the fact that the calculated sig. (P) value of 0.000 was less than0.05, level of significance. Based on the data collected using interview, 100% of the interviewees responded that as almost all staff members of the youth and sport offices in Mekelle zone had good time management skill except some committees. In the same manner most of the interviewees (80%) in the youth and sport offices of Central Zone responded that, the governmental bodies had good time management skill but the nongovernmental bodies' were not use their time efficiently because they are working voluntarily without any salary. In order to identify among which group was the significance difference, the researcher used Post-Hoc LSD multiple comparison test.

TABLE 2

POST-HOC LSD MULTIPLE COMPARISONS TEST FOR THE DIFFERENCE AMONG THE VARIOUS GROUPS IN YOUTH AND SPORT OFFICES OF MEKELLE AND CENTRAL ZONE IN THEIR TIME MANAGEMENT SKILL.

	(J) Job designation between and within zones of respondent groups	Mean Difference (I-J)	Std. Error	P (Sig).	95% Confidence Interval	
					Lower Bound	Upper Bound
CZGB	CZNGB	1.532*	.296	.000	.95	2.12
	MZGB	.400	.332	.231	-.26	1.06
	MZNGB	.679*	.296	.024	.09	1.27
CZNGB	CZGB	-1.532*	.296	.000	-2.12	-.95
	MZGB	-1.132*	.296	.000	-1.72	-.55
	MZNGB	-.853*	.255	.001	-1.36	-.35
MZGB	CZGB	-.400	.332	.231	-1.06	.26
	CZNGB	1.132*	.296	.000	.55	1.72
	MZNGB	.279	.296	.347	-.31	.87
MZNGB	CZGB	-.679*	.296	.024	-1.27	-.09
	CZNGB	.853*	.255	.001	.35	1.36
	MZGB	-.279	.296	.347	-.87	.31

*. The mean difference is significant at the 0.05 level.

CZGB-Central Zone governmental bodies, CZNGB-Central Zone nongovernmental bodies, MZGB-Mekelle Zone governmental bodies, MZNGB-Mekelle Zone nongovernmental bodies

P-value needed for significance at 0.05- level of significance.

Based on the multiple comparison (pair wise) of the mean score of the four categories of respondents, there was statistically significant difference among the Central Zone governmental bodies and Central Zone nongovernmental bodies in their time management skill because the calculated. (P) Value of 0.000 was less than 0.05- level of significance.

In the same vein there was statistically significant difference between the mean score of Central Zone governmental bodies and Mekelle Zone non-governmental bodies in their time management skill because the calculated (P) value of 0.024 was less than 0.05- level of significance.

However, there was no statistically significant difference between Central Zone governmental bodies and Mekelle Zone governmental bodies because the calculated (P) value of 0.231 was greater than 0.05-level of significance.

There was statistically significant difference between the mean score of Central Zone nongovernmental bodies and Mekelle Zone governmental bodies in their time management skill because the calculated (P) value of 0.000wasless than 0.05- level of significance and also there was statistically significant difference between the mean score of Central Zone nongovernmental bodies and Mekelle Zone nongovernmental bodies since the calculated (P) value of .001 was less than 0.05 level of significance.

There was no statistically significant difference between the mean score of Mekelle Zone governmental bodies and Mekelle Zone nongovernmental bodies in their time management skill because the calculated (P) value of 0.347 was greater than 0.05- level of significance.

Table 3: Analysis Of Variance (Anova) For Difference Among The Four Categories In The Youth And Sport Offices Of Mekelle And Central Zones In Their Communication Skill

	Sum of Squares	Df	Mean Square	F	P(Sig.)
Between Groups	14.870	3	4.957	4.367	.006
Within Groups	118.047	104	1.135		
Total	132.917	107			

[F (2,172) =2.60(P>0.05)]

The result of the Analysis of Variance (ANOVA) revealed significant difference among the four categories in youth and sport offices of Mekelle and Central zone in their communication skill.

Because the calculated F-ratio value of 4.367 was greater than the 2.60 F-critical while the calculated sig. (P) value of 0.006 was less than 0.05, level of significance.

Based on the data collected using interview, 100% of the interviewees responded that as almost all staff members of the youth and sport offices in Mekelle zone had good communication skill with all internal and external bodies concerning sport. Whereas most of the interviewees (80%) in the youth and sport offices of Central Zone responded that, the governmental bodies had good communication skill but the nongovernmental bodies are poor in communication. In order to identify among which group was the significance difference the researcher used Post-Hoc LSD multiple comparison test.

TABLE 4:POST-HOC LSD MULTIPLE COMPARISONS TEST FOR THE DIFFERENCE AMONG THE VARIOUS GROUPS IN YOUTH AND SPORT OFFICES OF MEKELLE AND CENTRAL ZONE IN THEIR COMMUNICATION SKILL

S(I) Job designation between and within zones of respondent groups	(J) Job designation between and within zones of respondent groups	Mean Difference (I-J)	Std. Error	P (Sig).	95% Confidence Interval	
					Lower Bound	Upper Bound
CZGB	CZNGB	.785*	.300	.010	.19	1.38
	MZGB	.100	.337	.767	-.57	.77
	MZNGB	-.068	.300	.822	-.66	.53
CZNGB	CZGB	-.785*	.300	.010	-1.38	-.19
	MZGB	-.685*	.300	.024	-1.28	-.09
	MZNGB	-.853*	.258	.001	-1.37	-.34
MZGB	CZGB	-.100	.337	.767	-.77	.57
	CZNGB	.685*	.300	.024	.09	1.28
	MZNGB	-.168	.300	.578	-.76	.43
MZNGB	CZGB	.068	.300	.822	-.53	.66
	CZNGB	.853*	.258	.001	.34	1.37
	MZGB	.168	.300	.578	-.43	.76

*. The mean difference is significant at the 0.05 level.

CZGB-Central Zone governmental bodies, CZNGB-Central Zone nongovernmental bodies, MZGB-Mekelle Zone governmental bodies, MZNGB-Mekelle Zone nongovernmental bodies

P-value needed for significance at 0.05- level of significance.

Based on the above Post-Hoc LSD multiple comparison (pair wise) of the mean score of the four categories of respondents, there was statistically significant difference between the means score of Central Zone governmental bodies and Central Zone nongovernmental bodies in their communication skill because the calculated. (P) Value of 0.010 was less than 0.05- level of significance. However, there was no statistically significant difference between the mean score of Central Zone governmental bodies

and Mekelle Zone governmental bodies in their communication skill because the calculated (P) value of 0.767 was greater than 0.05- level of significance. In the same manner there was no statistically significant difference between the mean score of Central Zone governmental bodies and Mekelle Zone non-governmental bodies in their communication skill because the calculated (P) value of 0.822 was greater than 0.05- level of significance. There was statistically significant difference between the mean score of Central Zone non-governmental bodies and Mekelle Zone governmental bodies in their communication skill because the calculated (P) value of 0.024 was less than 0.05- level of significance. In the same vein there was statistically significant difference between the mean score of Central Zone non-governmental bodies and Mekelle Zone non-governmental bodies in their communication skill since the calculated (P) value of .001 was less than 0.05, level of significance. There was no statistically significant difference between the mean score of Mekelle Zone governmental bodies and Mekelle Zone non-governmental bodies in their communication skill because the calculated (P) value of 0.578 was greater than 0.05- level of significance.

Table 5:Analysis Of Variance (Anova) For Difference Among The Four Categories In The Youth And Sport Offices Of Mekelle And Central Zones In Their Decision Making Skill

	Sum of Squares	Df	Mean Square	F	P(Sig.)
Between Groups	28.946	3	9.649	9.877	.000
Within Groups	101.600	104	.977		
Total	130.546	107			

The result of the Analysis of Variance (ANOVA) in the above shows that a significant difference among the four categories in youth and sport offices of Mekelle and Central zone in their decision making skill. This is occasioned by the fact that the calculated sig. (P) value of 0.000 was less than 0.05, level of significance. In addition the data collected by using interview showed that as there was good decision making skill in the youth and sport offices of both Mekelle and Central Zone. Since 80% of the interviewees in both Mekelle and Central Zone responded as most of the staffs have good decision making skill. In order to identify among which group was the significance difference the researcher used Post-Hoc LSD multiple comparison test.

Table 6:**Post-Hoc Lsd Multiple Comparisons Test For The Difference Among The Various Groups In Youth And Sport Offices Of Mekelle And Central Zone In Their Decision Making Skill**

S(I) Job designation between and within zones of respondent groups	(J) Job designation between and within zones of respondent groups	Mean Difference (I-J)	Std. Error	P (Sig.)	95% Confidence Interval	
					Lower Bound	Upper Bound
CZGB	CZNGB	1.326*	.279	.000	.77	1.88
	MZGB	.300	.313	.339	-.32	.92
	MZNGB	.356	.279	.204	-.20	.91
CZNGB	CZGB	-1.326*	.279	.000	-1.88	-.77
	MZGB	-1.026*	.279	.000	-1.58	-.47
	MZNGB	-.971*	.240	.000	-1.45	-.50
MZGB	CZGB	-.300	.313	.339	-.92	.32
	CZNGB	1.026*	.279	.000	.47	1.58
	MZNGB	.056	.279	.841	-.50	.61
MZNGB	CZGB	-.356	.279	.204	-.91	.20
	CZNGB	.971*	.240	.000	.50	1.45
	MZGB	-.056	.279	.841	-.61	.50

*. The mean difference is significant at the 0.05 level.
CZGB-Central Zone governmental bodies, CZNGB-Central Zone nongovernmental bodies, MZGB-Mekelle Zone governmental bodies, MZNGB-Mekelle Zone nongovernmental bodies , P-value needed for significance at 0.05- level of significance.
Based on the above Post-Hoc LSD multiple comparison (pair wise) of the mean score of the four categories of respondents, there was statistically significant difference between the means score of Central Zone governmental bodies and Central Zone non-governmental bodies in their decision making skill because the calculated. (P) Value of 0 .000 was less than 0.05- level of significance. However, there was no statistically significant difference between Central Zone governmental bodies and Mekelle Zone governmental bodies because the calculated (P) value of 0.339 was greater than 0.05- level of significance. In the same manner there was no statistically significant difference between the mean score of Central Zone governmental bodies and Mekelle Zone nongovernmental bodies because the calculated (P) value of 0.204 was greater than 0.05- level of significance. There was statistically significant difference between the mean score of Central Zone nongovernmental bodies and Mekelle Zone governmental bodies in their decision making skill because the calculated (P) value of 0.000 was less than 0.05- level of significance and also Central zone nongovernmental bodies had 1.026 less mean score than Mekelle zone governmental bodies. In the same vein there was statistically significant difference between the mean score of Central Zone nongovernmental bodies and Mekelle Zone nongovernmental bodies since the calculated (P) value of .000 was less than 0.05, level of significance. There was no statistically significant difference between Mekelle Zone governmental bodies and Mekelle Zone nongovernmental bodies in their decision making skill because the calculated (P) value of 0.841 was greater than 0.05- level of significance.

Table 7:Independent Samples Test Comparison For The Difference In Motivating Skill Among Youth And Sport Offices Of Mekelle And Central Zones

Presence of good motivating skill	Levine's Test for Equality of Variances	t-test for Equality of Means							
	F	Sig.	T	Df	Sig. (2-tailed)	MD	SEMD	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	8.709	.004	1.137	106	.258	.222	.195	-.165	.610
Equal variances not assumed			1.137	100.6	.258	.222	.195	-.166	.610

Significant at 0.05 level Confidence (1.96) Degree of freedom =106
The result of the independent sample test in the above shows that as there wasno statistical significant difference among the youth and sport offices of Mekelle and Central zone in their motivating skill.This is occasioned by the fact that the calculated"t"value of1.137 was less than the t-tabulated value of 1.96 with 106 degree of freedom.

Table 8:Independent Samples T-Test Comparison For The Presence Of Accessible And Quality Sport Facilities In Woreda Youth And Sports Of Mekelle And Central Zone

presence of accessible and quality sport facilities	Levine's Test for Equality of Variances	t-test for Equality of Means							
	F	Sig.	T	Df	Sig. (2-tailed)	MD	SEMD	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	8.181	.005	2.563	106	.012	.519	.202	.117	.920
Equal variances not assumed			2.563	105.7	.012	.519	.202	.117	.920

Significant at 0.05 level Confidence (1.96) Degree of freedom =106

The result of the independent sample test in the above table 8 shows that. There was statistical significant difference among the youth and sport offices of Mekelle and Central zone about the presence of accessible and quality sport facilities. Because the calculated"t"value of 2.563 was greater than the t-tabulated value of 1.96 with 106 degree of freedom.

Table 9:Independent Samples T-Test Comparison For The Presence Of Accessible And Quality Sport Equipments In Woreda Youth And Sports Of Mekelle And Central Zone

presence of accessible and quality sport Equipments	Levine's Test for Equality of Variances	t-test for Equality of Means							
	F	Sig.	T	Df	Sig. (2-tailed)	MD	SEMD	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.524	.471	2.135	106	.035	.444	.208	.032	.857
Equal variances not assumed			2.135	105.25	.035	.444	.208	.032	.857

Significant at 0.05 level Confidence (1.96) Degree of freedom =106

The result of the independent sample test in the above table 9 shows that as there was statistical significant difference among the youth and sport offices of Mekelle and Central zone about the presence of accessible and quality sport Equipments. Because the calculated "t" value of 2.135 was greater than the t-tabulated value of 1.96 with 106 degree of freedom.

Table 10:**Independent Samples T-Test Comparison For The Presence Of Adequate Sport Finance In The Youth And Sport Offices Of Mekelle And Central Zone**

presence of adequate sport finance	Levine's Test for Equality of Variances	t-test for Equality of Means							
	F	Sig.	T	Df	Sig. (2-tailed)	MD	SEMD	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	13.082	.000	2.044	106	.043	.370	.181	.011	.730
Equal variances not assumed			2.044	103.17	.043	.370	.181	.011	.730

Significant at 0.05 level Confidence (1.96) Degree of freedom =106

The result of the independent sample test in the above table 10 shows a statistical significant difference among the youth and sport offices of Mekelle and Central zone about the presence of adequatefinance. Because the calculated"t"value of2.044 is greater than the t-tabulated value of 1.96 with 106 degree of freedom.

Discussion

The purpose of this study was to compare the management skills and challenges in the youth and sport offices of Mekelle and Central Zones. The Post-Hoc LSD multiple comparisons shows as there werestatistically significance differences among the governmental bodies and nongovernmental bodies in the youth and sport offices of Mekelle and central zones in their decision making skill, communication skill and time management skill sincethe calculated p-values were less than the p-tabulated value. Central Zone governmental bodies scored significantly better in time management skill, communication skill and decision making skill than Central and Mekelle Zone nongovernmental bodies. In addition, Central Zone nongovernmental bodies scored significantly less than Central and Mekelle Zone government bodies and Mekelle Zone nongovernmental bodies. The independent t-test shows as there was statistically significance difference among the youth and sport offices of Mekelle and Central zones in relation to their motivating skill since the calculated t-values was less than the t-tabulated value.

The findings of the study were in agreement/inline with the study of *Michael and Olasunkanmi (2015) conducted research on the* time management and administrative effectiveness *and concluded that,* a well managed time have high significant relationship with organizational goals achievement and aid administrative effectiveness of any organizations. The results and findings of the study were also supported by Cluj-Napoca (2010) studded on improving the management of high performance sports games teams and concluded that, to be successful it is essential to understand what it means communication and to develop those qualities that are absolutely necessary. The results and findings of this study was supported by Bibi Asia *et al., (2013)*conducted a study on the Decision Making Practices in the Universities of Pakistan and concluded that, decision making is the worthy and integral element of management process and influences organizational setup. This study was also in agreement with the study ofAdeyeye et al., (2013) studied on the impact of motivation on athletic achievement and they concluded that, It is possible for athletes to perform excellently well in competition through motivation, which can improve their concentration, confidence, self-control etc.

The independent t-test shows that as there were statistically significance differences among the youth and sport offices of Mekelle and Central zones in relation to their facilities, equipments and finance sincethe calculated t-values were greater than the t-tabulated value. Central Zone showed significantly better result than Mekelle Zone in relation to their sport facilities, sport equipments and financial budget. Even though Central Zone showed better significance than Mekelle Zone, the data gathered through

questionnaire and interview shows as there was lack of sport facilities, sport equipments and finance in both Zones.The result and finding of this study was supported by Christopher*et al*., (2015) concluded that facilities is a predictor of sports development. The study revealed that the status of spots development was low due to inadequate facilities and also absence of good maintenance habits of the few facilities. The result and finding of this study was in line with the study of Jacob (2014) concluded that, Identification of talented student-athletes in universities in Kenya was challenged by lack of necessary equipment to facilitate the process of talent identification. The result and finding of the study was in agreement with the study of Rikardsson H. and Rikardsson L., (2013) concluded that, financial budget is very important for the development of sport and it helps for the continuity of the clubs' participation in different tournaments.

Conclusion

Based on the analysis of the data, interpretation of results and discussion of findings the following conclusions were made.Both Mekelle and Central Zone governmental bodies have good time management skill. However, Central Zone non-governmental bodies have extremely poor time management skill when compared to Mekelle zone non-governmental bodies.Central Zone non-governmental bodies have poor communication skill when compared to Mekelle Zone non-governmental bodies. However, there was no statistically significance difference between Mekelle and central zone government bodies and they have good communication skill.Mekelle and Central Zone governmental bodies have good decision making skill and also there was no significant difference among those two zones. However Mekelle zone non-governmental bodies have better decision making skill when compared to Central Zone non-governmental bodies.The youth and sport officers of Central Zone have better motivating skill when compared to the youth and sport offices of Mekelle Zone.The youth and sport offices of Central Zone have better facilities when compared to the youth and sport offices of Mekelle Zone.The youth and sport offices of Central Zone have better equipments when compared to the youth and sport offices of Mekelle Zone.The youth and sport offices of Central Zone have better financial budget when compared to the youth and sport offices of Mekelle Zone.

Recommendation:

Based on the above results and conclusions the researcher recommended that:

The non-governmental bodies in the youth and sport offices of central zone should improve their management skills such as time management skill, communication skill and decision making skill.The youth and sport officers in Mekelle zone should improve their motivating skill. The youth and sport office administrators in Mekelle zone together with the local government should prepare good quality sport facilities/ equipments and provide proper maintenance.The athletes and coaches should use the facilities and equipments in a safe manner.The local government, the communities and different voluntary people together should provide fund for running sport activities in a well manner.Similar research study should be done on the remaining variables of management skills and challenges such as creativity skill, event management skill, problem solving skill… etc.

Reference

Abisai Jacob, (2014) assets and modes of identification and development of talented student-athletes in selected sport disciplines in kenyanuniversities,kenyatta university, p.o box 43844

Adeyeye, j. b. vipene, d. a. asak, (2013) the impact of motivation on athletic achievement: a casestudy of the 18th national sports festival, lagos, Nigeria, I Academic Research International, vol.4, No. 5L: 2223-9553, ISSN: 2223-9944

Awoma Christopher, I. Okakah, R. O. and Arainwu Gabriel, (2015)facilities/equipment as predictor of sport development in edo state, Nigeria, European Journal of Research in Social Sciences Vol. 3 No. 3,

Awosika, B.Y. (1982). Intramural programme in some selected Nigerian Universities. Unpublished Doctoral Thesis, University of Ibadan, Ibadan.

Bamidele Benson Babatunde, (2012) comparative analysis of sports management practices in tertiary institutions in Nigeria, Zaria

Benar N., YeganehN.,Fallah S. , Entezary M.,(2013), decision making styles and professionalization of sports: experience of managers of the offices of youth and sports in YAZD PROVINCE,journal of pedagogies,vol.9,pp,101-107

Bibi Asia Naz, Amir Zaman, Abdul Ghaffar, Fazli Ameen, Umar Ali, and Javed Iqbal, (2013) Decision Making Practices in the Universities of Pakistan (A Comparative Study), International Journal of Business and Social Science Vol. 4 No. 7

Cluj-Napoca (2010)improving the management of high performance sports games teams

GülsünErigüç and Serapdurukanköse, (2013) Evaluation of Emotional Intelligence and Communication Skills of Health Care Manager Candidates: A Structural Equation Modeling, International Journal of Business and Social Science Vol. 4 No. 13;

HampusRikardsson and Linus Rikardsson, (2013) Strategic Management in Football, ISRN Number: LIU-IEI-FIL-A--13/01423--SE

Ladani (2008) An Introduction to Sports Management, Printed and Bound by Sunjo A.J. Global Links Ltd, Kaduna, Nigeria.

Mehdi kohandel, ElhamSaeedi and SeyedMohy-Al din Bahari, (2014), the relation between time management and organizational effectiveness and stress coping styles of sport and youth directorate staffs, European Journal of Experimental Biology.

Michael OlarewajuOgundele (Ph.D), and OlasunkanmiMuftauAfolabi (2015) Time Management and Administrative Effectiveness of Kwara State Tertiary Institutions, Nigeria, Asia Pacific Journal of Multidisciplinary Research, Vol. 3, No.

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp30-32
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Effect of Physical Exercises Fartlek and Combined Training on Selected Physiological and Psychological Variables among Men Trainee Sub-Inspectors of Andhra Pradesh

Mr. YASWANTHA REDDY.B.
Research Scholar (Ph.D.),
Tamil Nadu Physical Education & Sports University
Chennai - 127

Dr. I. LILLY PUSHPAM,
Research supervisor
Assistant Professor
Tamil Nadu Physical Education & Sports University, Chennai - 127

Introduction

POLICE:

The police are people empowered to enforce the law, protect property and reduce civil disorder. Their powers include the legitimized use of force. The term is most commonly associated with police services of a state that are authorized to exercise the police power of that state within a defined legal or territorial area of responsibility. The word comes via medieval French police; from Latin politia "civil administration", from ancient Greek Law enforcement, however, constitutes only part of policing activity. Policing has included an array of activities in different situations, but the predominant ones are concerned with the preservation of order. In some societies, in the late 18th century and early 19th century, these developed within the context of maintaining the class system and the protection of private property.

SPORTS TRAINING

In sports, the word coaching is usually taken to be synonymous with physical work. In a very slender sense, coaching is doing physical exercises for the development of performance. Sports coaching may be a method of preparation of sportswoman supported scientific principles for higher performance.

Sports coaching are a posh method consisting of varied coaching sentiments, parts and aspects. The coach helps the sportswoman to enhance his performance and temperament. The place to begin for the coaching method is that the determination of the aim that relates not solely to the performance however conjointly to the temperament of the sportswoman.

PSYCHOLOGY

Psychology should focus on the study of conscious experience, One's task is that of analyzing sensations, feelings, and images into their most basic parts, just as chemists analyze complex substances. In that way, one can come to understand the nature of the human mind what it is firmly believes that we can accomplish this through introspection asking individuals to describe what goes on in their mind as they perform various tasks or have specific experience. Psychology is a particularly exciting and difficult field of information. It continues to travel in a fast part annually and it continues to produce answers to basic questions about the human condition. Scientific discipline has huge potential. Scientific discipline offers hope of each understanding and up our lives, our community and planet.

PSYCHOLOGICAL SKILLS

In themselves, psychological skills square measure all reticulates with one another and kind a singular, composite, indivisible whole. Their separation into impulsive classes is for analysis, coaching and teaching functions as applied during a kind of settings like sport. Psychological skills most cantered on in sport embody arousal, imagination, attention, concentration, self-assurance, goal setting and motivation. Though, there square measure interventions to coach the psychological skills, it's evident that participation in sports itself contributes to the leering, coaching and enriching of psychological skills.

SPORTS PSYCHOLOGY

Sports Psychology is that the scientific study of individuals and therefore their behaviours in sport contexts and the utilization of that data. Sport psychologists determine principles and tips that professionals will use to assist adults and youngsters participate within the have the benefit of sport and exercise activities in each team and individual environments. Sports psychologists have two objectives in mind: (a) to grasp however psychological factors affect an individual's physical performance and (b) to grasp however participation in sport and exercise affects a person's psychological development, health and well-being. Sport scientific discipline deals with increasing performance by managing emotions and minimizing the psychological effects of injury and poor performance. a number of the foremost necessary skills educated square measure goal setting, relaxation, visual image, self-talk, awareness and management, concentration, confidence, victimisation rituals, attribution coaching, and periodization.

Role Of Psychology

Psychology of sports suggests that applying psychological theories and conception, to aspects of sports like employment and teaching. The sports psychologists use psychological assessment techniques and attain their best performance. Whereas sports psychological science cares with analyzing human behaviour in numerous styles of performance.

Objective Of The Study:

The researcher will prove that the physical exercises and fartlek training programme significantly influences selected physical, physiological, psychological variables.The objective of this study to find out whether the existing training programme for trainee sub-inspectors has significant influence selected physical, physiological, and psychological variables. Whether the specified physical exercise or combination of physical exercise and fartlek training has made any significant influence on selected physical, physiological, psychological variables than the regular training for trainee sub-inspectors.

Statement Of The Problem:

The purpose of the study was to find out the "Effect of physical exercises, fartlek and combined training on selected Physical, Physiological and psychological variables among men trainee sub inspector of Andhra Pradesh."

Significance Of The Study:

The present study would acquaint the authorities on the effect of physical exercises, fartlek training on selected physiological variables blood pressure, resting pulse rate among trainee sub-inspectors.

The present study would acquaint the authorities on the effect of physical exercises, fartlek training and combined effect of physical exercises and fartlek training on selected psychological variables anxiety, self concept among trainee sub-inspectors.

Hypotheses:

1. It is hypothesized that there would be significant improvement in selected physiological variables due to fartlek training and combination of physical exercises and fartlek training to trainee sub-inspectors of Andhra Pradesh.
2. It is hypothesized that there would be significant improvement in selected physiological variables due to fartlek training and combination of physical exercises and fartlek training to trainee sub-inspectors of Andhra Pradesh.

Delimitations:

Sixty four sub- inspectors randomly selected from Andhrapradesh police academy, which have been selected to undergo training during the year 2017-2018.The age of the subjects ranged between 21 to 27 years.To achieve the purpose of the study following variables has been selected physical exercises and fartlek training, physiological and psychological variable.The training schedule should be fixed 12 weeks programme.The study is delimited with training of six days per week (each day 90 minutes of training).

The study further delimited to four equal groups three experimental and one control group.

Limitations:

The trainee sub-inspectors would have been under different training methods to get them selected as trainees sub-inspector. The effects of training were not considered in this study.

Heredity and environmental factors which contribute to Physiological, Psychological factors have not been controlled.The scholar confined himself only to the men trainee sub-inspectors (direct recruitment) for this study.

Methodology

To achieve the purpose of the study sixty four men trainee sub-inspectors were selected from Beachpally, Andhra Pradesh. Their age ranged from 21 to 25 years. The experimental treatment assigned such as fartlek training, physical exercise programme and fartlek training with physical exercise programme for a twelve weeks.

Selection of variables

The researcher had gone through various literatures and had discussions with various experts and with his guide before selecting of variables. The availability of techniques for the purpose of analysis, feasibility, reliability of the procedure and outcome were extensively taken care of before finding the variables. The following independent and dependent variables were selected.

Dependent variables:

Physiological variables

Systolic Blood pressure

Diastolic Blood pressure

Resting pulse rate

Psychological variables

Anxiety

Self-concept

Independent variables

Fartlek training.

Physical exercise programme.

Fartlek training with physical exercise programme

Statistical Analysis Of Data

The following statistical techniques were adopted to treat the collected data in connection with established hypothesis and objectives of this study.

The data was collected from the four groups before and after the training programme on selected physical, physiological and psychological variables of trainee sub inspector. Analysis of Co Variances (ANCOVA) was applied to find out the significant differences among all the groups in the selected variables. Whenever the adjusted post-test means were found significant, the Scheffe's post hoc test was administrator to find out the paires means difference. All the data were analyzed using computer with SPSS statistical packages. The level of significance was fixed at 0.05 level of confidence.

Conclusions

On the basis of the interpretation of data, the following conclusions were drawn from the study.

Physiological variables

The selected physiological variables resting pulse rate and cardiovascular endurance significantly improved by three experimental groups when compared with control group.

The combined training group [fartlek training with physical exercise group] is better than the fartlek training group and physical exercise group on cardiovascular endurance.

There is no significant differences exist between fartlek training group, physical exercise group and combined training group [fartlek training with physical exercise group] on resting pulse rate.

Further it was concluded that there is no significant improvement due to the effect of fartlek training group, physical exercise group and combined training group [fartlek training with physical exercise group] on systolic blood pressure and diastolic blood pressure.

Psychological variables

The selected psychological variables anxiety and self concept significantly improved by three experimental groups when compared with control group.

Further it was concluded that there is no significant differences exists between fartlek training group, physical exercise group and combined training group [fartlek training with physical exercise group] on anxiety and self concept.

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp33-35
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

A Comparative Study On Individual Time Trial Performances Of National Road Cycling Championship Event

Dr. Bharat Z. Patel
Associate Professor in Physical Education
K. K. Arts & Commerce College, DHANDHUKA.
Ahmedabad. (GUJARAT)
Email:-bharatpatel02@yahoo.in

Introduction:-

In the late 1800s professional road cycling was very popular especially in Europe and America. Many clubs were formed around the world. Road Cycling was an event in the first modern day Olympics held in 1896 where riders completed two circuits of the Marathon running course. Cycling is a poor man's transport, hobby of rich man and medical activity for the old. In most of the cases, a child life starts with a cycle, two wheeled & tri-wheeled irrespective of his/her status of being from a rich, middle or poor family, hence, it may be mentioned that the cycling activity starts in the beginning of childhood and it becomes a sports at 10-12 years of age. Cycling as a sport was introduced in India with the efforts of Sh. Janki Das in mid thirties. The world's most famous cycling race, The Tour de France, began in 1903. It was a 2,500 Km. race taking place across 19 days, in six stages with riders expected to ride day and night. American, Lance Armstrong, has won the Tour de France seven years in row. Cycling Federation of India organizes the national road championship once in year for all age groups but to have better talents to improve further, separate national championship for Elite, junior, sub-junior and youth category. Cyclists have opportunity to participate separate in rood national championship which were being held regular every year.

Individual Time Trial:-

Individual time trial was a one event of road cycling. The start of the time trial is staggered so that a rider takes off every 120 seconds. If, during the time trial, a competitor reaches the rider in front he or she must pass the rider leaving a gap between them of at least two meters. The rider with fastest time wins the time trial race.

The Cycle:-

Road cycle look similar to the bikes you see being ridden around town. They can be made of steel, aluminum, titanium or carbon fiber. They generally weight between 8kg to 10kg and have brakes and gears to deal with different terrains and closeness of other cyclists. The time trail bikes are allowed to have aerodynamic handle bars. They have finer frames, a shorter wheelbase and drop handlebars. Being very light, they are built for seed on the road which means they are not as sturdy as other types of bike.

Statement of the Problem:-

The purpose of the comparative study was to find out better individual speed performance of Elite, junior men and women groups of the national road cycling championship 2018.

Objective of the Study:-

The main objective of the study was to find out the better speed performance of Elite men or junior men group and Elite women or junior women group of the individual time trial event in national road cycling championship 2018.

Procedure:-
For this study, two age groups were taken from Elite and Junior spamming in national road cycling men and women championship 2018. Elite group shall comprise riders aged 19 and above, Junior group shall comprise riders aged 17 and 18 year. The individual time trial event race distance of Elite men are 40Km., Junior men are 30Km., Elite women are 30Km., Junior women are 15Km.The individual speed performance up to ten position winners was worked out. A comparative study was done considering Elite men and Junior men individual speed performance and Elite women and Junior women individual speed performance up to ten position winners.

Statistical Analysis:-
The relevant data received from the results of the national road cycling championship 2018 were evaluated according event individual time and speed @ km. comprise and analysis.

Results and Discussion:-
In order to determine the significance of Elite men and Junior men group difference in the individual time trial event performance and Elite women and Junior women group difference in the individual time trial performance of national road cycling championship 2018. The result of individual time and speed @ km. group wise performance were compared. The comparative results are shown in table – 1 and 2.

Table – 1:Significance of difference between the Elite men and Junior men group wise individual time trial performance of national road cycling championship event

Sr. No. up to ten position winners	Elite men group			Junior men group		
	Team of Player	Time of 40 Km. Event	Speed @ Km.	Team of Player	Time of 30 Km. Event	Speed @ Km.
1	RSPB	52:58.387	45.31	RAJ	40:59.310	43.91
2	KAR	54:18.414	44.19	KAR	41:52.123	42.99
3	SSCB	54:31.401	44.02	KAR	42:00.356	42.85
4	HAR	54:39.496	43.91	MAH	42:35.273	42.27
5	RSPB	55:13.959	43.45	PUN	43:21.123	41.52
6	A.P	56:00.982	42.84	RAJ	43:29.438	41.39
7	KAR	56:59.854	42.11	HAR	44:32.689	40.41
8	MAH	57:32.972	41.70	CHD	45:13.734	39.80
9	RAJ	57:40.713	41.61	GUJ	45:18.582	39.73
10	HAR	58:06.796	41.30	MAH	45:22.334	39.67

-Viewing table -1, it seen that the Elite men group first position performance was speed @ per hours 45.31km achieved but Junior men group first position performance was speed @ per hours 43.91km., so the down speed @ per hours 1.40km. from the Elite men group.
-Viewing table -1, it seen that the Elite men group fifth position performance was speed @ per hours 43.45km achieved but Junior men group first position performance was speed @ per hours 41.52km., so the down speed @ per hours 1.93km. from the Elite men group.

-Viewing table -1, it seen that the Elite men group ten position performance was speed @ per hours 41.30km achieved but Junior men group first position performance was speed @ per hours 39.67km., so the down speed @ per hours 1.63km. from the Elite men group.

-Viewing table -1, it seen that the Elite men group up to ten position winners performance was speed @ per hours achieved better performance from the Junior men group.

Table – 2:Significance of difference between the Elite women and Junior women group wise individual time trial performance of national road cycling championship event

Sr. No. up to ten position winners	Elite women group			Junior women group		
	Team of Player	Time of 30 Km. Event	Speed @ Km.	Team of Player	Time of 15 Km. Event	Speed @ Km.
1	KER	45:22.421	39.67	M.P	24:40.582	36.47
2	MNP	46:40.187	38.57	KAR	24:41.762	36.44
3	MAH	46:47.010	38.48	ORI	24:52.920	36.17
4	MAH	47:42.073	37.73	MAH	24:53.528	36.16
5	GUJ	48:02.631	37.47	KAR	25:22.395	35.47
6	HAR	48:44.172	36.93	ASM	25:22.920	35.46
7	RSPB	48:52.244	36.83	RAJ	26:11.929	34.35
8	HAR	49:05.924	36.66	KER	26:35.892	33.84
9	PUN	49:09.704	36.61	PUN	28:11.762	31.92
10	RSPB	49:10.798	36.60	DEL	28:40.676	31.38

-Viewing table -2, it seen that the Elite women group first position performance was speed @ per hours 39.67km achieved but Junior women group first position performance was speed @ per hours 36.47km., so the down speed @ per hours 3.20km. from the Elite women group.

-Viewing table -2, it seen that the Elite women group fifth position performance was speed @ per hours 37.47km achieved but Junior women group fifth position performance was speed @ per hours 35.47km., so the down speed @ per hours 2.00km. from the Elite women group.

-Viewing table -2, it seen that the Elite women group ten position performance was speed @ per hours 36.60km achieved but Junior women group ten position performance was speed @ per hours 31.38km., so the down speed @ per hours 5.22km. from the Elite women group.

-Viewing table -2, it seen that the Elite women group up to ten position winners performance was speed @ per hours achieved better performance from the Junior women group.

Conclusion:-

The analysis of data revealed that there is a significant difference in Elite and Junior men and women group wise performances in national road cycling championship 2018. It is established that various categories of cyclist different levels of relative strength. This may be probably due to the different nature of training and pre-requisite components for cyclist. Such results may be due to other factors such as different body type, different in the body composition, different geographic backgrounds, and cycle etc.

References:-

-Singh, Vinay, Results, National Road Cycling Championship, Haryana, 2018.
-WWW. Cycling Federation of India

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp36-39
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Effectiveness Of Zumba Fitness To The Fitness Enthusiasts In Kalibo, Aklan, Philippines

Dr. Jelemy M. Jizmundo
College of Industrial Technology, Aklan State University
Kalibo, Aklan, 5600, Philippines
jelemymjizmundo@gmail.com

Abstract

This study determined the level of Effectiveness of Zumba Fitness to the Fitness Enthusiasts in Kalibo, Aklan, Philippines. The findings of the study revealed that the fitness enthusiasts were between 38-40 years old, most were females and majority were married. The subjects who were overweight in the pre-test were found to have decreased their weight in the posttest. Those who had normal body mass index increased in the pretest up to last posttest. The number of obese fitness enthusiasts remained the same in the posttest. The biggest number of participants excelled in sits up. Majority performed poorly in long jump. For the sprint test, the subjects gradually improved. Majority had average results in agility.

There were significant differences between the pretest and posttest results in the sit up, sprint and agility performance of the fitness enthusiasts after they underwent the zumba fitness. However, no significant difference was found in the long jump performance. The waist circumference of the participants was significantly different before and after the zumba fitness but no significant difference was noted in their weight.Among the hindrances that prevented the fitness enthusiasts from attaining their goals of becoming physically fit and lose weight was uncontrolled diet or eating habit. Zumba sessions were done only three times a week. Attendance was also an issue due to pressure from work, family, sickness and interest or motivation.The participants found zumba fun and a stress reliever. There was a party-like feeling. Their body became light and active and energized. Zumba is an effective means of reducing the waist circumference but has not been found to significantly reduce weight. There are factors that hinder the fitness enthusiasts from attaining the desired weight loss. Along with exercise is a controlled diet. Zumba sessions conducted three times a week for three months are not enough to affect a significant weight loss. However, zumba dance exercise is a fun way of losing weight, gaining endurance and getting healthy. It effectively helps improve the physical, emotional and social well-being of the participants.The proposed program design for zumba fitness program should be implemented in order to enhance level of physical fitness of fitness enthusiasts.*Key-words:* Fitness, Zumba, Physical Fitness, Health, Dance, Exercise

Introduction

Physical fitness and health are integral part of human life. Fitness and wellness are correlated with each other. In fitness, body proportion and composition are important parameters which have roles relevant to health related fitness and skill related fitness. Maintenance of physical fitness is needed by human society. In this age of stress and tension, low level of fitness leads towards the exposure of degenerative and psychosomatic disorders including other sufferings.

People in today's world do not realize the importance of physical fitness. In fact many have become sedentary and their lifestyles become a serious threat to their health. Men have become less physically fit as civilization progresses. Due to modern technology, men are engrossed in activities such as watching television, playing computers, tablets and the like.

One way of preventing these health issues is engaging in Zumba Fitness. The Zumba Fitness program is a Latin-inspired, dance-fitness class that incorporates Latin and international music and dance movements, creating a dynamic, exciting, exhilarating, and effective fitness program. A Zumba Fitness class, known as a Zumba Fitness-Party, combines fast and slow rhythms that tone and sculpt the body using an aerobic or fitness approach to achieve a unique blended balance of cardio and muscle-toning benefits (Zumba Fitness, 2013).

It is usually performed to music and may be practiced in a group setting led by a licensed zumba instructor. Practitioners perform various routines comprising a number of different dance-like exercise. It can also be done solo and without musical accompaniment. Its goal is to prevent illness and promote physical fitness (Zumba Fitness LLC, Instructor Training Manual, 2013).

Zumba promotes an efficient way of weight loss but this activity does not seem to catch fire among the people in the Philippines, province of Aklan, specifically in Kalibo. This prompted the researcher to conduct the study to determine the Effectiveness of Zumba Fitness to Fitness Enthusiasts in Kalibo, Aklan, Philippines in order to provide an enriched wellness program to achieve optimum physical fitness.

The researcher, as a Physical Education Instructor for ten years and a licensed Zumba Instructor and wellness coach of the fitness program of the Municipality of Kalibo, was challenged to conduct this study.

Research Methodology

This study utilized the descriptive-correlational and quasi experimental designs using quantitative and qualitative approaches.

The study was conducted in Pastrana Park, Kalibo, Aklan, Philippines. It is located in the heart of Kalibo and situated in the commercial hub. Pastrana Park is where all major arterial streets in Kalibo intersect. It is where most social and community activities are being held. Fronting Pastrana Park is Saint John the Baptist Cathedral.

The respondents of the study were the fitness enthusiasts who participated in the Wellness and Fitness Program of the Municipality of Kalibo. These Zumba enthusiasts were mostly women, housewives, teachers, Local Government Unit employees, businessmen, policemen, with some teenagers and kids. The ages of the fitness enthusiasts ranged from 11 years old to 65 years old. Out of 57 participants 30 were randomly selected to participate in the study. They were the ones who submitted their medical/family history and waiver of liability certifying that they were fit to participate in the zumba fitness.

A researcher-made questionnaire was used to gather the demographic profile. A medical history and family history questionnaire with the validation of a cardio doctor was used. A lifestyle evaluation was also given to assess the participants' way of life and in evaluating their physical fitness level, the Physical Fitness Test (PFT) was used. This was a standardized test in testing the level of fitness. A pre-test and post-test were done to determine the health-related fitness and skill-related fitness and weight and waist circumference of the participants. It is a test to find out the level of physical fitness of the participants. (1) Standing Long Jump which measures leg power and strength, (2) Sit-ups, which measures abdominal strength and endurance, (3) Speed or Sprint, which measures speed and cardio-vascular endurance and (4) Illinois Agility Test which measures agility.

After the pre-test of the Physical Fitness Test, the participants underwent sessions in Zumba Fitness classes conducted by the researcher, which was held three times a week for a minimum duration of three months comprising of 36 sessions**.** Each class was typically a one hour class comprising of 10 minutes Warm Up, 45 minutes of Zumba Fitness class and 5-7 minutes Cool Down. After each month, a post-Physical Fitness Test was conducted.

The researcher gathered the data after the approval of the Dean of the Graduate School and Adviser. Participants were required to submit waiver of liability or consent. A letter of approval was secured from the Municipal Mayor of Kalibo to conduct the research to the fitness enthusiasts in the Wellness and Fitness Program of the Municipality. Then, the researcher administered the questionnaire to find out the participants' demographic profile, medical/family history, lifestyle evaluation, heart rate, measurements for the waist circumference and weight. The researcher formally administered the Physical Fitness Test prior to the conduct of the zumba fitness activity. For three months, a zumba fitness workout was done, then at the end of each month a physical fitness test was given to the participants.

After the research instruments had been administered, questionnaires were retrieved, tallied, checked, and tabulated and subjected to appropriate statistical analysis. Appropriate statistical tests were employed after determining the behavior of the data gathered. Mean, simple percentage and t-tests were used. For the relationship, Pearson r, Cramer's v, Gamma were used.
Statistical Significance. The level of significance was set at p=0.05.

Results And Discussion:

The findings of the study were summarized and arranged as follows: the demographic profile of the fitness enthusiasts showed that they had a mean age of 38.63 years old; most were females, and majority were married. More than one-third was between 125-149 lbs., with a mean weight of 141.29 lbs. Majority were between 5'0"-5'12" tall. Their lifestyle shows that most of them do exercise 3-4 times a week and enjoyed dance as their form of exercise. Majority of them were government employees who were involved in physical exercise. Dance exercise was the most chosen exercise or hobby that they do in their spare time.

Half of the fitness enthusiasts in the pre-test were overweight but decreased to 36.7% in the 3rd posttest. Those who had normal body mass index increased from 36.7% in the pretest to 50% in the 3rd posttest.

The biggest number of participants excelled in sit up in the pretest and increased to 60% in the 3rd posttest. Majority performed poorly in the long jump pretest and remained the same in the 3rd posttest. The sprint test revealed 100% who performed poorly in the pretest but this decreased to 23.3% in the 3rd posttest. However, from 0% in the pretest, fair runners increased to 56.7% in the posttest. Majority had average agility in the posttest from an initial 0% in the pretest. Majority in the 3rd posttest were between 125-149.9 lbs. which marked an increase from the initial 43.3% in the pretest.

There were significant differences between the pretest and posttest results in the sit up, sprint and agility performance of the fitness enthusiasts after they underwent the zumba fitness exercise. However, no significant difference was found in the long jump performance among the fitness enthusiasts after they were subjected to a pretest and posttest. Waist circumference of the participants was significantly different before and after the zumba fitness exercise but no significant difference was found in their weight.

Among the hindrances that prevented the fitness enthusiasts from attaining their goals of becoming physically fit and lose weight were uncontrolled diet or eating habit. Zumba sessions were done only three times a week. Attendance was also an issue due to pressure from work, family, sickness and interest or motivation.

The participants found zumba fun and a stress reliever. There was a party-like feeling. Their body became light and active and energized. It has also improved their health. From zumba, they also learned the art of dancing, good coordination, self-confidence, gained new friends and connections with the community.

Conclusions

Based on the findings, the following conclusions were drawn:

More females are interested in attending zumba fitness dance exercise than males most likely because dance exercise is seen as more fitting for women than for men. Married women are more interested in attending zumba dance exercise classes most likely because they have put on weight after marriage and childbirth, hence, desired to get back in shape. Their medical and family history evaluation qualified them to become participants of the study. An almost equal number of participants have average and above average heart rates to those who have below average and poor heart rates.

Zumba fitness dance exercise helps reduce weight of the participants. They performed better in the sit up, sprint and agility tests after undergoing the zumba fitness classes.

The single participants performed better in the sit up test compared to the married ones most likely because they are younger and are more physically active. Weight is highly dependent on height and body mass index. Thus, participants who are taller and with higher body mass index would also be heavier. This also means that weight, height and body mass index are contributory factors to the weight circumference.

Attendance to zumba fitness dance sessions help in reducing weight. The zumba exercise effectively improves the sit up, sprint and agility of the fitness enthusiasts but not their long jump performance. Thus, zumba helps in the development of strength, power, endurance, speed agility and most especially in cardiovascular or cardio respiratory which are the components of good level of fitness.

Zumba is an effective means of reducing the waist circumference but has not been found to significantly reduce weight. There are factors that hinder the fitness enthusiasts from attaining the desired weight loss. Along with exercise is a controlled diet. Zumba sessions conducted three times a week for three months are not enough to effect a significant weight loss. Absences also could have affected the participants' goal of attaining the desired weight.

However, zumba dance exercise is a fun way of losing weight, gaining endurance and getting healthy. It effectively helps improve the physical, emotional and social well-being of the participants.

Results demonstrate that Zumba fitness can be an effective way to obtain beneficial health related and skill-related fitness effects. Promoting physical activity through increased awareness of Zumba fitness which is a fun way to exercise in groups can go along in promoting healthy lifestyle.

Recommendations

The following are recommended based on the conclusions. Zumba fitness dance enthusiasts should spend time to convince their male relatives, neighbors and friends, as well as people of all ages and civil status, to attend zumba dance sessions due to the physical and health benefits it brings to participants. Zumba is recommended even for athletes or athletic people since it improves the components of fitness in the development of strength, power, endurance, speed agility and most especially in cardiovascular or cardio respiratory. In order for the zumba fitness dance exercise to be successful in attaining weight loss, participants need to have control over their eating habits. A three month session three times a week are not enough to effect a significant weight loss, hence, further study may be conducted by future researchers increasing the frequency of the sessions and time duration. Longer sessions would probably yield quite different results. Incentives may be provided to participants who are diligent in attending the dance sessions. Therefore, it should be recommended as a means of increasing physical activity especially in the sedentary population or in individuals who do not like sports or structured exercise.

References

American College of Sports Medicine. (2010). Guidelines for exercise testing and prescription. Baltimore, MD: Lippincott, Williams & Wilkins.

Cavill, N., Kahlmeier, S. & Racioppi, F. (2006). Physical Activity and Health in Europe. WHO Regional Office for Europe, Denmark: World Health Organization.

DECS, BPESS, Message of Minda C. Sutaria, (1988). Physical Fitness Manual

Dishman, R. D., Sallis, J. F., & Orenstein, D. R. (1985).The determinants of physical activity and exercise.

Jairam, Swetha, (2013). WEIGHT LOSS EFFECTS AND HEALTH BENEFITS OF ZUMBA FITNESS :A Research Case Study On The Benefits Zumba Fitness Has On Weight Loss.

Luettgen, M. L., (2011). The physiological effects of participating in a 40 minute Zumba fitness session. (Unpublished master's thesis). University of Wisconsin, LaCrosse.

Luettgen, M., Foster, C., Doberstein, S., Mikat, R., & Porcari, J. (2011). ZUMBA: Is the "fitnessparty" a good workout? *Journal of Sports Sciences and Medicine.*

Mendoza ,Mitch Felipe., Why Zumba is an effective exercise program. Philippine Daily Inquirer, August 27, 2012 at 11:04 pm.

Misra A, Nigam P. (2012). Consensus physical activity guidelines for Asian Indians, Diabetes ,Techno Ther; 1:83-98.

Otto, R. M., Maniguet, E., Peters, A., Boutagy, N., Gabbard, A., Wygand, J. W. & Yoke, M. (2011).The energy cost of Zumba exercise. Medicine and Science in Sports and Exercise.

United States Department of Health and Human Services. (2008). *The 2008 physical activity guidelines for Americans*. Retrieved from http://www.health.gov/paguidelines.

World Health Organisation. (2013). *Global Strategy on Diet, Physical Activity and Health: Physical activity and adults.* Retrieved fromhttp://www.who.int/dietphysicalactivity/factsheet_adults/en/index.html.

Zumba Fitness LLC, 2013 Instructor Training Manual. Basic Steps Level 1.

Zumba Fitness. (2013). About Zumba Fitness. Available from url: http://www.zumba.com

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp40-48
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Traditional games of India

M.Vijaya Bharathi
Physical Director
KVR Government College for Women(A) ,Kurnool, A.P, India.
mvijayabharathi71@gmail.com

Abstract
India has a rich culture of traditional games. The games reflect the cultural, economic and social variations of this large country. A few decades ago, before the advent and spread of television, play was a natural way to pass time in many homes. Everybody played – parents, grandparents, aunts, uncles and children. With the joint family being the norm, there were many participants and games were exciting and interesting. Through playing, people learned to interact with each other. They learned to count, to accept defeat and more than anything else, to relax. Unfortunately, over time, the pressures of modern life and the advent of television have resulted in many games being lost forever. The impulse to play, particularly among adults, slowly died.This is the age where children choose electronic gadget and play stations over traditional games such as hide and seek or kite flying. Today's generation prefers technology and popular games rather than the old-fashioned ones. The reasons are many – lack of interest, lack of time and even sufficient place to play the traditional games Rather than going out kids prefer watching television or using the internet. Game stations inside shopping malls in India have become a trend now and have replaced the ancient games that originated in India. Sadly, kids do not even know the names of those games that were played earlier. The Indian origin games have lost their worth and are almost on the verge of extinction.India is a country rich in traditions and games have found a special place in our culture. Our scriptures, history and mythology are testimony to the game of dice, chariot racing, sword fighting, archery and other games. As the culture and time changed, so did the sports in India. Gone are the days when kids used to hurry back home from school so that they could go out and play their favorite kho-kho, stapu or satoliya. Today, video games and games on mobile phone do not involve peer group participation and contribute little to a child's development."In those days, games were played not just for passing time but also formed an essential part of the learning process. These games can create a bond between families, aid mathematical skills, dexterity, memory, logical and strategic thinking and even keep Alzheimers and dementia at bay and are therefore useful to people of all ages. The childhood games that were played in the olden days were not just games for the sake of playing and enjoying but those were rich in physical and mental exercise and with moral / ethical values. Unfortunately, the present generation children are devoid of the enjoyment of those games. Today, with social networking, XBOX, Play Stations, Game Boys and interactive apps and games on the mobile phone, one has almost forgotten the traditional games of our country. 'Good old games' is a worthy Endeavour to reconnect to our past and take it forward.Key words: peer group, verge of extinction. unique culture,traditional sports, dexterity etc.

Introduction

Sports today is an integral part of the all round development of the human personality. . In early India, games and sports were very much concerned about the development of the physique and for the art of offence and defense. Also games were considered a kind of recreation, which played a vital role in the development of a man's personality. India has a rich culture of traditional games. The games reflect the cultural, economic and social variations of this large country. India has always been rich in culture and tradition, and games have been an important part of Indian culture since forever.

Be it Lord Shiv and his consort Parvati playing Pachisi, the Pandavas loosing Draupadi over a game of dice or the Mughals enjoying an afternoon of chess – games and sports have always played an important role in the history and mythology of India. Gradually the time changed and so did our sports. In a time of Play Stations, video games and gadgets, we all have almost forgotten the traditional games of India. The history of sports in India is very ancient and dates back to the Vedic era. Stories are told of how Lord Krishna played with his friends, of how Yudhishtra played a game of dice and lost his kingdom in the Mahabharata, of how Sita when kidnapped by Ravana in the Ramayana played a game of solitaire with seeds from the trees . Unfortunately, over time, the pressures of modern life and the advent of television have resulted in many games being lost forever. The impulse to play, particularly among adults, slowly died.

It's not just the younger generation which is ignorant of the games played in the past; the older generation too when asked about sports or games in India do not hesitate to start a conversation on Cricket – the religion of India. Debates or discussions have no place for the traditional sports such as wrestling (Kushti), Gilli Danda, Kho-Kho at all. Ask a youngster about the Indian teams and their members in different disciplines of sports and they have very little to no information about it. Above all, these games taught children to accept loss and victory with equanimity," Most of these childhood games are at the verge of fading away due to the dominance of e-games Some of the traditional Indian games are listed below these games are once-popular children's games have been the victims of the virtual generation and must be revived before they are lost forever. Here we revive some of the forgotten Indian games and let us recollect our childhood fond memories.

Satoliya

Satoliya is now commonly known as Lagori is the game of seven stone. This is not known much by other countries as it was played in the villages of India which then found its way in the Urban area.This game is also known by other names like : a) Dikori b) Lagoori c) Lingocha (Hyderabad) d) Lingorchya (Maharashtra)e) Pitthu (Haryana)f) Satoliya (Rajasthan)g) Satodiya (Gujarat)h)Yedu Penkulata (Andra Pradesh)i) Dabba Kali (Kerala)j) Ezhu Kallu (Tamil Nadu).

Things Required to Play :1) A ball : Tennis ball or rubber ball types (not to hard) 2) & stones : If not stones then its substitute.3) Two teams . Minimum 2 – 3 players in each team. More the players, a lot more fun.
1) To start the game two team with equal number of players are required.
2) To decide who shall take the attacking role first, a coin is tossed
3) Seven stones or any of the substitutes should be on top of each other as a pile within a circle. The defending team will take their positions for the fielding purpose. The position of fielding team will be wicket keeper who will be standing behind the stones and others around the stones randomly as fielders stand in cricket. All the players belonging to the attacking team will be taking their position behind the crease line in an appropriate distance away from the pile of stones.

4) The attacking team will be getting three chances to hit the pile of stones with the ball in either of the ways i.e. underarm or over arm , to knock the pile of stones.

5) The attacking team has to hit the pile of stones in three hit. a) Opponent player catches the ball in one tip and stones are not destructed then the player will be out and the next player will come. b) If the opponent player can not catch the ball and stones are also not destructed, then he will get another chance up to three. After three chances he will be out and the next player will attack. c) If the opponent player catches the ball and also stones are destructed, then player will get a chance from ONE. d) The opponent player can not catch the ball and the stones are destructed, then the real game begins.
6) If they fail, then the defending and attacking team interchange places and continue to play, with one point to the defending team in the case of worst aiming skills of the attacking team.
7) As soon as the ball knocks off the pile of stones, the defender team will get hold of the ball and try their best to get the opponent team members OUT by hitting them with the ball in their leg below the knees.
8) The aim of the attacking team is to rearrange the pile of stones and trace the circle three times with their fingers before the other team can make all the players OUT. 9) If they succeed doing that, their team gets a point and they get a chance to throw ball again. But, if all the players are OUT, then the defending team will get a chance to hit the ball and will gain a point.
10) Fielding team cannot run while having ball in the hand, they can pass the ball to their teammates.
11) If batting team is able to arrange stones back they will got one point and their all players who are out will alive again.
12) If fielding team is able to hit the ball to any one of batting team member then whole batting team will be out and fielding team will do batting.
13) The team which scores seven points first will be winner.
These additional rules make the game even more interesting.
Clearly mark the boundary. If any of the seekers crosses it then he is out.
If the person trying to knock down the pile cannot do it in three tries then he is out.
In any of the three tries, if the thrower's ball does not knock down the pile and is caught by an opponent after the first bounce then the thrower is out. If the seekers succeed in restoring the pile then they can use the point scored to buy back their ousted team mate.

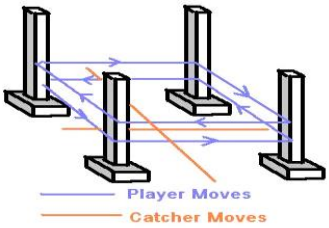
2.Gilli Danda


It is a sport played by using two stick, Small one known as Gilli and other long one is called Danda. This is very popular game among boys in villages of India. It is similar to cricket just replace the gilli by ball. The danda is used to hit the gilli and make it fly through the air.The game requires two sticks. The bigger one is called "danda" and the smaller one is called "gilli". The player then uses the danda to hit the gilli at the raised end, which flips it into the air. While it is in the air, the player strikes the gilli, hitting it as far as possible. Having struck the gilli, the player is required to run and touch a pre-agreed point outside the circle before the gilli is retrieved by an opponent.

Poshampa

And just for your memory, here are the next few lines.
'Laal Quile Mein Kya Hua
Sau Rupaye Ki Ghadi Churayi
Ab Toh Jel Mein Jana Padega
Jail Ki Roti Khani Padegi
Jail Ka Pani Peena Padega
Ab Toh Jail Mein Jana Padega...'
And that's how one unfortunate innocent was put behind bars by us Indian 'chillar party'.
Two people stand with their hands locked together above their heads and sing a song. The other kids pass from under that bridge and the one who gets caught (when the hands come down like a cage at the end of the song) is out

Nalugu Stambhalata (Four pillar games)..



This is children's game popular in the 1960s and 70s, when the joint family system flourished in Andhra Pradesh, India. Children used to play this game in Manduva Logili houses, which are constructed with several wooden pillars (made of Rosewood or Teak) and an open space at the center. The game was also played outdoors in open woods. The game eventually diminished in popularity due to the decline of joint families and the increase of urbanization, western influence, and English education.
Kite flying
is one of the most popular game of India as well in Asia. Kite flying which is essentially Indian is played in the dry winter months, in December and January. Kites, known as 'patang' in India and the thread used is called 'Manjha', a glass coated line, and each flier attempts to cut every other kite out of the sky. The kite flying festival is celebrated on the eve of 'Makar Shankranti' in Jaipur as well as Gujarat and Telangana state of India. Best in rest of India this game is struggling to save its long and historic existence. Kite Flying

Chhupam Chhupai or Hide-n-Seek(Donga Police)

Hide and Seek is a popular children's game in which players hide themselves in a marked area, to be found by one or more seekers/denners. The denner closes his eyes and counts till a certain number, after which he tries to find the hidden players.

Maram Pitthi

A game very similar to dodgeball. It consists of two teams, who scatter around in a large area. Players from a team try to hit players of the opposing team with a ball (usually made of sponge). Once a player is hit, he is out of the game. Passing between players of the same team is also allowed.

Chaupar/ Pachisi

each player's objective is to move all four of their pieces completely around the board, counter-clockwise, before their opponents do. The pieces start and finish on the Charkoni.

Kith

See an open surface and a chalk to draw? Lets play Kith Kith! A popular playground game in which players toss a small object into numbered spaces of a pattern of rectangles outlined on the ground and then hop or jump through the spaces to retrieve the object. This popular game is also played in other countries and is loved by all.

Pallanguli

This board game with 14 cups is set out with six seeds in each cup; the players distribute these seeds into the other cups until there are no seeds left. The person who reaches two consecutive cups without seeds has to bow out of the game. . Variants are called as Ali guli mane (in Kannada) Vamana guntalu (in Telugu) and Kuzhipara (in Malayalam). The game is played by two players, with a wooden board that has fourteen pits in all (hence the name from the words fourteen pits (pathinaalam kuzhi). There have been several variations in the layout of the pits, one among them being seven pits on each player's side. The pits contain Cowry shells, seeds or small pebbles used as counters. There are several variations of the game depending on the number of shells each player starts with.

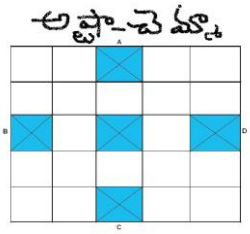
Gutte (game of five stones)This traditional game is played by both children and adults. This simple game requires 5 pieces of small stones. You spin one stone in the air and pick other stones from the ground without dropping the stone in the air. This game can be played by any number of people. Five stones is known as Kallangal or Anchangal in the villages of Tamil Nadu. The game is played by 2 or more players, using 5 small stones. It comprises a set of eight steps. The player who completes all the sets first is the winner. This game helps sharpen your eyesight and memory. It also builds concentration

Langdi

Lattu

The street game of India, This is a very popular and simple game which can be played by children in villages of India. The game involves spinning a lattu – a solid turnip shaped wooden toy with a grooved lower half with two nails dug at the top and the bottom. A cotton string is wrapped around the lower half of the lattu to make it spin.

Ashta Chemma



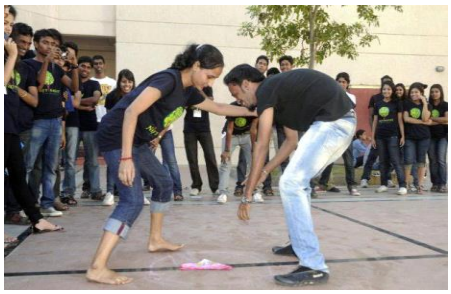
This is ancient game which was played extensively during the kings' era in India.This game was used to improve eye-to-eye coordination, and to teach teenagers war tactics and strategy. This game is divided for Juniors and Seniors. The Junior board consists of 5×5 grid with 5 crossed boxes and the Senior board consist of 7×7 grid with 8 crossed boxes

Kancha

It is very famous as gully sports or street game, played by number of small boys in villages as well as in town. It is played using marbles called Kancha. The winner take all Kancha's of other boys.

Kancha was one of the most popular games among children in the neighbourhood. It is played using marbles called 'Kancha'. The players are to hit the selected target 'kancha' using their own marble ball. The winner takes all Kanchas of rest of the players.

Dog and the Bone



The game consists of two teams, and an object such as a bottle or handkerchief, etc., which is designated as the "bone." A player from each team comes forward and attempts to take the bone (placed at the centre of the playing area) back to his team. The player who fails to take the bone has to go out of the game . Played by: two teams of usually 5-10 members each

Moksha Patam: Moksha Patam or Parama Padam(Snakes and Ladder) is a dice game from ancient India, popularly known as Snakes and Ladders. It was from India that it spread to the rest of the world. It was a very popular game to be played its main purpose was not only entertainment but also to teach morality. The central concept is liberation from bondage of passions. So the players move from the lower levels of consciousness to higher levels of spiritual enlightenment and finally to Moksha.

Jallikattu: Jallikattu is one of the oldest living ancient sports seen in the modern era. The ancient sport of Jallikattu pits crowds of brave young men against angry bulls. It is similar to the Spanish running of the bulls but a traditional part of Pongal celebrations in Tamil Nadu.

Kambala – the Buffalo race: When the fields are fush with water there is one sight not to be missed, the kambala or the buffalo race that is unique to Dakshina Kannada. This is a unique sport of this region. Historians date the roots of this race back to more than a thousand years. At that time Kambala was the event when farmers paid tribute to their gods for protecting their crops.

DhopKhel

Dhopkel, a game popular in Assam is similar to Kabbadi. Dhop is the name given to a rubber ball that two teams throw across a central line into each other's courts. Each team sends a player into the opponent's court; the aim is to catch the ball his team throws and make his way back to his team without allowing the opponents to touch him to earn points. Chor-Sipahi :The game is the Indian equivalent of the western game "Tag." There are two teams in the game – one team of thieves (chor) and the other team of sipahi (police). The sipahi try and catch the chor, after which the turn changes (that is, the chor become the sipahi and vice versa)

Conclusion:

India is home to a diverse population playing many different sports across the country. Today, we are rediscovering the value of playing. Psychologists and educationists are beginning to appreciate the role of play in the learning process. Play is often associated with laughter, and the importance of laughter in reducing stress has become an important element in our lives. The role of play in building relationships across generations. When people play together, they share an experience that is fun and often memorable.

References:

https://www.tokabox.com/blog/traditional-board-games-india
https://www.thebetterindia.com/10492/lesser-known-traditional-games-sports-india/
https://www.parentcircle.com/clipbook/9-indian-traditional-games-for-children/
https://timesofindia.indiatimes.com
https://en.wikipedia.org/wiki/Sports_in_Tamil_Nadu

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp49-52
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Study Of Physical Tests In The Selection Of 8 - 11 Year Old Male Table Tennis Players In Ho Chi Minh City, Viet Nam.

PhD. Nguyen Quang Son – Assoc. Prof. PhD. Nguyen Quang Vinh
Ho Chi Minh City University of Physical Education and Sport

Abstract
The article uses the methods of common scientific research in physical education and sports, thereby identifying 05 physical tests in the selection of 08 - 11 year old male table tennis players in Ho Chi Minh City has sufficient reliability and notification.Keywords: test, physical strength, table tennis, Ho Chi Minh City

1. Introduction:

Nowadays, a modern table tennis player must have not only a thorough tactical technique, a good psychological state, a combination of control between the vortex, the speed, the power and the drop point of the ball in a reasonable way but also a high level of physical strength. Therefore, physical strength is a very important factor for modern table tennis players. The precise and scientific identification of physical selection tests is one of the most important determinants of success in the selection of table tennis players.
Purpose of the study: To identify physical tests in the selection of young table tennis players.
Objectives of the study: To achieve the above purpose, we address the following objectives:
- Synthesis of physical tests in the selection and assessment of physical strength for the table tennis players from local and foreign authors.
- Interviews with trainers, experts and professionals.
- Verification of the reliability and notification from tests

Methodology

organization of the study: methods of reference, pedagogical examination, questionnaire and statistics mathematics.
Subject for the study: 66 male players (34 players aged 10-11 and 32 players aged 8-9) are talented in table tennis in Ho Chi Minh City.

2. Study Results And Discussion:

2.1 The current situation of the use of physical tests in the selection of table tennis players by local and foreign authors.
Through the synthesis of documents by Nguyen The Truyen (1999), Bui Huy Quang (1997), selection documents of Ho Chi Minh City Department of Culture, Sports and Tourism (2005), National target selection program (1998), selection documents of China (2008), we have eliminated the unsuitable tests and selected the following specific tests: Run 20m XPC (s), run 30m XPC (s), run 60m XPC (s), long jump in place (cm), hit the ball away from the table (cm), throw badminton away (cm), jump rope for 45 seconds (8 - 9 years old), 1 minute (10-11 years) (times), jump rope for 2 minutes (times), hit the ball against the wall for 1 minute (times), move to pick up 21 balls x 3m (s), move to pick up 42 balls x 3m (s), move to pick up 11 balls x 3m x 2 times (s).

2.2. Interview results:

From the results of the above, conduct building the test slips and the interviews. Time of two interviews is 1 month apart. In both interviews, 39 respondents answered, of which 32 respondents were experts and coaches accounting for 82.05%, 7 respondents are managers accounting for 17.95%. In order to test the coincidence of the results of the two interviews, compare them to the index χ^2 (as squared) (Table 1).

Table 2.1. Comparison of results of two interviews of physical tests in the selection of male table tennis players aged 8-11

TEST		1st time n = 20		2nd time n = 19		χ^2	P
		$\sum diem$	Ratio %	$\sum diem$	Ratio %		
Physical Strength	Run 20m XPC (s)	58	58.00	54	56.84	0.21	> 0.05
	Run 30m XPC (s)	*84*	*84.00*	*80*	*84.21*	*0.18*	*> 0.05*
	Run 60m XPC (s)	72	72.00	69	72.63	0.02	> 0.05
	Long jump in place (cm)	70	70.00	67	70.53	0.02	> 0.05
	Hit the ball away from the table (cm)	70	70.00	69	72.63	0.09	> 0.05
	Throw badminton away (cm)	*91*	*91.00*	*86*	*90.53*	*0.07*	*> 0.05*
	Jump rope for 45 seconds (8 – 9 years old), 1 minute (10 – 11 years old) (times)	*95*	*95.00*	*91*	*95.79*	*0.03*	*> 0.05*
	Jump rope for 2 minutes (times) (s)	70	70.00	66	69.47	0.07	> 0.05
	Hit the ball against the wall for 1 minute (times)	*96*	*96.00*	*93*	*97.89*	*0.06*	*> 0.05*
	Move to pick up 21 balls x 3m (s)	*100*	*100.00*	*95*	*100.00*	*0.00*	*> 0.05*
	Move to pick up 42 balls x 3m (s)	74	74.00	71	74.74	0.02	> 0.05
	Move to pick up 11 ball x 3m x 2 times (s)	70	70.00	67	70.53	0.03	> 0.05

The study result from Table 1 show that in all the results of the two interviews from the tests to be $\chi^2_{calculated} < \chi^2_{table} = 3.84$ at the probability threshold P> 0.05, so the difference between the two interviews is not statistically significant at the probability threshold P> 0.0.5. Based on the results of the interviews, select the tests with a total score > 75% of total scores in both interviews (1st time > 75 points, 2nd time > 71.25 points). According to the above rules, choosing the physical tests for the selection of 8 - 11 year old table tennis players is as follows: run 30m XPC (s), throw badminton away (cm), jump rope for 45 seconds (8 - 9 years old), 1 minute (10-11 years) (times), hit the ball against the wall for 1 minute (times), move to pick up 21 balls x 3m (s).

2.3. Verification of the reliability and notification of the tests

2.3.1. Verification of the reliability.

In order to test the reliability of the physical tests in the selection of male table tennis players aged 8-11, we inspected the performance of the tests in the two times, the time between two intervals is five days, the test conditions between the two times are the same. We then calculated the correlation coefficient (r) of the tests between the two testing times and obtained the results in Table 2 and Table 3.

Table 2.2. Reliability coefficient of physical tests in the selection of 8-9-year-old male table tennis players

TT	Test	1st time $\overline{X}$ ± S	2nd time $\overline{X}$ ± S	Reliability coefficient (r)	P
1	Run 30m XPC (s)	5.92±054	5.93±0.54	0.97	<0.01
2	Jump rope for 45 seconds (times)	80.06±7.31	79.34±7.38	0.94	<0.01
3	Throw badminton away (cm)	570.84±51.56	573.13±45.50	0.97	<0.01
4	Hit the ball against the wall for 1 minute (times)	37.34±4.14	37.47±4.71	0.97	<0.01
5	Move to pick up 21 balls x 3m (s)	72.81±6.86	73.03±7.08	0.89	<0.01

Table 2.3. Reliability coefficient of physical tests in the selection of 10-11-year-old male table tennis players

No	Test	1st time $\overline{X}$ ± S	2nd time $\overline{X}$ ± S	Reliability coefficient (r)	P
1	Run 30m XPC (s)	5.86±0.53	5.87±0.55	0.99	<0.01
2	Jump rope for 45 seconds (times)	136.03±8.87	135.15±10.64	0.92	<0.01
3	Throw badminton away (cm)	654.71±46.20	655.00±44.20	0.97	<0.01
4	Hit the ball against the wall for 1 minute (times)	44.71±6.94	45.29±7.17	0.96	<0.01
5	Move to pick up 21 balls x 3m (s)	54.04±8.21	54.66±7.94	0.95	<0.01

The results in Table 4 show that all tests express a strong correlation with competition performance (r> 0.6, P <0.01). These tests are sufficiently noticeable and feasible in physical selection for male table tennis players aged 08 - 11 in Ho Chi Minh City.

In summary, through synthesis of documents, from the results of the interviews, verification of the reliability and the notification we have identified the physical tests in the selection of male table tennis players aged 08 - 11 in Ho Chi Minh City including run 30m XPC (s), throw badminton away (cm), jump rope for 45 seconds (8 - 9 years old), 1 minute (10-11 years old), hit the ball against the wall for 1 minute (times), move to pick up 21 balls x 3m (s).

In ping-pong competition, it is necessary to make quick judgments, quick reactions, quick hand swings, fast-moving directions so the professional physical strength of the table tennis players needs to have the speed of the individual movement, not cyclical, ie when smashing the ball needs to have the speed to swing the hand and have the appropriate angle to catch for the ball smash or when the ball comes, it is needed to have a fast body movement speed.

Ball smash act in the table tennis is due to the impact of the weight of the arm (arms and racket) and its speed of movement, of course, it must be manifested by certain strength. The strength that table tennis players need is the power of fast speed (spontaneous strength). Fast-attack fighting style attaches great importance to the force of the forearm. From the dynamitic perspective to consider the organization and placement of the muscles of the forearm, elbow bending is actually a speeding lever. Of which, the main muscle to bend elbows is the arm muscles, the musculus biceps brachii. These muscles are the retractors starting in the arm and cling to the forearm or rounding the side of the arm. If these muscles contract in outburst, it will cause the racket holding hand to move at a relatively large speed, thus make the ball smash speed increase. From that shows the choice of throwing badminton far to assess the outburst strength of table tennis players is reasonable.

Flexibility is a very important factor for table tennis players, the flexibility that table tennis players need is their ability to adapt in the match. It is also the ability to react quickly. The flying time of the ball comes in mid-air only 0.3 - 0.5 seconds. For a short period of time, it is necessary to judge the speed of the ball, the drop point and the swirling properties of the ball, and to rely on the position of the opponent that quickly decide the strategy. This requires players to have the capacity to adapt well. High or low flexibility is indicated by the speed at changing from one movement to another movement quickly or slowly, judging the coming ball's feature accurately or inaccurately. In the actual table tennis tournament, players need to move quickly to the right, to the left, then to the right, sometimes backward and forward to hit the ball in different positions, thus requiring players to have feet moving fast, turn quickly, reasonably and the dexterity of hands rhythmically coordinated.

Another indispensable physical force in a modern table tennis player is professional endurance. Indeed, table tennis is a game of personal antagonism with a great central nervous system energy drain for consecutive days of competition. In the late stages of increasing stress, the player must have the high professional endurance to compete to the highest efficiency.

The professional endurance that the ping-pong player needs is the professional endurance with fluctuating intensity and professional tight combination between speed and flexibility. According to Khau Trung Hue and colleagues (1997), depending on the different grip of the opponent, the working density of the hand in 1 minute (hit the ball) ranged from 19 to 46 times. It shows that the intensity of movement in table tennis is often unstable. This fluctuation depends on the level of the opponent. In ping-pong competition, one day has many matches to play, the time between the matches is short, the recovery ability of table tennis players is very important, the table tennis players must have good professional endurance. On the other hand, the professional endurance of the table tennis players must be tightly integrated from the start to the end, adapted to speed and flexibility, otherwise speed and flexibility cannot be maintained until the final match, game and score.Based on these analyzes and based on age-specific psychophysiological characteristics, the study results to choose physical tests in the selection of male table tennis players aged 8-11are appropriate.

3. Conclusion

The results of the study have identified five physical tests in the selection of male table tennis players aged 8-11in Ho Chi Minh City that have enough reliability and notification including: run 30m XPC (s), throw badminton away (cm), jump rope for 45 seconds (8 - 9 years), 1 minute (10-11 years old), hit the ball against the wall for 1 minute (times), move to pick up 21 balls x 3m (s).

References

1. Nguyen Ngoc Cu, et al. (1998), *Science for the selection of sports talents* (Materials for training courses for sports coaches), Vietnam Sport Science Institute, vol.1.

2. Khau Trung Hue – Sam Hao Vong - Tu Dan Sinh et al. (1997), *Modern Table Tennis*, Sports Publishing House, Hanoi.

3. Bui Huy Quang (1997), *Research on some pedagogical tests to assess training performance of table tennis players aged 9-11*, PhD thesis on pedagogical education, Hanoi.

4. Ho Chi Minh City Department of Culture, Sports and Tourism (2005), *Criteria for selection of athletes of key lines, pre-concentration, gifted concentration and recruitment of sports in Ho Chi Minh City*, Training Office of Profession School of Ho Chi Minh City Department of Culture, Sports and Tourism.

5. Nguyen The Truyen - Nguyen Kim Minh - Tran Quoc Tuan (2002), *Criteria for evaluation of physical impacts in sport selection and training*, Sports Publishing House, Hanoi.

Source: Scientific research project at the city level, Ho Chi Minh City Department of Science and Technology*: Building standards for recruiting table tennis players aged 8-11 in Ho Chi Minh City.*

Project leader: Assoc. Prof. PhD. Nguyen Quang Vinh

Secretary: PhD. Nguyen Quang Son

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp53-55
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Bioenergetics: The Determining Factor In Exercise Duration And Intensity

Dr.Sharad Balasaheb Magar
Director of Physical Education& Sports
New Arts, Commerce & Science College Ahmednagar (M.S) India
Email ID: - sharadmagar9981@gmail.com

Abstract
While we are for the most part acquainted with oxygen consuming action, characterized in the mid 1970s by Dr. Kenneth Cooper as action amid which the cardio respiratory framework gives enough oxygen to solid exertion, the majority of us connect anaerobic action with that hard exertion we do amid interims. The truth of the matter is that each non-consecutive strong exertion, for example, turning your head, involves some proportion of vitality generation without oxygen, qualifying it as anaerobic. The accompanying dialog of bioenergetics — the investigation of how the body, i.e., the muscles, get and utilize the vitality to do outside work — will explain how and why the force of a solid exertion decides and restricts the term of the activity. There are three essential means by which vitality is discharged for use by muscle cells. Without going into a nitty gritty exchange of natural chemistry and cell science, get the job done it to state that the contractile instrument of the muscle cell requires the nearness of adenosine triphosphate (ATP). At the point when ATP parts within the sight of calcium particles, adenosine diphosphate (ADP) and an inorganic phosphate (Pi) result alongside the vitality discharged from the response. This vitality is utilized to draw the actin and myosin fibers together yielding the protein, actomyosin, and creating a compression of those filaments inside the engine unit.
Keywords:- adenosine triphosphate, inorganic phosphate, calcium particles

Introduction:-
While we are for the most part acquainted with oxygen consuming action, characterized in the mid 1970s by Dr. Kenneth Cooper as action amid which the cardio respiratory framework gives enough oxygen to solid exertion, the majority of us connect anaerobic action with that hard exertion we do amid interims. The truth of the matter is that each non-consecutive strong exertion, for example, turning your head, involves some proportion of vitality generation without oxygen, qualifying it as anaerobic. The accompanying dialog of bioenergetics — the investigation of how the body, i.e., the muscles, get and utilize the vitality to do outside work — will explain how and why the force of a solid exertion decides and restricts the term of the activity.

Brief Duration Energy Production inside Muscle Cells
There are three essential means by which vitality is discharged for use by muscle cells. Without going into a nitty gritty exchange of natural chemistry and cell science, get the job done it to state that the contractile instrument of the muscle cell requires the nearness of adenosine triphosphate (ATP). At the point when ATP parts within the sight of calcium particles, adenosine diphosphate (ADP) and an inorganic phosphate (Pi) result alongside the vitality discharged from the response. This vitality is utilized to draw the actin and myosin fibers together yielding the protein, actomyosin, and creating a compression of those filaments inside the engine unit. As the ADP and Pi change within the sight of another catalyst which discharges the Pi from creatine phosphate (CP), the resulting ATP is utilized to proceed with muscle constriction. Furthermore, ATP is utilized to encourage unwinding of muscle.(1,2,3)

These occasions might be spoken to as:

ATP + CP ADP + C + Pi + Energy

ATP + actin + myosin ADP + Pi + actomyosin

These activities happen until the point that all the ATP is spent, for the most part inside 3 seconds. In this manner, the prompt wellspring of vitality for all strong exertion is ATP-CP. At the end of the day, all muscle compressions enduring less than 3 seconds, regardless of whether they are insignificant or maximal, are anaerobic. The main contrast in the measure of work delivered is a component of the quantity of muscle filaments and gatherings enrolled inside that time span.(2,3) Likewise, the term of muscle activity that drains the accessible ATP will be dictated by the measure of ATP-CP put away and rest time between such endeavors; if adequate, all the more such activities might be finished. Subsequently, the vitality for short power blasts and weight lifting regimens is ATP-CP.

Substrate Use in the Production of Long-Term Energy

Everybody realizes that one reason we eat is to have the calories to consume by muscle movement. Through a progression of responses in the wholesome framework (from the mouth to the internal organs), foodstuffs are separated into their compound segments for use by the body. These are the starches, proteins, fats, vitamins and minerals we talk about day by day in our parts as teachers. Given a decision in the issue, muscles like to utilize starches (or sugars) as vitality sources, i.e., substrates. Nonetheless, fats and even proteins might be utilized. The manner in which researchers know which substrate(s) is/are being utilized is by deciding how much oxygen is being expended (the distinction between O2 motivated and O2 lapsed) and how much carbon dioxide is being created (the contrast between CO2 propelled and CO2 terminated). This proportion is alluded to as Respiratory Quotient (RQ):

RQ = volume of CO2 delivered/volume of O2 devoured (2,3)

At the point when RQ = 1.0, generally starches are being utilized. Fats are prevalent when RQ = 0.71. (Protein is once in a while the sole substrate for action aside from in certain sickness states and amid late-organize starvation; RQ = 0.8.) very still, the RQ is around 0.83. The higher the power of activity, the more reliant muscle is on the promptly accessible starches inside the muscle and the accessible sugars in the circulation system making RQ approach or surpass 1.0.

Two different methods for vitality creation are accessible when muscle withdrawals are required to proceed past three seconds. Through complex biochemical responses, muscles get to the put away glycogen inside the cells and separate it (glycogenolysis, where - lysis = 'separate') into its most straightforward frame, glucose; glucose is separated further (glycolysis) to yield more ATP to control the above-depicted muscle constrictions. At the point when O2 is accessible, these responses happen vigorously yielding 38 ATP for each particle of glucose. Nonetheless, when O2 isn't being provided quick enough or in adequate amount to empower these responses to happen vigorously, anaerobic digestion gives enough ATP (2 ATP/particle of glucose) to proceed with muscle activity for the following 90-120 seconds. This non-oxidative glycolysis additionally yields two results for which vitality must be used to evacuate: CO2 and lactic acid.(1,2,3,4) It is this lactate such huge numbers of us fear or take a stab at in our own particular exercises. In like manner, it is lactate we blame for the "consume" and the agonies about which we regularly hear our customers whine. It ought to be noticed that lactate leeway happens all the while to its creation and proceeds for a few minutes after exceptional exercise.(1,4) Next-day soreness is more probable an aftereffect of musculotendinous damage, not lactic corrosive collection.

The idea of the "anaerobic limit" is a helpful one physiologically yet is a misnomer.(1) This edge was noted at roughly 60% of one's maximal oxygen consuming limit when CO2 creation started to surpass O2 utilize and one started breathing harder.(2,3,4) One outcome of overproduction of lactate with respect to the buffering capacity of the body is hyperventilation of CO2 to deacidify the blood. RQ climbs quickly towards 1.0 and past, up to 1.5 in exceptionally all around prepared competitors. At the purpose of diversion from the straight increment in numerous factors related with digestion blood lactate was likewise collecting past resting esteems. It was accepted this was illustrative of the flight of oxygen consuming digestion and was named the "anaerobic threshold".(2,3) Some have contended that while lactate, an

extremely important and usable substrate all by itself, accumulates on account of restricted evacuation forms, anaerobiosis isn't really caused by said overproduction; different components are involved.(1,4)
While this may seem, by all accounts, to be a probable reason favoring lactic corrosive, there is confirm that lactic corrosive can be changed over for use as a fuel for muscle withdrawal. For whatever length of time that breath keeps getting oxygen, some lactic corrosive can reemerge the high-impact digestion, the Kreb's Cycle, after reorganization into glucose in the liver.(1,4) eventually, notwithstanding, lactate aggregation meddles with the specific muscle work it once gave vitality to and the muscles, even the respiratory muscles, wind up exhausted. Exercise is in this way ended; the measure of rest time required before continuing similarly extreme exertion relies upon one's condition of molding and the idea of the rest time frame — dynamic versus latent.
At long last, high-impact movement, if kept up at a power underneath the limit where lactate amasses too quickly, licenses the creation of ATP for as long a day and age as glycogen in the muscle yields glucose and every single other wellspring of glucose outside the muscle can achieve the muscle cells. The two essential wellsprings of exogenous glucose are the blood and the liver. The liver stores glycogen removed from the gut. This glycogen is separated into glucose and discharged into the circulation system. (If necessary, muscle proteins might be separated and changed over to glucose in the liver through gluconeogenesis.) Blood-borne glucose, within the sight of insulin, is transported over the cell film to be utilized by the muscles.

Along these lines, practice power decides, as it were, both the sort and measure of substrate use by the muscles. The accessibility of substrates, notwithstanding the accessibility of oxygen, decides the term over which exercise can proceed. High force endeavors, for example, control lifts, short dashes or bounces should be possible without a breath; truth be told, any breaths taken amid these concise endeavors are more arranged towards CO2 and lactate expulsion than O2 supply. The cardio respiratory framework can't convey enough oxygen in time. Longer runs (over 10 seconds) and weight lifting inside sensible points of confinement of reiterations/set give time to O2 to be conveyed to the muscles yet insufficient time to clear the lactate from the blood. This condition is self constraining up to 90-120 seconds yet can be very extreme amid that time. On the off chance that proceeded with exertion is required or wanted, power should be diminished to the point whereby lactate creation can be figured out how to keep away from facilitate development. Accepting not all accessible starch stores, eg., glycogen and glucose, are spent completely amid the underlying aggregation of lactate, exercise can proceed for a few more hours.

Conclusion:-
Luckily for every one of us, the body can utilize fats to yield vitality, separating them (by means of lipolysis) into unsaturated fat and glycerol particles to be utilized as we've examined. In like manner, every one of the three vitality frameworks can be prepared and molded to amplify every framework's capacity (inside hereditarily decided breaking points) to give the ATP expected to solid endeavors. With appropriate program plan, the activities we recommend will build up the focused on vitality frameworks and muscle gatherings to such an extent that the coveted objectives of every customer can be drawn closer. Regardless of whether it just means turning one's head.

Bibliography
1. G.A. Brooks, T.D. Fahey, Exercise Physiology: Human Bioenergetics and Its Applications, John Wiley & Sons, 1984
2. H.A. DeVries, Physiology of Exercise for Physical Education and Athletics, Third Edition, Wm. C. Brown Company, 1980
3. D.K. Mathews, E.L. Fox, The Physiological Basis of Physical Education and Athletics, Second Edition, W.B. Saunders Company, 1976
4. M.F. Bergeron, “Lactic acid production and clearance during exercise”, National Strength and Conditioning Association Journal, 13(5):47-50, 1991

Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp56-57
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Growth, Maturity Profile And Peak Vo2 Of 11 Year-Old Male Soccer Player

Dr.Ravindra Baliram Khandare
Director Of Physical Education& Sports
Mula Education Society's
Arts, Commerce & Science College Sonai,
Tal:-Newasa.Dist:-Ahmednagar (M.S)
Email Id: - ravikhandare03@gmail.Com

Abstract
This study examined the relationship between body size, biological maturity, total amount of practice, and aerobic fitness of youth soccer players. The sample included 30 male soccer players aged 11 years old. Morphological variables (weight, height, sitting height and subcutaneous skin folds), maturity (maturity offset, percentage of predicted mature height and skeletal maturity using the Feels method), quantity of annual practice and years of federate practice were considered. Assessment of aerobic power was obtained using a direct, maximal and progressive treadmill protocol. Data analysis considered general and comparative descriptive statistic. Pearson's correlation coefficient was calculated in order to consider the association between aerobic power outputs and morphology, maturity and sport participation parameters.Keywords: - Assessment, Pearson's correlation, practice.

Introduction:-
Soccer is unarguably the most popular sport in the world (Reilly, Bangsbo & Franks, 2000). In the particular case of Portugal, soccer occupies a social position of great prominence (Ramos, 2002). On the other hand, as stated by Morris (2000), early identification of future elite athletes will offer greater competitive potential to the sport organizations with that kind of capability. Paradoxically, the sports models used by most of professional clubs still seem to use too much support from empirical knowledge (Vaeyens et al., 2006). Studies related to multidimensional research on youth soccer players (Malina et al., 2000; Seabra, Maia &Garganta, 2001; Fragoso et al., 2004; Malina et al., 2005; Philippaerts et al., 2006; Vaeyens et al., 2006; Malina, Ribeiro, Aroso& Cumming, 2007; Figueiredo, Gonçalves,
Coelho e Silva &Malina, 2009) have been increasing in the last decade, but still left open more discriminating analysis considering factors of metabolic response trough the use of laboratory tests.
Due to the length of the game, aerobic metabolism is the main source in soccer (Bangsbo, 1994; Impellizzeri, Mognoni, Sassi&Rampinini, 2005; Stølen, Chamari, Castagna&Wisløff, 2005; Svensson&Drust, 2006). According to Reilly, Bangsbo& Franks (2000), the energy expenditure associated with match play revolves around 5700 kJ for a male soccer player with total body mass of about 75 kg. Maximal oxygen uptake has been studied in several studies with elite adult soccer players. Considering mean values, these are located between 56 and 69 ml.kg-1.min-1 (Reilly, Bangsbo & Franks, 2000). Although Wisløff, Helgerud& Hoff (1998) point out that the average values for elite player can be greater than 65 ml.kg-1.min-1(considering variability associated with tactical playing position), Reilly (2004) suggests that there is a threshold value of about 60 ml.kg-1.min-1, which represents the minimum for a soccer player succeed in a contemporary elite team. Although players of different tactical playing positions have a different workload during a game, which demonstrates that some of the training sessions should be dedicated to training specific to each position, few studies of young soccer players are available to date (Gil et al., 2007). VO2max develops just like other process related to growth and maturation during childhood and adolescence (Helmantel, Elferink-Gemser&Visscher, 2009), appearing to occur a stabilization of values expressed per unit body mass as a result of aging (Malina, Bouchard & Bar-Or, 2004b). Furthermore, Beunen et al. (2002) found that although VO2max is largely.

Explained by body mass, factors such as regular physical activity and his interaction with maturity status contribute independently to the VO2max. Maturities advanced boys attain higher absolute (L.min-1) VO2max compared with delayed maturity subjects. When regarding to relative results (ml.kg-1.min-1), late maturity boys achieve higher rate of oxygen absorption per unit body mass, except in early adolescence.

Conclusions

Our study supports the reported evidences which state that aerobic power increase in direct proportion to body mass. It is also supported that maturity advanced boys attain higher absolute peak VO2 (L.min-1) but, on the other hand, maturity delayed boys reach higher peak VO2 results per unit body mass (ml.kg-1.min-1). Regarding to tactical playing position, the defenders from our sample showed higher results for morphology, biological maturation and absolute peak VO2. They also attained higher values concerning to annual average game minutes. In other words, they were chose more often by coaches in their respective competitive process. The evidence from our study seems to point that coaches tend to select young maturity advanced athletes to areas of the field nearest to the goal posts (where physical contact seems to be crucial). It seems to subsist, moreover, a hypothetical exacerbated concern about the defensive process, since the young players classified as forwards, besides less selected by coaches compared to defenders and midfielders, were also smaller, thinner and delayed in the maturity process. Each tactical playing position seems to be related to a different functional and morphological profile that may, however, be related to the sport selection process, when using the maturity status of the young soccer player as the main criterion. Furthermore, youth soccer coaches must be aware that, besides playing position patterns and even in the same particular age group, there are significant differences regarding to morphology and aerobic fitness of youth soccer players in the same age group, so the training process itself must be carefully defined and adapted. Subsequently, more studies are needed.

References:-

Armstrong, N., Kirby, B., &McManus, A.M. (1995). Aerobic fitness of prepubescentchildren. *Annals of Human Biology*. 22(5): 427 – 441.

Armstrong, N., Welsman, J.R., &Winsley, R.J. (1996). Is Peak VO2 a Maximal Index of Children's Aerobic Fitness?. *International Journal of Sports Medicine*. Vol. 17: 356-359.

Armstrong, N., Welsman, J.R., & Kirby, B.J. (1998). Peak Oxygen Uptake and Maturation in 12-yr Olds. *Medicine & Science in Sports & Exercise*. Vol. 30 (1): 165-169.

Beunen, G., Baxter-Jones, A., Mirwald, R., Thomis, M., Lefevre, J., Malina, R.M., & Bailey, D. (2002). Intraindividualallometric development of aerobic power in 8-to 16-year-old boys. *Medicine & Science in Sports & Exercise,* 33(3), 503-510.

Carter, J.E.L., & Heath B.H., (1990). *Somatotyping: Development and Applications*. Cambridge University Press.

Castagna, C., Impellizzeri, F.M., Rampinini, E., D'Ottavio, S., &Manzi, V. (2008). The Yo-Yo intermittent recovery test in basketball players. *Journal of Science and Medicine in Sport*. Vol. 11: 202-208.

Centers for Disease Control and Prevention (2000). National Center for Health Statistics. CDC growth charts: United States.

Figueiredo, A. J., Carlos E. Gonçalves, Manuel J. Coelho e Silva, & Malina, R.M. (2009). Youth soccer players, 11-14 years: Maturity, size, function, skill and goal orientation. *AnnalsofHumanBiology*, 36(1): 60

Fragoso, .I, Vieira, F., Canto e Castro, L., Oliveira Júnior, A., Capela, C., Oliveira, N., & Barroso, A. (2004). Maturation and strength of adolescent soccer players. *In* M. Coelho e Silva, & R.M. Malina (Eds). *Children and Youth inOrganized Sports*. Coimbra. Imprensa da Universidade.

Helmantel, A., Elferink-Gemser, M., Visscher, C. (2009). Trainability of VO2max during childhood and adolescence. *In* Coelho e Silva M, Figueiredo A, Elferink-Gemser M & Malina R (Eds.). *Youth Sports: Participation, Trainability and Readiness.* Imprensa da Universidade de Coimbra.

Impellizzeri, E., Mognoni, P., Sassi, A., &Rampinini, E. (2005). Validity of a submaximal running test to evaluate aerobic fitness changes in soccer players. *In* Reilly, T., Cabri, J. &Araújo, D. (Eds). *Science and Football V – The Proceedings of the Fifth World Congress on Science and Football.* 105 - 111.

Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp58-65
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Aquatic Therapy Model as a Physical Exercise Program for Post Stroke

Anita Puspa Ningrum[1], Rajesh Kumar[2], Djoko Pekik Irianto[1], & Bambang Priyonoadi[1]
[1]Ilmu Keolahragaan Pascasarjana - Universitas Negeri Yogyakarta, Yogyakarta Indonesia &
[2]Principal and Head, Department of Physical Education, Osmania University, Hyd. T.S. India.

Abstract –
in Indonesai many springs can be easily found in many places and some are used for therapy pool. One of those places is Klaten in Central Java which has 191 springs. Common complication found in stroke is associated to neurological syndrome including agonist or antagonist, weakness, and lack of coordination. Aquatic therapy intervention focuses on techniques enhancing flexibility, ROM, strength, cardiovascular, balance, and coordination. People believe that Umbul Brintik (Brintik Spring) has higher mineral than any other springs located surrounding the area. A study conducted by Suharjo in 2008 revealed that the spring contains lower cation than anion HCO_3+CO_3. It is, therefore, suitable for aquatic therapy and drinking water. During one year observation, the number of visitors in this spring increased gradually from 12,5% in the first period, 27,5% in the second period, and 60% in the third period. Visitors are catagorized into three groups: sick visitors, healthy visitors, dan common visitors. Even though there are many comparative studies discussing the benefits of several methods for stroke therapy, aquatic therapy can gain optimum results when combined with rehabilitation training.*Kata kunci* – physical exercise program, aquatic therapy, spring.

Introduction

When the blood supply to the area of brain is interrupted due to either blood clot or broken blood vessels, brain tissue depriving of oxygen and nutrient is damaged [1][2]. Stroke recovery process involves treatment, immediate recovery, and return to daily living [3]. Since stroke patient has complex individual rehabilitation needs, the progress and recovery process is different from one patient to another [4-6]. Stroke treatment starts from the hospital with “acute treatment”. This first treatment helps patients to survive, to prevent other stroke, and to manage other health problems [7][8]. Some patients are able to recover naturally and regain the lost skills [9].

This process may take a few weeks or more after stroke occurs [10]. Rehabilitation, another part of treatments, helps patients maintain their skills and relearn lost skills to regain independence. [11][12]. The decision regarding rehabilitation is made by patients, their family, and hospital staff before patients are released [13]. The last process of stroke recovery is when patient return to their daily living after acute treatment and rehabilitation [14]. In this process, the family should learn how to live with a stroke survivor as poststroke patients are unable to do every day tasks as they used to. For an example, they should wear shoes without lace or write using the opposite hand. [15][16].

Stroke can be caused by ischemic condition or hemorrhagic process which occurs when an artery blood vessel breaks or ruptures. About two third of stroke cases is ischemic whereas a third is hemorrhagic [17]. Ischemic stroke happens as a result of an obstruction within blood vessel supplying blood to the brain. [3][18]. Hemorrhagic stroke is the result of broken micro-aneurysm. The majority of stroke occurs when the blood vessels become narrow or clogged by fatty deposits or plaque, which cut off the blood flow to the brain. In addition, uncontrolled high blood pressure has been the most common risk factor of ischemic stroke. [2] [19]. About 13% of hemorrhagic stroke occurs when a blood vessel in the brain or near the brain breaks. The result is blood seeping into the brain tissue, weakening and causing brain cell deaths. [2][20].

Motor deficit after stroke can lead to several symptoms (clonus, dystonia, muscle weakness, abnormal reflex response) [3][20]. Spasticity is the result of muscle control disorder and induces rheumatic muscle changes such as stiffness, fribosis and atrophy. This affects patients with neurological conditons such as stroke, multiple sceloris, traumatic brain, and spinal cord injury [6][20]. Martin (2014) reported that out of 24

studies about epidemiology feet flexibility, 28-38% of stroke patients experienced spasticity[18][21]. Aquatic therapy can be done only when poststroke patients with mild spasticity is so stable that they can recover faster. However, it is important to consider frequency, intensity, and types of exercise to obtain the maximum result.

Method

This research uses preliminary research design. Data obtained in preliminary research are the observation result, interviews and documentation. The variables used are factors influencing visitors' health improvement. Visitors are classified into three groups: sick visitors, healthy visitors, and common visitors.

The research was conducted from January to December 2018 in Umbul Brintik, Central Java, Indonesia. Data were obtained from the list of visitors documented by Umbul Brintik management.

The research was done in three periods. The first period was from January to April 2018 and there were 100-200 visitors daily. The second period was from May to August 2018 and there were 300-800 visitors daily. The last period was from September to December 2018 and there were 700-2000 visitors daily.

Descriptive analysis is used to identify the objectives of visitors when doing aquatic activities. Data display is applied to reveal the relationship among variables. The samples are 6 visitors; 4 males and 2 females who suffer from mild stroke, moderate stroke and severe stroke.

Results and Discussion

Sick visitors are those coming for aquatic therapy by doing exercise without any assistance or with aids. Healthy visitors are those having only mild health problems and doing aquatic activities to keep themselves healthy. Common visitors are those coming to spend their free time and to have fun.

Not only does spaticity cause severe physical disorder, it it also triggers psychological and social disorders.[22-25]. Despite the availability of non-operative treatment in stroke, surgery has been the primary choice to improve the quality of life and to prevent complication [26]. When evaluating spasticity, it is important to focus on three aspects related to functional problems: identifying clinical patterns of motor dysfunction and its sources, identifying patient's ability to control muscles involved in clinical patterns, and distiguishing muscle stiffness and contracture [4][27-29].

Neuroimaging study states that certain parts of the brain (e.g. SMA, CMA and secondary somatosensory cortex) contribute to the flexibility and motor dysfunction [4][30][31]. Each patient determines his/her own goals in aquatic therapy exercise.[32-35]. Patients are advised to do all aquatic therapy methods even though they experience motor dysfunction only on one part of the body. [36]. The large number of people coming for aquatic therapy shows that most of them have health problems [37][38]. This was supported by the findings in the observation that the number of stroke patients exceeded other patients [39][40].

Table 1. The highest number of visitors

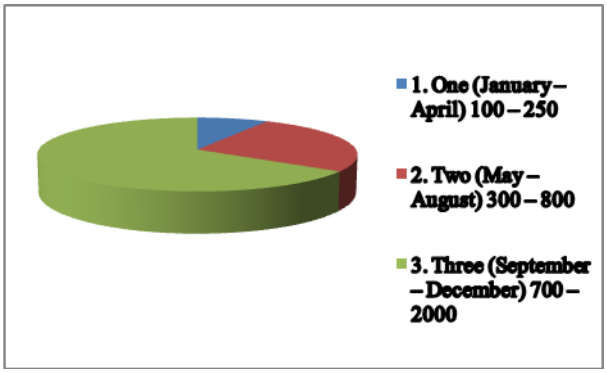
No	Catagory	Number	Percentage
1.	Sick	1.500	75%
2.	Healthy	450	22,5%
3.	Common	50	2,5%

Table 1 shows that Umbul Brintik was visited by 150 to 200 people everyday on weekdays and 500-700 everyday on weekends

Table 2. The Catagory of Visitors

No	Group (month)	Number	% (per year)
1.	One (January – April)	100 – 250	12,5%
2.	Two (May – August)	300 – 800	40 %
3.	Three (September – December)	700 – 2000	100%

Table 2 shows the gradual increase of visitors from January to December 2018. More people are interested in aquatic therapy in Umbul Brintik. They apply natural method or other methods that they are familiar with. Based on their own experience and knowledge, they move their body in the water until they reach the target in a certain period.



Picture 1. Diagram of Visitor Catagory

Picture 1 depicts that the number of sick visitors (stroke patients and poststroke patients) is higher than others. A research (Anita, 2018: 3) also reported that out of 45 patients coming to Umbul Brintik, 32,50% are stroke patients [55].

WHEN TO DO THERAPY

Table 3. Aquatic Method

No	Type of Stroke	Mean	Aquatic Method
1	Mild	27%	Swimming
2	Moderate	32%	Water massage, submerging and diving
3	Severe	41%	Submerging and leg exercise.

The choice of strategy and selective medication in post stroke spasticity (PSS) management should have positive impacts on functional movement [41]. Inappropriate aquatic therapy can disturb functional recovery and increase complication. It can affect not only on muscle tonus but also on strength, coordination, endurance, and neuron. Thus, spasticity is not the major cause of dysfunction when it is found later that there is a upper motor neuron syndrome][43].

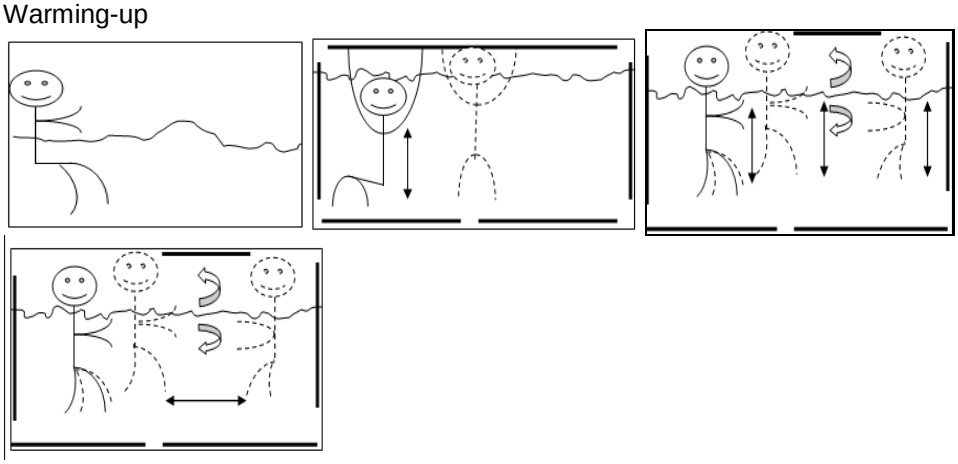
To improve function and well-being in daily life, patients need to be assisted when doing aquatic therapy. The exercise is not limited on the rehabilitation of passive muscle stretching ability or lost stretching ability [44]. Aquatic therapy which stimulates neurons and trains muscle strength can be administered when patient's condition is stable. The optimum combination between rehabilitation techniques, aquatic therapy, and movement exercise is beneficial for poststroke syndrome for all level of patients [5][45].

Aquatic Therapy

Spasticity and spasitic peresis is primary motor dysfuction after stroke and the challenge of ROM recovery [46]. Spasticity appears and disappears during the process of complete motorrecovery. Both spasticity and motor recovery are related to neuron plasticity after stroke [47]. Nevertheless, the researecher has not apprehended this relationship. In the beginning of recovery phase, strength recovery and motor function is related to cortex plasticity reorganisation. On the other hand, the most sensible mechanism of poststroke flexibility is the result of maladaptive plasticity called hyperexcitability reticulospinal (RS). It is essential to differenciate and understand the basis of motor recovery and spasticity mechanism. [46][47]. The success of motor recovery relies on neuron plasticity modulation and facilitation through rehabilitation strategy such as intensive and repetitive intervention, suitable non-invasive brain stimulation, and proper pharmacology [6][48][49]. Aquatic therapy must be done in the spring with flowing water. For safety reason, a poststroke patient should be assisted by a therapist in doing aquatic therapy because he/she lost either his/her mobility or his/her strength. Life jacket or inflatable swimming aids can be used when helping severe poststroke patients. They are unable to keep the balance in the water or to move their body. The pool should be 0,75 – 1 meter deep.

Aquatic Method For Post Stroke

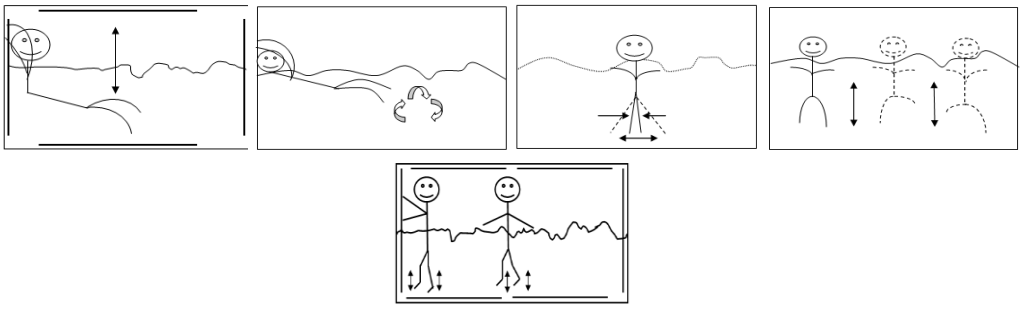
Warming-up



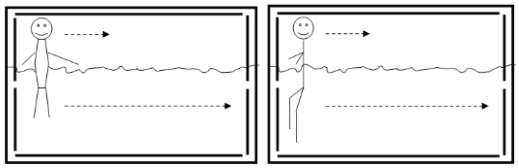
Picture 2. Warming-up method in the water

First of all, wet the body to adapt with water and then plunge into the To keep the body temperature, move both hands like in swimming using breast stroke style and this can be done by walking around the pool. Life jacket should be worn by severe poststroke patients. The are four movements: plunging into the pool, submerging, moving both hands like swimming using breast stroke style.

The Main Exercise
Leg exercise

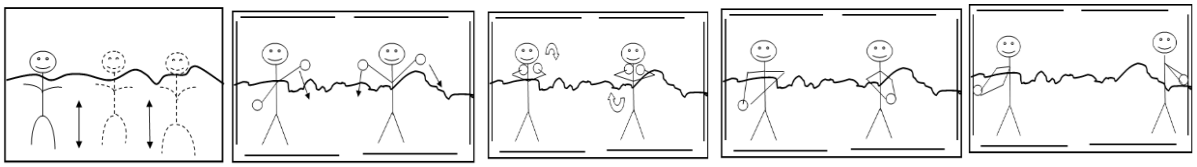


Picture 3. Leg exercise on the spot
There are 5 movements for this exercise: moving the legs like in swimming using freestyle and breast stroke style, opening and closing the legs, jumping, and tiptoeing. If a patient is unable to do these motions perfectly, an assistant can help him/her to move the legs. These motions focus on increasing strength and flexibility.



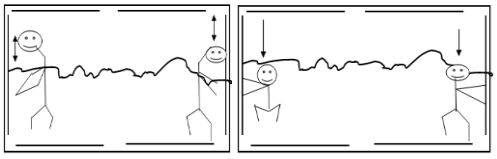
Picture 4. Sidestepping exercise
There are two movements: taking sideways steps to the right and to the left, stepping fowards and backwards. It aims at increasing strength and coordination.

Arm Exercise



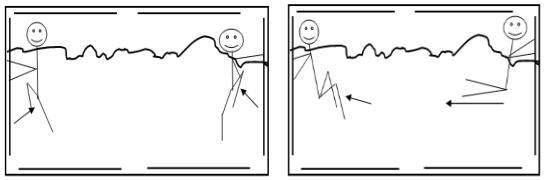
Picture 5. Arm exercise
There are 5 arm movements: pressing the water, splashing the water, rotating hands while holding the shoulders, moving hands forwards, and placing them on the pool wall while stretching them. These motions are to improve flexibility.

Cardiovascular exercise



Picture 6. Cardiovascular
There are two movements: submerging the head with short breath and holding the breath as long as possible. These aims at enhancing lung and heart endurance.

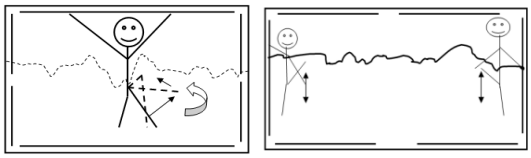
Muscular Strength Exercise



Picture 7. Muscular strength exercise

There are 2 movementss: crossing the thighs and pushing the legs forwards. The purpose is to increase ROM, strength, balance, and coordination.

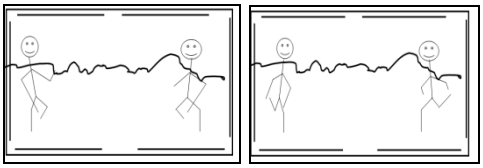
Flexibility Exercise



Picture 8. Flexibility exercise

There are 2 flexibility movements: moving one leg in a forward direction with the knee straight, and kicking the water to downward direction. The objective of these motions is to increase flexibility and balance.

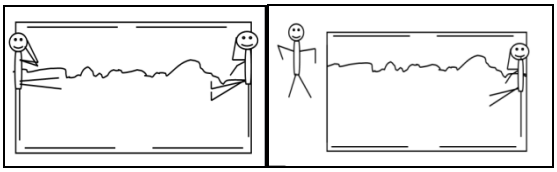
Coordination Exercise



Picture 9. Coordination Exercise

There are two movements: touching the right foot with the left hand (crossing position) in front of the body and behind the body. These help boosting coordination, balance and flexibility.

Cooling down



Picture 10. Cooling down

Cooling down movement is done by kissing the knees and shaking the hands. In order to reduce pain and soreness, the knee kissing motion is done near the pool wall with the water level as high as the hip.

Conclusion

Neuron plasticity is an important process of motor function recovery after stroke but some changes may be maladaptive. Hyperexcitability RS is the mechanism which can explain flexibility whereas strength recovery and motor function are related to cortex reorganisation. It is important to undertand that motor recovery and flexibility have their own mechanism [6][50][51]. Small study conducted to six poststroke patients suffering from spinal medulla injury found that spasticity lessened when measured with modified Barthel Index ADL in standing position [8][52]. Patients with certain conditions such as being in post surgery period, suffering from osteoperosis, having limited range of motion, and being unstable are not suggested to perform the exercise [7][53][54].

References

Deborah Ruth Neal. Life after stroke: a life i like' and 'a life to live. A thesis submitted in partial fulfilment of the requirements of Bournemouth University for the degree of Doctor of Professional Practice. Bournemouth University. (2017).

American Heart Association and Amcerican Stroke Association. Let's talk about stroke: prevention. (2018). strokeassociation.org/letstalkaboutstroke.

Aurore Thibaut, Camille C, Erik Ziegler, Marie-Aure lie Bruno, Steven Laureys, & Olivia Gosseries. Spasticity after stroke: Physiology, assessment and treatment. *Brain Injury: Informa Healthcare.* (2013) *1-13.* http://www.coma.ulg.ac.be/ papers/vs/ Spastic_BI. pdf

Gerard E. Francisco & John R. McGuire. Poststroke Spasticity Management. *Francisco and McGuire 43,* (2012). 3132-3136.

Sheng Li. (2017). Spasticity, Motor Recovery, and Neural Plasticity after Stroke. Front. Neurol. 8:120-. doi: 10.3389/fneur.2017.00120

Krishnan P. S. Nair and Jonathan Marsden. (2014). The management of spasticity in adults. *BMJ Clinical Research (1-10). doi: 10.1136/bmj.g4737.*

Baker SN. The primate reticulospinal tract, hand function and functional recovery. J Physiol(2011) 589:5603–12. doi:10.1113/ jphysiol. 2011.215160

Burke D, Wissel J, Donnan GA. Pathophysiology of spasticity in stroke. Neurology (2013) 80:S20–6. doi:10.1212/WNL.0 b013e3 1827624a7

Chang SH, Francisco GE, Zhou P, Rymer WZ, Li S. Spasticity, weakness, force variability, and sustained spontaneous motor unit discharges of resting spastic-paretic biceps brachii muscles in chronic stroke. Muscle Nerve(2013) 48:85–92. doi:10.1002/ mus. 23699

Fisher KM, Chinnery PF, Baker SN, Baker MR. Enhanced reticulospinal output in patients with (REEP1) hereditary spastic paraplegia type 31. J Neurol (2013) 260:3182–4. doi:10.1007/s00415-013-7178-6

Fisher KM, Zaaimi B, Baker SN. Reticular formation responses to magnetic brain stimulation of primary motor cortex. J Physiol (2012) 590:4045–60. doi:10.1113/jphysiol. 2011. 226209

Herbert WJ, Davidson AG, Buford JA. Measuring the motor output of the pontomedullary reticular formation in the monkey: do stimulus-triggered averaging and stimulus trains produce comparable results in the upper limbs? Exp Brain Res(2010) 203:271–83. doi:10.1007/s00221-010-2231-5

Kallenberg LA, Hermens HJ. Motor unit properties of biceps brachii during dynamic contractions in chronic stroke patients. Muscle Nerve (2011) 43:112–9. doi:10.1002/mus. 21803

Li S, Chang SH, Francisco GE, Verduzco-Gutierrez M. Acoustic startle reflex in patients with chronic stroke at different stages of motor recovery: a pilot study. Top Stroke Rehabil(2014) 21:358–70. doi:10.1310/tsr2104-358

Li S, Durand-Sanchez A, Latash ML. Inter-limb force coupling is resistant to distorted visual feedback in chronic hemiparetic stroke. J Rehabil Med(2014) 46:206–11. doi:10.2340/ 16501977-1256

Li S, Francisco G. New insights into the pathophysiology of post-stroke spasticity. Front Hum Neurosci(2015) 9:192. doi:10.3389/fnhum.2015. 00192

Manella KJ, Field-Fote EC. Modulatory effects of locomotor training on extensor spasticity in individuals with motor-incomplete spinal cord injury. Restor Neurol Neurosci 2013;31:633-46

Martin A, Abogunrin S, Kurth H, Dinet J. Epidemiological, humanistic and economic burden of illness of lower limb spasticity in adults: a systematic review. Neuropsychiatry Dis Treat2014:10;111-122.

Aluru V, Lu Y, Leung A, Verghese J, Raghavan P. Effect of auditory constraints on motor learning depends on stage of recovery post stroke. Front Neurol (2014) 5:106. doi:10.3389/ fneur. 2014.00106

Bensmail D, Robertson J, Fermanian C, Roby-Brami A. Botulinum toxin to treat upper-limb spasticity in hemiparetic patients: grasp strategies and kinematics of reach-to-grasp movements. Neurorehabil Neural Repair(2010) 24:141–51. doi:10. 1177/ 1545968309347683

Montgomery LR, Herbert WJ, Buford JA. Recruitment of ipsilateral and contralateral upper limb muscles following stimulation of the cortical motor areas in the monkey. Exp Brain Res(2013) 230:153–64.doi:10.1007/s00221-013-3639-5

Mottram CJ, Wallace CL, Chikando CN, Rymer WZ. Origins of spontaneous firing of motor units in the spastic-paretic biceps brachii muscle of stroke survivors. J Neurophysiol (2010) 104:3168–79. doi:10.1152/jn.00463.2010

Riddle CN, Baker SN. Convergence of pyramidal and medial brain stem descending pathways onto macaque cervical spinal interneurons. J Neurophysiol (2010) 103:2821–32. doi:10.1152/ jn.00491.2009

Tyler S. Pidgeon., Jose M. Ramirez., & Jonathan R. Schiller. (2015). Orthopaedic Management of Spasticity. *Rhode Island Medical Journal: Neurorehabilitation. 26-31.*

Zaaimi B, Edgley SA, Soteropoulos DS, Baker SN. Changes in descending motor pathway connectivity after corticospinal tract lesion in macaque monkey. Brain(2012) 135:2277–89. doi:10.1093/brain/aws115

Bradnam LV, Stinear CM, Byblow WD. Ipsilateral motor pathways after stroke: implications for noninvasive brain stimulation. Front Hum Neurosci (2013) 7:184. doi:10.3389/ fnhum.2013.00184

Byblow WD, Stinear CM, Barber PA, Petoe MA, Ackerley SJ. Proportional recovery after stroke depends on corticomotor integrity. Ann Neurol (2015) 78:848–59. doi:10.1002/ana. 24472

Chang S-H, Durand-Sanchez A, DiTommaso C, Li S. Interlimb interactions during bilateral voluntary elbow flexion tasks in chronic hemiparetic stroke. Physiol Rep(2013) 1:e00010. doi:10.1002/phy2.10

Chang SH, Francisco GE, Li S. Botulinum toxin (BT) injection improves voluntary motor control in selected patients with post-stroke spasticity. Neural Regen Res (2012) 7:1436–9.

Chollet F, Tardy J, Albucher JF, Thalamas C, Berard E, Lamy C, et al. Fluoxetine for motor recovery after acute ischaemic stroke (FLAME): a randomised placebo-controlled trial. Lancet Neurol (2011) 10:123–30. doi:10.1016/S1474-4422(10)70314-8

Denno MS, Gillard PJ, Graham GD, Dibonaventura MD, Goren A, Varon SF, et al. Anxiety and depression associated with caregiver burden in caregivers of stroke survivors with spasticity. Arch Phys Med Rehabil 2013;94:1731-6

Dimyan MA, Cohen LG. Neuroplasticity in the context of motor rehabilitation after stroke. Nat Rev Neurol (2011) 7:76–85. doi:10.1038/nrneurol. 2010. 200

Gourab K, Schmit BD, Hornby TG. Increased lower limb spasticity but not strength or function following a single-dose serotonin reuptake inhibitor in chronic stroke. Arch Phys Med Rehabil(2015) 96:2112–9. doi:10.1016/j.apmr.2015.08.431
Hampton S, Armstrong G, Ayyar M, Li S. Quantifi-cation of perceived exertion during isometric force production with the Borg scale in healthy individuals and patients with chronic stroke. Top Stroke Rehabil (2014) 21:33–9. doi:10.1310/tsr 2101-33
Herbert WJ, Powell K, Buford JA. Evidence for a role of the reticulospinal system in recovery of skilled reaching after cortical stroke: initial results from a model of ischemic cortical injury. Exp Brain Res (2015) 233:3231–51. doi:10.1007/ s00221 -015 -4390-x
Honeycutt CF, Perreault EJ. Planning of ballistic movement following stroke: insights from the startle reflex. PLoS One(2012) 7:e43097. doi:10.1371/journal.pone.0043097
Hou S, Ivanhoe C, Li S. Botulinum toxin injection for spastic scapular dyskinesia after stroke: case series. Medicine (2015) 94:e1300. doi:10.1097/MD.0000000000001300
Kagawa S, Koyama T, Hosomi M, Takebayashi T, Hanada K, Hashimoto F, et al. Effects of constraint-induced movement therapy on spasticity in patients with hemiparesis after stroke. J Stroke Cerebrovasc Dis 2013;22:364-70.
Kaji R. Direct central action of intramuscularly injected botulinum toxin: is it harmful or beneficial? J Physiol(2013) 591:749–749. doi:10.1113/jphysiol.2012.246322
Kheder A, Nair KPS. Spasticity: pathophysiology, evaluation and management. Pract Neurol 2012;12:289-98.
Kim EH, Chang MC, Seo JP, Jang SH, Song JC, Jo HM. The effect of a hand stretching device during the management of spasticity in chronic hemiparetic stroke patients. Ann Rehabil Med 2013;37:235-40.
Madhavan S, Krishnan C, Jayaraman A, Rymer WZ, Stinear JW. Corticospinal tract integrity correlates with knee extensor weakness in chronic stroke survivors. Clin Neurophysiol (2011) 122:1588–94. doi:10.1016/j.clinph.2011.01.011
Malhotra S, Pandyan AD, Rosewilliam S, Roffe C, Hermens H. Spasticity and contractures at the wrist after stroke: time course of development and their association with functional recovery of the upper limb. Clin Rehabil(2011) 25:184–91. doi:10.1177/ 0269215510381620
Miller LC, Dewald JPA. Involuntary paretic wrist/finger flexion forces and EMG increase with shoulder abduction load in individuals with chronic stroke. Clin Neurophysiol (2012) 123:1216–25. doi:10.1016/j.clinph.2012. 01.009
Ortiz-Rosario A, Berrios-Torres I, Adeli H, Buford JA. Combined corticospinal and reticulospinal effects on upper limb muscles. Neurosci Lett(2014) 561:30–4. doi:10.1016/j. neulet. 2013. 12.043
Pekna M, Pekny M, Nilsson M. Modulation of neural plasticity as a basis for stroke rehabilitation. Stroke(2012) 43:2819–28. doi:10.1161/STROKEAHA.112.654228
Ross JC, Cook AM, Stewart GL, Fahy BG. Acute intrathecal baclofen withdrawal: a brief review of treatment options. Neurocrit Care 2011;14:103-8.
Schiess MC, Oh IJ, Stimming EF, Lucke J, Acosta F, Fisher S, et al. Prospective 12-monthstudy of intrathecal baclofen therapy for post stroke spastic upper and lower extremity motor control and functional improvement. Neuromodulation 2011;14:38-45.
Seo NJ, Fischer HW, Bogey RA, Rymer WZ, Kamper DG. Effect of a serotonin antagonist on delay in grip muscle relaxation for persons with chronic hemiparetic stroke. Clin Neurophysiol(2011) 122:796–802. doi:10.1016/j.clinph.2010. 10. 035
Shaw L, Rodgers H, Price C, van Wijck F, Shackley P, Steen N, et al. BoTULS: a multicentre randomised controlled trial to evaluate the clinical effectiveness and cost-effectiveness of treating upper limb spasticity due to stroke with botulinum toxin type A. Health Technol Assess 2010;14(6).
Takeuchi N, Izumi SI. Maladaptive plasticity for motor recovery after stroke: mechanisms and approaches. Neural Plast(2012) 2012:359728. doi:10.1155/2012/359728
Tyry T, Salter A, Largent J, Ann Marrie R. The impact of spasticity severity on healthcare utilization among MS patients: a large-scale six-year follow-up study. J Neurol Sci 2013;333:376-7.
Yen JT, Li S. Altered force perception in stroke survivors with spastic hemiplegia. J Rehabil Med(2015) 47(10):917–23. doi:10.2340/16501977-2019
Zondervan DK, Augsburger R, Bodenhoefer B, Friedman N, Reinkensmeyer DJ, Cramer SC. Machine-based, self-guided home therapy for individuals with severe arm impairment after stroke: a randomized controlled trial. Neurorehabil Neural Repair(2015) 29:395–406. doi:10.1177/15459683 14550368
Anita Puspa Ningrum. (2018). The potentials of spring water in brintik Indonesia as the stroke therapy medium. *YISHPESS 2018 The second Yogyakarta International Seminar on Health, Physical Education, and Sports Science. 1-4.*

Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp66-67
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Effect of Plyometric training for development of Speed among Middle and long distance runners of University of Horticultural Sciences, Bagalkot

Dr. Hiremath.Rajashekhar .Mallikarjunayya
Asst Prof of Physical Education Dean Student Welfare office
University of Hortlicultural sciences, udynagiri, Bagalkot-587104
Email: pressports9@gmail.com

Abstract:
Plyometrics, also known as "jump training" or "plyos", are exercises based around having muscles exert maximum force in as short a time as possible, with the goal of increasing both speed and power. The objective of the study is to determine the effect of plyometric exercises for development of speed among middle and long distance runners of university of Horticultural Sciences, Bagalkot. It is hypothesized there will be effect of Plyometric training for development of Speed among middle and long distance Runners.
The sample for the present study consists of 20 Male middle and long distance runners out of which 10are experimental group and 10 are controlled group. Plyometric exercises such as hopping, bounding, depth jumps, tuck jumps, box jumps etc were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training in middle and long distance running for six weeks. To assess the Speed Pre Test and Post Test were conducted in 50 Meters Run to the experimental group and controlled group .This study shows that due to the plyometric exercises there is a improvement of middle and long distance running experimental group in speed and controlled group has not improved a lot due to the general training.Key words: plyometric exercises, speed, middle and long distance running.

Introduction:
Plyometrics, also known as "jump training" or "plyos", are exercises in which muscles exert maximum force in short intervals of time, with the goal of increasing power (speed-strength). This training focuses on learning to move from a muscle extension to a contraction in a rapid or "explosive" manner, such as in specialized repeated jumping. Plyometrics are primarily used by athletes, especially martial artists, sprinters and high jumpers, to improve performance, and are used in the fitness field to a much lesser degree. Plyometrics is a suitable form of power training for many team and individual sports. High Jumpers today are bigger, faster and more explosive than ever before. Explosive Strength defined as the rate of force development at the onset of the contraction. The goal of training Plyometric training is to improve the rate of force development to create more force in less time for the optimum results

Objectives
. The objective of the study is to determine the effect of plyometric exercises for development of speed among middle and long distance runners of university of Horticultural Sciences, Bagalkot. It is hypothesized there will be effect of Plyometric training for development of Speed among middle and long distance Runners.

Method:

The sample for the present study consists of 20 Male middle and long distance runners out of which 10are experimental group and 10 are controlled group. Plyometric exercises such as hopping, bounding, depth jumps, tuck jumps, box jumps etc were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training in middle and long distance running for six weeks. To assess the Speed Pre Test and Post Test were conducted in 50 Meters Run to the experimental group and controlled group

Results and Discussion

This results of the study shows that due to the Plyometric training there is a improvement in Experimental Group compare to control group.

Table No. I:Mean values of 50 M run test between experimental and control group of middle and long distance runners.

Variables	Group	Pre Test Mean ± SD	Post Test Mean ± SD	t	P - Value
50 M Run Test	Experimental	7.41 ± 0.294	7.13 ± 0.262	4.58	0.000
	Control	7.64 ± 0.376	7.73 ± 0.408		

*Significant at 0.05 level

The Experimental Group of 50 M Run Men is 7.41 in Pre Test and Controlled Group mean is 7.64 in Pre Test. The Experimental Group Mean is 7.13 in Post Test and Controlled Group mean is 7.73, the Experimental Group mean in Post Test in 50 M Run is decreased from 7.41 to 7.13 the control Group mean in Post Test in 50 M Run is increased from 7.64 to 7.73. Due to the Plyometric Training the Experimental group has improved a lot.

Conclusions:

It is concluded that the due to the Plyometric training develops the strength and power in the legs. It also improve the co-ordination in the arms and legs and promotes in developing the Speed.In this Study it is concluded that due to the Plyometric Training there is a development of Speed among middle and long distance runners.

Recommendations:

Similar Studies can be conducted among females and in other Sports and games. This study is useful to the Coaches to prepare the conditioning program to improve the motor abilities of the athletes.

References:

Staub, J. (2011). Augmented verbal feedback and its effect on power output during a counter-movement vertical jump protocol with division 1 collegiate athletes. (Master's thesis, University of Connecticut Graduate School).Accessed at: http://digitalcommons.uconn.edu/gs_theses/91

Singla,D, Hussain ME,Effect of upper body plyometric training on physical performance in healthy individuals: A systematic review,Physical therapy in sport:official journal of the association of chartered physiotherapists in sports medicine,29.November,2017

Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp68-69
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Comparison of Agility among Cricketers and Soft Ball Players of Nizam College in Osmania University, Hyderabad

Prof.L.B.Laxmikanth Rathod
Principal, Nizam College,OU, Hyderabad
Prof.K.Deepla
Chairman, BOS in Physical Education,OU

Introduction

Cricket is a bat-and-ball game played between two teams of 11 players each on a field at the centre of which is a rectangular 22-yard long pitch. The game is played by 120 million players in many countries, making it the world's second most popular sport. Each team takes its turn to bat, attempting to score runs, while the other team fields. Each turn is known as an innings. The bowler delivers the ball to the batsman who attempts to hit the ball with his bat away from the fielders so he can run to the other end of the pitch and score a run. Each batsman continues batting until he is out. The batting team continues batting until ten batsmen are out, or a specified number of over's of six balls have been bowled, at which point the teams switch roles and the fielding team comes in to bat.

Softball is a variant of baseball played with a larger ball on a smaller field. It was invented in 1887 in Chicago as an indoor game. It was at various times called indoor baseball, mush ball, playground, soft bund ball, kitten ball, and, because it was also played by women, ladies' baseball. The name softball was given to the game in 1926. A tournament held in 1933 at the Fairs purred interest in the game. The Amateur Softball Association of America (founded 1933) governs the game in the United States and sponsors annual sectional and World Series championships. The World Baseball Softball Confederation (WBSC) regulates rules of play in more than 110 countries, including the United States and Canada; before the WBSC was formed in 2013, the International Softball Federation filled this role. Women's fast-pitch softball became a Summer Olympic sport in 1996, but it (and baseball) were dropped in 2005 from the 2012 games.

Methodology:

The sample for the present study consists of 20 Male Soft Ball Players and 20 Male Cricketers between the age group of 18-22 Years of Nizam College.To assess the agility Shuttle Run Test wereconducted on Soft Ball Players and Cricketers with the help of Track and Field Officials.

Agility Shuttle Run Test

This test describes the procedure as used in the President's Challenge Fitness Awards. The variations listed below give other ways to also perform this test.
purpose: this is a test of speed and agility, which is important in many sports.
equipment required: wooden blocks, marker cones, measurement tape, stopwatch, non-slip surface.

procedure:
This test requires the person to run back and forth between two parallel lines as fast as possible. Set up two lines of cones 30 feet apart or use line markings, and place two blocks of wood or a similar object behind one of the lines. Starting at the line opposite the blocks, on the signal "Ready? Go!" the participant runs to the other line, picks up a block and returns to place it behind the starting line, then returns to pick up the second block, then runs with it back across the line.
scoring: Two or more trails may be performed, and the quickest time is recorded. Results are recorded to the nearest tenth of a second.
Results:
This study shows that Cricketers are having better agility compare to the Soft Ball Players in shuttle Run TestTable-I: Mean values and Independent Samples Test of Shuttle Run Test between Cricketers and Soft Ball Players

Variables	Group	Mean	SD	t	Sig(2-tailed)
Shuttle Run Test	Cricketers	14.10	0.56	2.53	0.02
	Soft Ball Players	15.48	1.20		

*Significant at 0.05 level
In Table –I the Mean Values of Shuttle Run Test of Cricketers is 14.10 and Soft ball Players is 15.48 The Average Mean of Cricketers in Shuttle Run Test is lesser than the Soft Ball Players. The Standard Deviation of Cricketers 0.56 and Soft Ball Players in 1.20 and t value is 2.53

Discussion:

Speed and agility is one of the main fitness components, important for success in many sports. For some athletes such as Track and Field sprinters, sprint swimmers, cyclists and speed skaters, speed is the most important aspect of fitness. speed requires a training program that focuses on leg strength and power, with appropriate technique training to best utilize your strength and power development. Speed plays an important role in Cricket and Soft ball to exhibit the high level of performance

Conclusion:

1.It is concluded that Cricketers are having better agility than Soft Ball Players
2.Conditioning Exercises plays a major role for improvement of speed among Soft Ball and Cricketers.
3. Sprint training is not all about running fast. It is important to have a good fitness base to build speed upon, and to have the capacity to train regularly. Flexibility is important so that good running form can be achieved, exercises can be performed over the full range of motion and to reduce the incidence of injury.

Recommendations:
1. Similar studies can be conducted on other Events and among females.
2.This study also helps the physical educators and coaches to improve their training regime to excel in Soft Ball and Cricketers.
3. Sprint training session should begin with a series of sprint drills that will help the athlete train the firing patterns for the appropriate muscle groups, and also strengthen those muscles while performing action specific exercises. It is important for Cricketers and Soft Ball Players.

References:

Sanjit Mandal, Bidya Roy and Dr. Gopal Chandra Saha -Comparative study of speed and agility between university level cricket and football player -International Journal of Physiology, Nutrition and Physical Education 2017; 2(1): 386-388

ISSN 0975--7732
Asian Journal of Physical Education and Computer Science in Sports
Volume No.19, No.1.pp70-72
Journal Impact Factor 4.171
A Peer Reviewed (Refereed) International Research Journal

Effect of Yogic Practices and Brisk Walking on Bio Chemical Variables among Men

S.Ramakrishna
Research Scholar, S.K. University, Ananthapur, A.P.
Dr.M.V.Srinivasan
Asst. Professor, Directorate of Physical Education
S.K. Univerity, Ananthapur, A.P.

Introduction:

Regular physical exercise can provide great stress relief. Mentally, exercise provides an outlet for negative emotions such as frustration, anger, and irritability, thereby promoting positive mood and outlook. Exercise improves mood by producing positive biochemical changes in the body and brain. Regular exercise reduces the amount of adrenal hormones that the body releases in response to stress. Also, with exercise, the body releases greater amounts of endorphins, the powerful, pain-relieving, mood-elevating chemicals in the brain. Depressed people often lack these neuro chemicals. Endorphins are natural pain killers and they also help lift the mood. The 'runner's high' is a result of the increased endorphins in the body. Exercise besides ensuring proper body function, will make a person feel both relaxed and refreshed, will promote deep, restful sleep.

Walking is the most popular fitness activity worldwide for people of all ages, far surpassing jogging and aerobics. Walking is an exercise that does not require any special training. Everybody learns walking at the age of one year and so everybody is an accomplished walker. In spite sitting at the desk all day, traveling by bus and car to all destinations and watching Television all evening, one takes an average of 10000 steps each day that is 4 million steps each year. In miles, one walks four miles every day and 1500 miles each year. But, walking for exercise to be beneficial must be comfortably brisk and sustained. The four miles one cover every day walking within the house or at office is of no aerobic value. Walking for fitness requires moderately increased heart rate and increased oxygen intake.

Methodology:

The purpose of the study was to determine the Effect of Three Months Brisk Walking and yogasanas on selected Bio Chemical Variables of 50 – 55 years Men.To attain the purpose of this study, 60 (sixty) men those who are attaining superannuation in Government service were selected randomly from the group of 75 members (seventy five) 55 to 60 years age group Government employees. They were examined by a qualified medical practitioner and were found to be medically and physically fit to take part in the training program which was designed according to the study. The subjects were Government employees of different sectors in Anantapuramu town and they were considered as homogenous group because, there were no difference in routine life pattern. The selected subjects (N=60) were divided in to three groups equally and randomly i.e. Experimental Group – I underwent brisk walk training, Experimental group – II underwent Yogasana's practices and Group III is called as Control Group. The 2 experimental groups were engaged with their respective training protocols for one hour per day and these activities according to the groups were restricted three days per week. The following bio chemical Variable were taken for study:Total cholesterol

Total Cholesterol

"Cholesterol is the fatty substance formed in the blood. Cholesterol is a white fatty alcohol of steroid groups , found in body tissue ,blood and bile, assists in synthesis of Vitamin D and various hormones. Excessive deposits of cholesterols inside arteries are associated with arteriosclerosis and coronary Heart disease.(U.S. National Library of Medicine)"

Results and Discussion

SUMMARY OF MEANS AND STANDARD DEVIATIONS OF PRE AND POST TESTS ON TOTAL CHOLESTEROL OF YOGASANA GROUP, BRISKWALK GROUP AND CONTROL GROUP

Tests		Yogasana Group	Brisk Walking Group	Control Group
Pre Test	Mean	190	189.5	190.25
	Standard Deviation	21.73	20.5	27.01
Post Test	Mean	183.8	182.3	191.2
	Standard Deviation	21.7	18.2	24.6
Adjusted Post Test		184.03	182.2	190.4

The statistical analysis of Total Cholesterol (TC) from the table shows that the Pre – test means of Yogasana's group, brisk walk group and control group are 190, 189 and 190.25.

The statistical analysis of Total Cholesterol from the table indicated that the Standard Deviation of yogasana's group, brisk walk group and control group are 21.73, 20.57 and 27.01 respectively.

The statistical analysis of Total Cholesterol from the table stating that the Means of post test of Yogasana's group, brisk walk group and control group are 183.8,182.3 and 191.25 respectively.

The statistical analysis of Total cholesterol from the table shows that the standard deviation of post test on yogasana's group, brisk walk group and control group are 21.7, 18.25 and 24.63 respectively.

The statistical analysis of Total cholesterol from the table stating that the adjusted post test means of yogasana's group, brisk walk group and control group are 184.03, 182.29 and 190.4 respectively.

Scheffe's Posthoc Test For The Differences Between The Adjusted Post Test Paired Means On Total Cholesterol

	YOGASANA GROUP 184.03	BRISK WALKING GROUP 182.29	CONTROL GROUP 190.4
CONTROL GROUP 190.4	6.37	8.2	
BRISK WALKING GROUP 182.2	1.83		

This table indicates that the difference between Yogasana's and Control group is 6.37 which is greater than the table value. The difference between Yogasana's group and Brisk walk group is 1.83 which is not greater than the table value, but the difference between the Brisk walk group and Yogasana's group is identical. The difference between Brisk walk group and Control group is 8.2 is greater than the table value.

According to the differences, it's clearly stating that, the brisk walk shows more effect in reducing the Total cholesterol levels when compared to brisk walk group and control group. Yogasana's group also shown some effect in reduction of cholesterol when compared to control group and further its clearly identified that big muscle activity like walking will reduce the total cholesterol levels effectively when compared to the yogasana's group.

Conclusions:

It is concluded that due to Yoga exercises and Brisk walking there is decreased in Cholesterol levelamong Men.

Reccommendations:

This type of Study is useful to the general public to reduced the Cholesterol.

References:

M.Velamathy and Dr.Saroja (2017), "it is found that, the brisk walking and yogasana groups exhibited significant reduction on the lipid profile of Total Cholesterol after completion of 12 week training.

Sheetal (2015), "stated that, the yogic practices and brisk walk has decreased Total Cholesterol".