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Proceedings of UGC Sponsored National Seminar on "FITNESS & WELLNESS"

5<sup>Th</sup> & 6<sup>Th</sup> December 2014







ORGANISED BY The Department of Physical Education KVR, KVR & MKR COLLEGE KHAJIPALEM – 522329, ANDHRA PRADESH

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H.V.R. & M.K.R. COL

KHAJIPALEM,

Organized by Department of Physical Education K.V.R, K.V.R & M.K.R. College Khajipalem-522329, P.V. Palem Mandal Guntur Dist. Andhra Pradesh

#### About the College

KVR, KVR & MKR College, Khajipalem, was schlished 24 years ago in a typical runal area to catter to the needs of the students pursuing higher education. Students from runal areas are naturally endowed with physical strength. In memory of Sri M. Venkata Raju great leader, the

elders of the region formed Sri Manthena Venkata Raju Seva Samithi, the sponsor of KVR, KVR & MKR College, Sevia samini, the sponsor drivin, kvih a Mark College, Khajipalem, named after three philanthropists, Kusampudi Vishnu Vardhana Raju, Kanumuri Venkata Raju and Manthena Krishnam Raju. The aim of establishing the college is to improve quality of Higher Education of the rural youth, esp.

Sri Kona Prabhakara Rao, Former Finance Minister and Former Governer of Maharashtra helped a lot in and Former Governer of Maharashtra heiped a lot in getting the permission to college from A.P. Government. The college was inaugurated by Freedom fighter and former Minister of Andhra Pradesh Sri Chintalapati Murthy Raju garu on 02-10-1981 which is the birthday of Father of the Nation Mahatma Gandhi.

#### About the Seminar :

Life has become complex with the development of Line has become complex with the development of Technologies on the basic science. Modern life though comfortable with the availability of immune able fruits inventions and discoveries, has many diseases to its negative side. The absence of physical work, streschul environment and its concomitant pollution have

threatened the very existence of healthy and happy life. The prevalence of diseases of life style is the topic The prevalence of diseases of life style is the topic of prime focus. Unlike the diseases of inheritance, some are acquisitive through life style. Sedentary life style and irrational consumption of food are the reasons why people lose their happiness. The conditions of premature senility, lack of physical strength, diseases are to a great extent preventable. Fitness and wellness gains significance in this context. Fitness and wellness process includes proper dietary and nutrition inputs and help students find an effective and enjoyable health. Fitness exercises make students feel mentally, physically and emotionally

students feel mentally, physically and emotionally strong. They improve blood circulation, control blood pressure and reduce stress, leading to wellness. Thus, fitness will certainly lead to welln

#### Date and Venue:

The Seminar is going to be conducted on 5<sup>th</sup> and 6<sup>th</sup> December 2014 at the Seminar Hall, KVR, KVR & MKR College, Khaijpalem, P.V. Palem Mandal, Guntur Dist., Andhra Pradesh.

#### Route: 15 Kms from Ponnur Town (Nidubrolu Railway station) and 20 Kms from Bapatla

ne of the Sen Fitness and Wellness - A Multi Dimensional Approach.

#### Sub Themes

Holistic Approach to Fitness and Wellness.
 Training - Fitness and Wellness.
 Fitness for Life.
 Nutrition.

- Nutrition. Sports A way of Healthy Life
- ÷ Fitness Management. Yoga Fitness and Wellness.
- ÷ è

- Psychology Fitness and Wellness. Yoga and Naturopathy Fitness and Welln Fitness Boom are Boost.

Training Equipment for Fitness and Wellness ٠

Call for Al

Participants intending to present papers are requested to send a hard copy along with soft copy of the abstract with title, authors, address and email address, typed in " Times tttle, authors, address and email address, typed in "Times New Roman " font on A4 paper with 1.1.5 inch space and margin not exceeding 250 words. The same may be sent as in electronic version. Papers will be selected following peer reviewing and acceptance will be communicated to the presenting author. Full papers (Maximum of 6 pages inclusive of figures and tables) should be sent to the organizer. Papers presented only will be published in the conference proceedings. proceedings.

The Seminar is designed primarily for sports persons, Coaches, Sports Administrators, Faculties of Physical education, Students and Primary care providers. Psychiatriss, Physical Therapists, Athletic trainers and other sports-related professionals

#### Registration Fee Faculty

ty : Rs. 300/-arch Scholars & Students : Rs. 150/-

The registration fee covers, proceeding of the seminar, lunches, teas and moderate accommodation during the seminar. The registration fee shall be paid on or before 29° November 2014 in the form of Demand Draft drawn infavour of Principal, KVR, KVR & MKR College, payable at SBI Khaipalem, Research scholars and students should enclose bonafide certificate from their respective head of the Department.

REGISTATION FORM filled in and sent by 29th November 2014) NATIONAL SEMINAR

#### ON FITNESS & WELLNESS

(UGC SPONSORED NATIONAL SEMINAR) (to be held on 5th & 6th December, 2014) at KVR, KVR & MKR COLLEGE :: KHAJIPALEM

Name	:
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Title of Abstract	:
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Candidate Signature: Kindly fill if you are in student category:

#### This is to certify that Mr/Ms.\_

Is a bonafied student of \_\_\_\_\_\_ I forward this candidature for the above mentioned seminar

#### Signature of Head of the Institution with seal

Please send the completed form to Organizing Secretary

KVR, KVR & MKR COLLEGE, KHAJIPALEM P.V. Palem Mandal, Guntur Dist. A.P. Cell: 9440529307 email: sivaprasadpd@gmail.com

#### **ABOUT OUR COLLEGE**

Education is fundamentally an instrument of social change, particularly in the developing countries. It is also responsible for the individual and the economic transformation of the country. The interest and the investment in higher education have grown manifold over the years world over corresponding to the enrolment of students in higher education i.e. privatization, commercialization and globalization which immediately cause concerns about Quality, Standardization, Recognition, Sustenance and Enhancement. The massive growth of institution of higher learning, almost 342 Universities and around 17,625 colleges occupy varying positions in the scale of Quality Assurance. Other factors such as decreasing sustenance from the Governmental sources, shift from elitist to mass education, distance and non formal education, the demand of stakeholders such as the employers, parents and students, the focus on Science and Technology, the shift to multi and interdisciplinary needs and the tact demand for greater say for the stakeholders in policy making and implementation have to be reckoned with. It is in this changing and changed and scenario of higher education the call for "Quality Sustenance and Enhancement" is given a clarion call.

The wise step taken by the college to go for National Assessment and Accreditation remains a milestone in the glorious history of our unique institution. This endeavor, which takes us back to the amazing birth and growth of this institution, provides us with a clear insight into our onward march towards the horizon of learning and indomitable spirit of knowledge.

Twenty five years ago, **a small lamp of Knowledge was lit in Khajipalem**, a small village of hardly a 500 houses. Khajipalem is located on the Bapatla- Repalle road, near Bapatla 20kms away, East of Bapatla in Guntur, a district of Andhra Pradesh, well-known for rich social economic, religious. Literary and historical, cultural traditions. This village was originally in Bapatla taluk and now is in Pittalavanipalem Mandal. Famous historical places like Buddam and Chandole are located in this area.

The college was established in 1981, with a view to provide higher education facilities for the poor and the backward classes, who could not go for the higher education and also for the rural girl students, who could not go to towns for higher education.

On 30-04-1981, a service society was established, which was named after the great freedom fighter and famouspolitician and **Ex-M.L.A. Sri M. Venkata Raju**, native of Manthenavaripalem; he is alos called "Andhra Patel". Within a few months of its inception, the committee founded college in Khajipalem. The President of Sri Aravinda Educational Society, Sri M.Krishnam Raju, and also the friends –Trio Sri M. Venkata Siva Rama Raju, Sri M. Rama Raju and Sri M. Dasaradha Maha Raju rendered their services in laying the foundation and the development of the college.

With the blessings and the help of the then M.L.A. of Bapatla, A.P.C.C. President and former Governor of Maharashtra, Sri Kona Prabhakara Rao, the college committee got the permission to start college in Khajipalem. The college was named after **Sri Kusampudi Vishnuvardhana Raju; Kanumuri Venkata Raju**; who had donated much in laying foundation and its development.

With the holy intention **'Tama Soma Jyotirga Maya'** the college was started by **Sri K.Prabhakara Rao on 2<sup>nd</sup> October 1981**, the birth date of father of the nation Mahatma Gandhiji. In its inception, the college initiated B.A. and B.Com courses with **35 students in 1981** and now it has reached to **567 students**. In its pleasant atmosphere, the college makes us recollect residential education system. In due course of time, the college has got special recognition with its good discipline in the Acharya Nagarjuna University, Guntur District area.

In recognition of the exceptional services rendered by the then Secretary and Correspondent and the present college committee President, Sri M. Krishnam Raju, it was decided to include his name to the college name. Accordingly on 20<sup>th</sup> May 1987 onwards, the college is called **Kusampudi Vishnuvardhana Raju; Kanumuri Venkata Raju; and Manthena Krishnam Raju College**, i.e. K.V.R., K.V.R & M.K.R College, Khajipalem.

During the academic year 1989-90 the Acharya Nagarjuna University sanctioned permanent affiliation to the college. As a result, the University Grants Commission admitted the college under 2F,12(b) in Jan, 1992. In the same academic year, with the combination of Mathematics, Physics and Electronics a B.Sc course was started in 1996, another B.Sc course was started with Mathematics, Physics and Chemistry. Recognising the importance of computer education in the modern age, one more B.Sc course was started with the combination of Mathematics, Electronics and Computer Science during 2000-01.

Within the short period of its inception, the college became popular in its surroundings like Bapatla. Ponnuru, Tenali and Repalle, as it excelled academically and also in sports. And so, it has attracted the attention of the parents and they have joined their children in the college. Since the strong foundations for its future career as an outstanding institution, laid by Sri T.V.S. Suryanarayana, Sri N. Koteswara Rao, Dr. R. Srirama Raju, Dr. K. Rama Raju who worked as Principals here, the college has distinguished itself by securing good results both academically and also in sports. The tradition and practice, the rules and regulation; and the highest standards carried out by the former Principals, have become steps for the evolution and progression of the college. Thanks to the versatile performance rendered by the present Principal Sri K. Rama Raju, who strictly follows the standards and traditions, rules and regulations brought in by the former Principals of our college from its inception.

During the academic year 2002-03, **M.Sc., course in Chemistry** was started in the college. In 2005-06, the college management started **M.Sc course in Physics** also. It is a good opportunity for the rural youth, who have inclination to undergo for higher education.

The International Institute of Education and Management in New Delhi every year honors the Principals and the managements of Educational Institutions for their academic excellence. In 2002, our college was awarded the most prestigious national award '**National Udyog Excellence'** for its brilliant performance both academically and also in sports besides it maintaining discipline and making the students good citizens.

The Principal Sri K. Rama Raju was awarded the 'Jewel of India' in the same year complimenting his outstanding work for the development of our college. Presently, he has been nominated as Senate Member of the Acharya Nagarjuna University, Guntur. In 2004, the same institute honored the secretary and correspondent Sri K. Jitendra Varma praising the management of the educational institutions run by the Sri Manthena Venkata Raju Seva Samithi, Khajipalem.

Now the runs of the correspondent-ship have been held by Dr. M. Pandu Ranga Raju MS an eminent surgeon who rendered his service as the superintendent of Government General Hospital, Guntur, under his leadership our college has assumed multi dimensional magnificence.

## MESSAGE FROM THE PRESIDENT



Dr. M. NARASA RAJU, M.D., President, KVR, KVR & MKR College.

The conduct of National Seminar on "Fitness and Wellness" is a welcome move from the Department of Physical Education of our college as the life of modern man is beset with many physical ailments like obesity and lack of fitness. The programme has far reaching applications not only in the daily life of individuals but also professionals who aims at achieving fitness goals. The Department of Physical Education deserves appreciation and wish the organizer of National Seminar a grand success.

HNapale\_

(Dr. M. NARASARA RAJU)

## Message from the Secretary & Correspondent

M.V.SIVARAMA RAJU Secretary & Correspondnet



It gives me immense pleasure and joy to learn that an U.G.C. Sponsored National Seminar is conducted and organized by the Department of Physical Education. It came to understanding that eminent scholars and star warts in the field of Physical Education would grace the occasion. I thanks to all the Physical Education professionals to success these seminar very good manner.

H.V.S.

(M.V.SIVARAMA RAJU)





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Dr.T.Radhakrishnan, 3.se, M.A.,M.P.Ed, M.Phil.,PGDFM.,PGDYEd.,Ph.D., Department of Physical Education Date: 01.12.2014..



#### MESSAGE

I am delighted to learn that Department Of Physical Education K.V.R.,K.V.R. & M.K.R. college is organizing the UGC sponsored National Seminar on "Fitness and Wellness on 05<sup>th</sup> & 06<sup>th</sup> December 2014. The term "Fitness and Wellness" has gained popularity only in recent decades. Knowing the importance of health, fitness and wellness now a day's people from all category wanted to keep their body in good conditions. But very few trainers are available to teach right way of training. To discuss the importance of the needs and correct way of developing fitness and wellness quality.

While the college is catering higher education and inculcating sports culture among rural population, this seminar will definitely help to raise the bar in its growth and move ahead with new innovations in sports. It is said that opportunity comes seldom. The higher authorities and the organizers of this seminar grabbed this unique opportunity on right time.

I wish that the deliberations in this seminar will be an eye opener and contribute more to the development of sports in our country.

On this occasion, I extend my warm greetings & wishes to the organizing committee members and all the participants from across the country.

Thanking you,

Yours faithfully,

2. 200ml (Dr.T.Radhakrishnan)

ndnerflய ശ്രപ്പളർ ലേൽന്റ്രൾ, நർலவே என்ணல் வேண்டும் , தின்னரிய நெஞ்சம் வேண்டும், தெளிந்த நல்லறிவு வேண்டும்" - பாதி Let my thoughts bloom into action, Let me think only noble thoughts, Let me have a valiant heart, Let me have a clear wisdom" - Bharatt

## Message from the Co-ordinator

Sri M. KRISHNAM RAJU Co-ordinator,



It gives me immense pleasure to hold a National Seminar on "Fitness & Wellness" in our KVR, KVR & MKR College, Khajipalem. I am very happy to note that eminent authorities and renowned scholars on Physical Education are participating in the seminar. I hope this programme will discuss broadly on the methods of Fitness & Wellness by the eloquent speeches and scintillating presentation of papers by the participants.

I wish the seminar a grand success.

(M. KRISHNAM RAJU)

Dr. Y. Kishore, Dean, Faculty of Physical Education, Yoga & Sports Sciences, Acharya Nagarjuna University CHIEF PATRON



## MESSAGE

I am happy to know that KVR,KVR & MKR College, Khajipalem is organizing the National Seminar on "Fitness and Wellness" on 5<sup>th</sup> & 6<sup>th</sup> December, 2014.

The theme of the Seminar i.e., Fitness and Wellness is the most appropriate and discussion on this issue is the need of the hour for our Indian Sports Community. I am sure that the deliberations in this seminar will give necessary inputs to the nation to put its efforts in place to develop sports.

I wish that the seminar will be a great success.

Thanking you.

(Y. KISHORE)



## MESSAGE

I am elated to announce that an U.G.C sponsored National Seminar entitled "Fitness and Wellness" on 5<sup>th</sup> and 6<sup>th</sup> Dec 2014 is being conducted in KVR, KVR & MKR College, Khajipalem. The objective of this conference is to provide a concrete platform which will encourage & support scholars, researchers & industry professionals to carry & accomplish their research targets. Expecting a sound response from you all. I shall do my best to make this seminar a grand success and a memorable event in the history of KVR, KVR & MKR College.

With every good wish

(T. SIVA PRASAD)

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# INTERNATIONAL JOURNAL OF LAW, EDUCATION, SOCIAL AND SPORTS STUDIES

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"5th & 6th December, 2014"





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**Fitness & Wellness** 



## INFLUENCE OF PLYOMETRIC TRAINING AND WEIGHT TRAINING ON LEG EXPLOSIVE STRENGTH INTER COLLEGIATE BASKET BALL PLAYERS A.V.RAGHAVAIAH<sup>1</sup>, D.CHANDRA REDDY<sup>2</sup>

<sup>1</sup>LECTURE IN PHYSICAL EDUCATION, DSSB DEGREE COLLEGE, TADIKONDA, GUNTUR DIST <sup>2</sup>LECTURE IN PHYSICAL EDUCATION, ANDHRA MUSLIM COLLEGE, GUNTUR.

#### ABSTRACT

The purpose of this study was to find the effect of plyometric training and weight training on leg explosive strength of intercollegiate Basketball players. The selected variables are leg explosive strength, leg explosive jumping strength and plyometric training and weight training. For their study sixty boys in the age group of 19-25 years were selected from different colleges in Chennai, who represented their colleges in intercollegiate level Basketball tournaments were selected. The subjects were divided into three group's namely plyometric training group, weight training group, and control group on random basis. The results presented on leg explosive strength assessed through standing broad jump, it was found that six weeks weight training significantly improved while weight training failed to significantly improve standing broad jump. Thus it was proved that plyometric training program for the improvement of leg explosive strength inter collegiate basketball players. In order to find out the difference among these groups, the ANOVA was computed and tested significant at 0.05 level of confidence.

#### INTRODUCTION

TRAINING: The general training strategy is the main methodological concept. Which determines the priorities in the organization of all the phases of the training process? It should be provide for the organization of two points of development, the athletes motor potential (special physical preparation), to improve athlete efficiency in using this potential for the competition exercise (Target is technique, tactics and speed of execution). Each coach must formulate a methodological conception of the athlete preparation and outline the training strategy for the year. (Juriverchoshanskij, 1999).

SPORTS TRAINING: The training process should therefore be principally aimed at an increase of the body's work output in a given motor regimen. Sports training is formulated the general methodological concepts of an athlete's preparation, define the general training strategy, and elaborate the basic model of the work lodes of all the training means objectively required. And establish the quantitative program of the preparation (Singh, 1991).

PLYOMETRIC: Plyometric, also known as "jump training" or "ploys", are exercise bases around having muscles exert maximum force in as short a time as possible, with the goes of increasing both speed and power. This training focus on learning to move from a muscle extension to a contraction in a rapid or "explosive" or way for example with specialized repeated jumping plyometric are primarily used by athletes to improve performance, and are used in the fitness field to much lesser degree.

METHODOLOGY: The methodology and procedure adapted to the study, 60 inter collegiate level basketball players from different colleges in chennai, who represented their colleges in inter collegiate level basketball tournaments were selected. They were randomly selected as subjects and their age ranged between 19-25

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years. They were further divided in to the group's namely plyometric training, weight training group, and control group, on random basis.

SELECTION OF VARIABLES: Dependent variables

- Leg Explosive Strength (vertical jump)
- Leg Explosive Jumping (standing broad jump)
- Independent variables
  - Plyometric training for six weeks
  - weight training for six weeks

Computation of analysis of covariance

Result on vertical jump: The statistical analysis comparing the initial and final mean of vertical Jump to plyometric training and weight training among intercollegiate basketball players is presented in table-I.

	Plyometric	Weight	Control	Source of	Sum of	Df	Mean	Obtain
	Training-	training		variance	squares		squares	ed
	group	group						
Pretest	55.90	55.80	56.40	Between	3.7	2	1.85	0.03
mean				Within	3195.1	57	56.06	
Posttest	68.10	64.55	58.50	Between	942.4	2	471.22	8.58*
mean				Within	3129.8	57	54.91	
Adjusted	68.20	64.69	58.26	Between	101.4	2	507.41	17.02*
posttest				Within	1669.7	56	29.82	
mean								
Mean diff	12.20	8.70	2.10					

TABLE- I: Computation of analysis of covariance on vertical jump (In. centimeters)

Table f-ratio 0.05 level of confidence for 2 and 57 (d f) =3.16, 2 and 57(d f) =3.16

\* Significant

The results presented in Table-I proved that there was no significant difference in pretest mean and the results shows that the random as significant at initial stage was successful, as they obtained F value of 0.03 was less than the required. F table value of 3.16 to be significant at 0.05 levels.

The post- test comparison between the groups proved to be significant. As the obtained F value of 8.58 was greater than the required F table value of 3.16 to be significant at 0.05 levels. The obtained F value on adjusted. Mean differences was 17.02, which was greater than the required F table value of 3.16 to be significant 0.05 levels. Hence it was proved that there was significant difference among adjusted post- test means.

Since significant improvements were recorded, the results were subjected to post hoc analysis using scheffe's confidence interval test. The results were pretested in table-II.

		Mean		
Plyometric Training	Weight Training	Control group	Mean difference	Required C I
Group	group			
68.20	64.69		3.52	4.34
68.20		58.26	9.94*	4.34
	64.69	58.26	6.42*	4.34

TABLE-II: Scheffe's confidence interval test scores on vertical jump

\*Significant

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The results presented in table II provide that (1) there was significant difference between plyometric group and control group. (2) There was significant difference between weight training group and control group and (3) there was significant difference between plyometric training group and weight training group.

#### **RESULTS ON STANDING BROAD JUMPS**

The statistical analysis comparing the initial and final mean of standing broad jump. To a plyometric training and weight training among intercollegiate basketball players is presented in Table-III

Table- III : Computation of analysis of covariance on standing broad jump

	Plyometric Training group	Weight Training group	control	Source variance	Sum of square's	D <sub>f</sub>	Mean Square's	Obtained
Pretest	2.05	1.95	2.00	Between	0.1	2	0.05	0.96
Mean				Within	2.8	57	0.05	
Post test	2.20	2.11	2.03	Between	0.3	2	0.15	3.57*
Mean				Within	2.3	57	0.04	
Adjusted	2.17	2.14	2.03	Between	0.2	2	0.11	5.03*
Post test				Within	1.2	56	0.02	
Mean								
Mean Diff	0.15	0.16	0.03					

(In meters)

Table F-ratio at 0.05 level of confidence for 2 and 57 (d f) = 3.16,2 and 56 (d f) = 3.16

\*Significant

The results presented in table-I provide that there was significant difference in pretest means and the results shows that the random assignment at initial stage was successful, as they obtained F value of 0.96 was less than the required F table value of 3.16 to be significant at 0.05 levels.

The post- test comparison between the groups proved to be significant as the obtained F value of 3.57 was greater than the required F value on adjusted mean differences was 5.03, which was greater than the required F table value of 3.16. To be significant at 0.05 levels. Hence it was proved that there was significant difference among adjusted post- test means.

Since significant improvements were recorded, the results were subjected to post hoc analysis using scheffe's confidence interval test. The results were pretested in table-IV.

TABLE-IV: Scheffe's confidence interval test scores on standing broad jump.

Mean								
Plyometric Training	Weight Training	Control group	Mean difference	Required C I				
Group	group							
2.17	2.14		0.03	0.12				
		2.03	0.14	0.12				
2.17	2.14	2.03	0.11	0.12				

\*Significant

CONCLUSION

- There was significant difference between plyometric training group and control group.
- There was significant difference between weight training group and control group.
- There was significant difference between plyometric training group and weight training group.

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## ADOLESCENT AGE PROBLEMS-SOLUTIONS AND THE RESPONSIBILITIES OF PARENTS **AND TEACHERS**

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#### INTRODUCTION

In this paper, the problems faced by the parents and teachers in the present day circumstances of the society due to the behavior of the adolescent and the possible solutions are described.

#### AIMS AND OBJECTIVES

#### **Adolescent Age:**

This is the transitional period from childhood to adulthood. No other period of life seems to be more critical than adolescence. Every person to stand as an individual in the society acquires some individuality, mental growth and development.

During this stage only, physical and mental changes will appear in every human being. Every individual decides the profession he is going to take up in the society (Employee, Business, Engineer, Doctor, good Agriculturist, etc.) in this stage. Accordingly he will work hard with commitment and dedication. The problem that arises at this stage is that he will forget his lifetime ambition and thinks of other attractions which are detrimental to his growth and development.

There are two types of characteristics in this stage:

- 1. Physical Characteristics
- 2. Mental Characteristics.

#### **Physical Characteristics**

In this mother's womb, before the birth, depending on the sex of the baby, gonadotrophic hormones are imbibed in the blood for its growth and development. All these are under the control of the pituitary gland. Pituitary gland, which is responsible for the arousal of emotions and unexpected behavior, id under the control of the Hypothalamus, the central of the body—Heartbeat, Inspiration, Expiration, body temperature, awakening and sleeping, In the same way, it obstructs the early secretion of the sexual hormones. In women, sexual glands will be there in the ovaries and in men, they will be in testicles.

Once the sexual glands start secreting the sexual hormones, lot of changes will appear in the bodies of both men and women. During this stage, the size of the Heart, Esophagus, Kidneys, Intestines, and the stomach will increase and the muscles related to them will strengthen.

In men, Mustaches and beard will grow, Height and weight will increase, the strength the bones will also increase. During this stage, the flat bones also will develop. The required physical development will be there in men. The sperm, the size of the origin increase with sexual desires and the problems will start.

In women, maturity starts, the size of the pelvis increases, the size of the breasts increases, monthly menstrual cycles start, and there will be changes in the features of face. Thus, the totality of womanhood develops. In some women, these developments will depend upon mental, social, economic and genetic conditions. During this stage, in women also, there will be development in height and weight, rounded development in the bones, and development in the uterus and stomach.

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#### **Mental Characteristics**

The psychological behavior of the men and women during this age will be very dangerous. They think they should spend their time independently and joyfully. They will not tolerate the control of others over them. Everyone thinks that he or she should live as a hero or a heroine.

During this period, whether in the house or in their educational institution everyone thinks that all should appreciate and praise him or her only. During their presence, if any one appreciates his or her brother or sister they cannot tolerate. Unknowingly they will develop anger and jealousy against them, who were appeared by others.

If their parents ask them to study in the house, they become very angry and intolerant. In the same way if the teachers in the college or school ask them why they are not coming to school or college regularly, or why they are not studying will, they think that their independence is disturbed and also think why they pleasure to come to college or school or to study.

If they are not able to answer the questions of their teachers, they feel very bad and also think that the teacher asked the questions to insult him or her in front of all the schoolmates. Friendship develops during this stage. Relationships also develop during this stage. First, they simply talk with each other and later they think they become inseparable with the development of strong relationships.

In both men and women, affiliations develop during this age and everyone thinks that it is love. Sexual desires develop during this age and frequently they talk about these and about opposite sex with their close friends. With these misconceptions, they are losing a lot of growth and development in their lives. If any of the friends point out this, they will not listen. Instead they will blame them by telling that they are jealous about them.

They will not understand that the efforts and hard work they put in till now to reach their goal in their life. All these misdeeds are done by them out of ignorance. Because of the physical and mental changes, they experience mental stress, additional load of work and rivalry develops with the development of anger because of all these reasons. (Stanley Hall describes this age of 'Adolescent' as a period of great stress and strain and storm and strife.)

**Suggestion:** As there is a change in the normal behavior because of the reasons stated above, parents and teachers should observe their psychological state very carefully and proper suggestions and directions should give to keep them in the right track and see that they develop properly. Otherwise, if the parents think that they are grown up and they can take care of themselves; or teachers leave them not showing any concern, their future will get destroyed. The necessity of taking proper care is always there with parents and teachers.

This period is like a foundation to the beautiful future. Hence, they should invest their commitment and dedication for their growth and development. They should be very clearly made to understand by telling that they should not be attracted by the bad habits and misconceptions and should work hard to build-up their beautiful castle of life for their betterment and success.

#### Conclusion

The changes that develop during this adolescent period can be compared with the construction of a building. The entire construction of the building depends upon its foundation. As much as the foundation is important to the building, the period of adolescent is important to the life of an individual. If we do not take care of the foundation, the entire building will collapse. In the same way, if an individual does not take care of his adolescent period, the entire life will collapse.

The responsibility of shaping up the individuals into responsible citizens depends on all of us. If we shape them up as the useful citizens, the entire society will get benefited and the entire Nation will develop. Then only we can see the society as desired and wished by the greatest of the great Philosophers and Saints.

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**Fitness & Wellness** 



## THE EFFECT OF YOGIC EXERCISES ON FITNESS COMPONENTS

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#### INTRODUCTION

Yoga is an Indian Physical Culture, which can be practiced by anyone and which does not require any special equipment or clothing. But it requires a small amount of space and a strong desire for a healthier life.

**Material Methods:** The present study was conducted on 50 girl students of 12 years age group. None of the student has previously done any yogic exercise. All the subjects were divided into two groups namely yogic exercise group and control group, each group consists of 25 subjects. During the training period the experimental group underwent their respective training programme i.e. yogic exercises of 45 minutes a day for 6 days a week for 12 weeks. The control group did not participate in any specialized programme.

All the scores were recorded before and after the training. Appropriate statistical treatment was administered. The statistical derivations include Mean, Standard Deviation and 'T' test.

**RESULTS AND OBSERVATIONS:** The results are given in Tables -1 and 2. The tables displayed the data of flexibility, Agility, Muscular Endurance and Circulo-Respiratory Endurance. The difference between pretest mean and posttest means are presented in each table and 'T' value is also indicated. The present study establishes the fact that, the yogic training for the subjects definitely enhances the Flexibility, Agility, Muscular Endurance.

S.No.	Prarameters	Pre test		Post test		Obtained	Required
		Mean	Standard	Mean	Standard	'T' Value	'T' Value at
			Deviation		Deviation		0.01 Level
1.	Flexibility	33.68Cms	4.056	34.64 Cms	3.968	0.845	
		(25)					
2.	Agility	12.25 Sec	0.493	12.41 Sec	0.493	0.658	
		(25)					
3.	Muscular	14.72 No.s	3.975	15.76 No's	3.932	0.93	2.80
	Endurance	(25)					
4.	Circulo-	1462.66	114.93	1470.6	114.75	0.2463	
	Respiratory	Mts (25)		Mts			
	Endurance						

TABLE -1. VARIATION OF MEAN, STANDARD DEVIATION AND 'T'- TEST OF CONTROL GROUP

\*Number of subjects is given in the parenthesis

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#### TABLE-2- VARIATION OF MEAN STANDARD DEVIATION AND 'T' TEST OF EXPERIMENTAL GROUP.

S.No.	Prarameters	Pre test		Post test		Obtained 'T'	Required
		Mean	Standard	Mean	Standard	Value	'T' Value at
			Deviation		Deviation		0.01 Level
1.	Flexibility	35.52 Cms	4.579	41.12 Cms	4.641	4.294**	
		(25)					
2.	Agility	12.36 Sec	0.643	11.63 sec	0.447	4.575**	
		(25)					
3.	Muscular	15.72 No's	6.049	28.6 No's	7.332	6.775**	2.80
	Endurance	(25)					
4.	Circulo-	1446.0 Mts	93.67	1540.6	87.96	3.681**	
	Respiratory	(25)		Mts			
	Endurance						

\*Number of subjects is given in the parenthesis.

\*\*Significant at 0.01 level of confidence.

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### AWARENESS OF NUTRITION AND PERFORMANCE ENHANCEMENT

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## INTRODUCTION

#### **Nutritional Dimension**

Good nutrition is a basic component of health. It is of prime importance in the attainment of *normal* growth and development, and in the maintenance of health throughout life. There is a growing realization that adequate nutrition is a necessary step in improving the quality of life. The importance of malnutrition and under nutrition as an obstacle to social and economical development has brought nutritional health to the forefront of national and international concern.

#### NUTRITION AND DIETARY MANIPULATIONS

Health and nutrition occupy a prime position in contributing to quality of life. 'Health' has been defined by many in a holistic manner as a state of physical, mental, social and emotional well defined by many in a holistic manner as a state of physical, mental, social and emotional wellbeing and not a mere absence of disease. Promotion of health would therefore involve creating awareness of health factors, providing resources, facilitating access to the resources and educating people to better practices. Of the many facets of Health, Nutrition is a vital facet. Promoting better nutrition can go a long way in promoting health. Nutritional status of a population is a crucial indicator in determining the quality of life and it is linked with the health status. Poor nutritional status leads to generalized functional impairment, disability diminished productivity and inability to cope with environmental hazards and decreasing resistance to infection. Infections in turn can lead to deterioration in nutritional status Health and Nutrition therefore go hand in hand in promoting quality of life from prenatal to postnatal stages, in infancy, childhood, adolescence, adulthood and for the aged.

#### **Factors Affecting the Nutritional status**

Factors which affect the nutritional status are shown in Fig.



Fig.: Factors Affecting Nutritional Status

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**Health and Nutrition Education:** Educating the people about Nutrition, making them nutrition conscious and helping them to utilize the local resources to improve their diets appear to be the soluation for malnutrition (Rajammal P. Devadas, 1982). Parents, particularly mothers need education in nutrition, health, hygiene, sanitation and child care (Rajammal P. Devadas, 1986).

Inspite of several nutritional efforts, the number of chronically underfed persons, specially among the vulnerable group in India is several millions. Malnutrition in India is caused not only by economic poverty, but also by a lack of knowledge. Mass illiteracy and lack of nutrition education may be traced as twin problems which stand at the grass root of all development especially that of the rural populations in our country (Usha Chandrasekhar, 1980). "In terms of resource for the economic development of a country nothing is more vital than the health of the people. Ignorance is one of the root causes of diseases, which calls for education in the rural areas" (Zakir Hussain).

Health and nutrition education is a tool to enhance the level of awareness of individual and thereby being about a change in their behavior for the protection and promotion of their health and well being. It has been well accepted that increase in the health and Nutrition knowledge of the community is an effective strategy to prevent malnutrition and enhance child survival rate.

Nutrition education is the prerequisition for improving the nutritional status of any group. The major focus of nutrition education is the development of permanent behavioural changes. The primary aim of nutrition education is the establishment of good habits through acquistion of knowledge and changes in eating habits, attitudes and values with regard to food (Rajammal P. Devadas, 1982).

#### **Malnutrition and Growth**

Of late, there has been a greater interest of policy makers in the nutrition field as malnutrition is beginning to be regarded as a measure of under development. The significance of balanced and adequate nutrition for children has been further highlighted due to findings of research studies which indicate a direct correlation between nutritional status in early childhood and future mental and physical growth and development of the child in later life.

#### Nutritional Supplementar<sup>y</sup> Programmer

Several programmers of nutritional supplementation for vulnerable groups of population have been launched in our country in the last two decades. Supplementary feeding programmes traditionally have been the most popular form of intervention for correcting under nutrition. The underlying causes of under nutrition are rooted in the physical, biological, economic and socio-cultural environment in which man lives, particularly among the impoverished. Supplementary programmes have as their ultimate aim the modification or adoption *of* habits and the attainment of knowledge, abilities and values related to the food and nutritional welfare of the people. Any effort to reduce malnutrition will necessarily require an integrated approach to supply nutritional, Medical and educational services.

Supplementary feeding programmes if not attached to other basic socioeconomic programmes can be simply a Band-Aid approach covering an underlying ulcer, the ulcer will still be there when the Band-Aid is removed unless appropriate healing measures are applied while the surface protection is in place.

Hence the supplementary feeding programmes should be viewed as short term means for achieving specific nutrition and health objectives. While long range programmes are being put into operation to attack the root cause of under nutrition (Barbara, A. Underwood, 1983) such as Health and Nutrition Education Programmes.

#### **Evaluation in Nutrition Education**

The role of evaluation in nutrition education is to improve the quality of nutrition education programmes. Evaluation is regarded as a crucial process and integral part of a planned developmental

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programme as it provides the needed feedback to assess the impact of the services provided and the efficiency with which they are implemented. Evaluation determines systematically and objectively the relevance, efficiency, effectiveness and impact of activities in the light of their objectives.

Devadas and Coworkers (1982) evaluated the impact of nutrition counseling on the food practices of a group of expectant women and reported that nutrition counseling imparted improved the nutritional knowledge of the mothers and it was helpful to correct their wrong food beliefs- and wrong food practices. Devadas and Sitalakshami *et al.* (1982) observed desirable changes in the health practices of women and children as a result of taking part in the various Health and Nutrition Education Programmes. In another study (1982) they have also evaluated the impact of nutrition education programme on nutritional and dietary practices and nutritional knowledge of rural, women and reported an improvement in the test scores and the practices adopted; Parvathi Rau & Coworkers (1982) observed that the Nutrition education along with a supplementary feeding programme had the maximum benefit rather then feeding alone or health activities alone. Devadas (1986) integrated the nutrition and health education and environmental sanitation into elementary school curriculum and reported a significant difference between pretest and post test nutrition and health education and environmental sanitation received by the students had important "Carry-home" effects. Positive changes occurred in the food and hygiene habits and cooking methods of mothers of children who had received nutrition and health education.

Mc Kenzie and Mumford (1965) published a review of over 40 studies concerned with evaluation of nutrition education. While some workers have reported positive results, others have foun<sup>d</sup> no evidence of change in food habits. The authors of the review comment that failure in some cases cannot be taken as evidence that nutrition education cannot modify choice and indicated the failure of research workers to effectively use the tools at their disposal.

**Schools and Nutrition Education:** Schools can play a vital role in imparting nutrition and health education to children who are the future architects of the nation-through the children, their parents, particularly their mothers and the entire community can be reached (Devadas, 1982). She had also reported that rural women were- keen in learning nutrition since they realized that good nutrition contributed to the health and wellbeing of their families. If motivated and guided properly, they can be instrumental in fostering desirable changes in their homes, ultimately resulting in improvements in the nutritional status of the community at large.

**Study of Attempts on Nutrition Education:** An exhaustive compilation of attempts at nutrition education made from 1900 to 1970 has been done by Whitehead (1970). These studies have brought out different aspects of nutrition education, including the approaches, the tools available and emphasis on different components for successful behavioural changes.

**Nutrition and Five Year Plans:** Nutrition and standard of living have been in focus since Independence. As early as in 1950, Indian Constitution makers had recognized the importance of adequate nutrition and provided in Article 47, as one of the directive principles of State Policy, "that the state regard rising of level of nutrition, standard of living and improvement of public health among its primary duties."

The Government of India has been trying all along to translate these directive principles into action through various socioeconomic programmes. Subsequently, in the first three Five Year Plans, nutrition was one of the components of the health sector. The Fourth Five Plan emphasized an integrated approach for improving nutrition, basically through increased production of food grains. The Fifth Five Year Plan had a larger programme on nutrition with emphasis on vulnerable groups. The Sixth Plan attempted to reduce the high rate of morbidity and mortality by improving the quality of environmental sanitation and hygiene and by arresting

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widely prevalent deficiency diseases. The Seventh Plan had laid emphasis on the formulation of nutrition Policy.

**Supplementary Feeding Programmes:** Health and Nutrition education has been an integral part of several supplementary feeding programmes. The most note-worthy among them are the following:

**Expanded Nutrition Programme (ENP):** In the year immediately preceding the launching of Third Plan, a programme of expanded nutrition, assisted by the UNICEF, comprising mainly of training and education of villagers and extension <sup>p</sup>ersonnel and production and consumption of protective foods was in progress in the states of A.P., Orissa and UP The programme, however, touched only a fringe of the problem

**Applied Nutrition Programme (ANP):** The programme of expanded nutrition was converted into the Applied Nutrition Programme during the third plan. This supported by appropriate training facilities for personnel connected with agricultural production, home science, health extension work and maternity and child welfare services.

Components of ANP at Village Level: The main components of the programme at the village level are:

(i) Production of Productive foods;

(ii) Training of selected villagers, extension workers, auxiliary health personnel, villages leaders, members of the village, youth or women's clubs; and

(iii) Organisation of educational feeding schemes.

Features of ANP: The ANP has some special features which distinguish it from other nutrition programmes.

**1. Production Programme:** In this programme nutrition education and supplementary programme is related with production programme in the community. The community and those who get benefit of the economic activities of the poultry, fishery and vegetable cultivation are expected to supply 10% of the production for children and expectant mothers belonging to the vulnerable population of the village free of charge. However, the programme, by its very nature is expected to take long time to create the required consciousness in the community regarding the nutritional requirements of children.

**2. Community Development** Blocks: The programme had covered more that 1,000 community development blocks. Yuvak Mandals and Mahila Mandals are actively working not only with the production aspects of the programme but also with education and distribution of the food produced locally among expectant and nursing mothers and pre-school children in Balwadis.

**3.** Educational Components: However, the scheme could not achieve its objectives of improving the health and nutritional status of the rural community through demonstration feeding, production activities and educational process. Taking note of the deficiencies brought out in the evaluation reports and keeping in view of the recommendations of national seminar on ANP, it was decided that no new ANP block's would be set up on the existing pattern from 1979-80 onwards.

**Evaluation of ANP:** The educational component of Applied Nutrition Programme was measured by Devadas, *et al.* (1965) in their study of 30 nursing mothers and found a profound change in the attitude of the mothers to protective foods. Devadas, *at al.*, (1972) investigated the effects of feeding programme under ANP on the nutritional status of forty pre-school children in one of the villages in Periannaickerpalayan community development block and also assessed the effects of nutrition education on food and nutrition knowledge gained by the mothers during the study. ANP was found to have increased the nutrient intake of children and an increase in the weight and height was also recorded. The clinical examination showed an improvement in the heamoglobin levels of the children put on supplementary food. The study also showed changes in the attitudes of the mother towards dietary practices of children.

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## EFFECT OF AQUATIC PLYOMETRIC TRANING ON LEG EXPLOSIVE STRENGTH MODIFY INTER COLLEGIATE HANDBALL PLAYERS

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#### INTRODUCTION

TRAINING: The general training strategy is the main methodological concept. Which determines the priorities in the organization of all the phases of the training process? It should be provide for the organization of two points of development, the athletes motor potential (special physical preparation), to improve athlete efficiency in using this potential for the competition exercise (Target is technique, tactics and speed of execution). Each coach must formulate a methodological conception of the athlete preparation and outline the training strategy for the year. (Juriverchoshanskij,1999)

SPORTS TRAINING: The training process should therefore be principally aimed at an increase of the body's work output in a given motor regimen. Sports training is formulated the general methodological concepts of an athlete's preparation, define the general training strategy, and elaborate the basic model of the work lodes of all the training means objectively required and establish the quantitative programme of the preparation (Singh, 1991).

PLYOMETRIC: Plyometric, also known as "jump training" or "ploys", are exercise bases around having muscles exert maximum force in as short a time as possible, with the goes of increasing both speed and power. This training focus on learning to move from a muscle extension to a contraction in a rapid or "explosive" or way for example with specialized repeated jumping plyometric are primarily used by athletes to improve performance, and they used in the fitness field to much lesser degree.

**METHODOLOGY:** The methodology and procedure adapted to the study, 60 inter collegiate level handball players from different colleges in chennai, who represented their colleges in inter collegiate level handball tournaments were selected. They were randomly selected as subjects and their age ranged between 19-25 years. They were further divided in to the group's namely aquatic plyometric training group (APTG), floor plyometric training group (FPTG), and control group (CG), on random basis.

#### SELECTION OF VARIABLES

#### **Dependent variables**

- Leg Explosive Strength (vertical jump)
- Leg Explosive Jumping (standing broad jump)

#### Independent variables

- > Aquatic plyometric training (for six weeks)
- > Floor plyometric training (for six weeks)

**ANALYSIS OF THE DATA AND RESULTS OF THE STUDY:** This chapter describes statistically treated data results findings and discussion with regards to study the effect of aquatic plyometric training on leg explosive strength modify inter collegiate handball players.

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The statistical analysis of data collected from 60 intercollegiate level handball players from chennai have been presented here. The aim of the study was to find out the effect of aquatic plyometric training on leg explosive strength modify inter collegiate handball Players in chennai. In order to find out the difference among these groups, the ANOVA was computed and tested significant at 0.05 level of confidence.

#### Computation of analysis of covariance

Result on vertical jump: The statistical analysis comparing the initial and final mean of vertical Jump to aquatic plyometric and floor plyometric training among intercollegiate handball players is presented in table-I.

(In. centimeters)								
	Aqua	Floor	Control	Source of	Sum of		Mean	Obtained
	plyometric-	plyometric	group	variance	squares	Df	squares	
	group	group						
Pretest	55.90	55.80	56.40	Between	3.7	2	1.85	0.03
mean				Within	3195.1	57	56.06	
Post	68.10	64.55	58.50	Between	942.4	2	471.22	8.58*
test mean				Within	3129.8	57	54.91	
Adjusted	68.20	64.69	58.26	Between	101.4	2	507.41	17.02*
posttest mean				Within	1669.7	56	29.82	
Mean diff	12.20	8.70	2.10					

TABLE- I: Computation of analysis of covariance on vertical jump

Table f-ratio 0.05 level of confidence for 2 and 57 (d f) =3.16, 2 and 57(d f) =3.16

\* Significant

The results presented in Table-I proved that there was no significant difference in pretest mean and the results shows that the random as significant at initial stage was successful, as the obtained F value of 0.03 was less than the required. F table value of 3.16 to be significant at 0.05 levels.

The post- test comparison between the groups proved to be significant. As the obtained F value of 8.58 was greater than the required F table value of 3.16 to be significant at 0.05 levels. The obtained F value on adjusted. Mean differences was 17.02, which was greater than the required F table value of 3.16 to be significant 0.05 levels. Hence it was proved that there was significant difference among adjusted post- test means.

Since significant improvements were recorded, the results were subjected to post hoc analysis using scheffe's confidence interval test. The results were pretested in table-II.

Mean				
Aqua	Floor	Control	Mean	Required
plyometric	plyometric	group	difference	CI
Group	group			
68.20	64.69		3.52	4.34
68.20		58.26	9.94*	4.34
	64.69	58.26	6.42*	4.34

TABLE-II: Scheffe's confidence interval test scores on vertical jump

<sup>\*</sup>Significant

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The results presented in table II provide that (1) there was significant difference between aquatic plyometric group and control group. (2) There was no significant difference between floor plyometric group and control group and (3) there was no significant difference between aquatic plyometric group and floor plyometric group.

#### **RESULTS ON STANDING BROAD JUMPS**

The statistical analysis comparing the initial and final mean of standing broad jump. To aquatic plyometric training among intercollegiate handball players is presented in Table III

		<u> </u>			<u> </u>		<u> </u>	
	Aquatic	Floor	Control	Source	Sum of	df	Mean	Obtained
	Plyo-metric	Plyometric	group	variance	square's		Square's	
	group	group						
Pretest	2.05	1.95	2.00	Between	0.1	2	0.05	0.96
Mean				Within	2.8	7	0.05	
Post test	2.20	2.11	2.03	Between	0.3	2	0.15	3.57*
Mean				Within	2.3	7	0.04	
Adjusted	2.17	2.14	2.03	Between	0.2	2	0.11	5.03*
Post test				Within	1.2	6	0.02	
Mean								
Mean	0.15	0.16	0.03					
Diff								

 Table- III: Computation of analysis of covariance on standing broad jump (In meters)

Table F-ratio at 0.05 level of confidence for 2 and 57 (d f) = 3.16,2 and 56 (d f) = 3.16

\*Significant

The results presented in table-I provide that there was no significant difference in pretest means and the results shows that the random assignment at initial stage was successful, as the obtained F value of 0.96 was less than the required F table value of 3.16 to be significant at 0.05 level

The post- test comparison between the groups proved to be significant as the obtained F value of 3.57 was greater than the required F value on adjusted mean differences was 5.03, which was greater than the required F table value of 3.16. To be significant at 0.05 levels. Hence it was proved that there was significant difference among adjusted post- test means. Since significant improvements were recorded, the results were subjected to post hoc analysis using scheffe's confidence interval test. The results were pretested in table-II. TABLE-IV: Scheffe's confidence interval test scores on standing broad jump.

Mean									
Aqua plyometric	Floor plyometric	Control group	Mean difference	Required C I					
Group	group								
2.17	2.14		0.03	0.12					
		2.03	0.14	0.12					
2.17	2.14	2.03	0.11	0.12					

\*Significant

the results presented in table II provide that (1) there was significant difference between aquatic plyometric group and control group. (2) There was no significant difference between floor plyometric group and control group and (3) there was no significant difference between aquatic plyometric group and floor plyometric group

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#### CONCLUSION

- Within the limitation and de-limitation of this study, the following conclusion was drawn. It was concluded that there was significant improvement in leg explosive strength, measured through vertical jump due to six weeks aqua plyometric training.
- 2. It was concluded the there was significant improvement in leg explosive strength, measured through standing broad.
- 3. It was concluded that aqua plyometric exercises were safe while considering floor plyometric exercise.

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Fitness & Wellness



## A STUDY ON THE EFFECT OF PLYOMETRIC TRAINING ON THEPERFORMANCE OF HIGH JUMP AND LONG JUMP

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#### INTRODUCTION

Sports training aims at improving sports performance. Therefore, the nature and structure of sports performance determines to a great extent the means and methods of training as well as the total planning, organization, implementation and assessment of training. The knowledge about the nature and structure of sports performance must be considered as the first, and perhaps the most important step towards the successful preparation of sportsmen for higher performances. The process of identification and development of sports talent also has to be a based on this knowledge.

In spite of the extreme importance of the nature and structure of sports performance, the sports science is yet not able to satisfactorily discover the precise nature and structure of performance in various sports. The limiting factor here is the multidimensional nature of sports performance. It requires a co-ordinated and well integrated systematic effort by a number of sports-science disciplines e.g., theory and methods of training, sports physiology, sports psychology, sports bio-mechanics and so on. Sports performance, like any other type of human performance, is a highly complex process and is a product of several internal and external factors encompassing all the aspects of human personality. Several elements and part processes of sports performance e.g., psychic, neuro-physiological etc., still defy satisfactory analysis because of inadequately developed methodology.

For centuries, this evaluation towards better ways of training is going on, but in the recent times, dramatic changes that have taken place have resulted in outstanding results in Athletic programmes. The present study is one such attempt to suggest certain scientifically approved methods for the development of performance levels.

In the present case, the investigator has been highly enthusiastic to know the changes brought about by plyometric training in the selected criterion variables sprint and high jump performances. If this study yields the result, it would enable the coaches and Physical educationists to adhere to this training and would enable them to improve the performance levels of their Athletes without landing on the harmful side of misusing.

Performance is the combine results of the coordinated exertion and integration of a variety of functions. Genetic factors probably play a major role in a person's performance capacity. It appears that 70 percent of an individual's maximal force, power of capacity is matter of genetic factors. <sup>1</sup>

The environment and geographic location also have a considerable role over performance. Basic on this, the individual performance depends upon genetic, physical and motor potentialities: in which definite improvement can be achieved by the suitable training.

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Athletes with superior training and conditioning are stronger and better coordinated and less subject to injury. The corner stone of athletic training is the law of specificity of the SAID principle, which states that the body makes specific adaptation to imposed demands. The more specific the adaptation. Athletic training, therefore, should be as specific as possible to the given sport.

In modern times, several methods of training are practiced by the coaches and the physical education personnel. Weight training, Interval training, Interval sprint, Slow continuous running, Fast continuous running, Fart leg training, Circuit training, Plyometric training are popularly known to athletes and coaches. *Current literature adequately describes the performance of plyometric training in various sports activities*.

**Aim:** The purpose of the investigation is to determine whether significant gains in long jump and high jump performance could be achieved through selected plyometric exercises.

With this motive, the investigator as selected 50 college boys of 18-20 years age group from Andhra Loyola College, Vijayawada-8, Andhra Pradesh randomly. The subjects selected for the study will have general playing ability. Because the training opted for experiment is very intense, the subjects must have sound fitness and coordination to perform plyometric exercises. The selected subjects will be divided into two equal groups consisting of 25 subjects in each group.

Six plyometric exercises were selected which are commonly applicable to both experimental groups Long jump and High jump as recommended by Chu.A.Donald, Illinois, in his book Jumping into plyometrics, 1992.

- 1. Over Back Toss
- 2. Plyometric Push-Ups
- 3. Multiple Box to Box jumps with single leg landing
- 4. Depth jump to prescribed height
- 5. Single foot side to side Ankle hop
- 6. Bounding with rings

The duration of training for selected plyometric exercises were given for 6 weeks with three days in a week. Each training session held for two hours in the evening from 4.00 pm to 6.00 pm the training schedule starts with 20 minutes warming up followed by 90 minutes plyometric training with sufficient rest between the sets and concluded with 10 minutes warm-down.

#### SIGNIFICANCE OF THE STUDY

- 1. The results of the findings will bring to light the effect of plyometric training in improving Long jump and high jump performance in the male athletes.
- 2. The findings of the study shall result how far the effect of plyometric exercises influence on the Long jump and high jump performance.
- 3. The result of the study shall guide the coaches physical education personnel to apply plyometric training more effectively to improve knowledge among the coaches, physical education personnel and athletes.
- 4. The findings of this study will help to explore the possibilities of further research in other fields of track and field athletics and other sports and games.

Prior and post to experiment, test were administered for the groups in long jump and high jump and scores were recorded separately for both the groups. The records are converted into decathlon scores approved by international athletic federation. According to their performance points were awarded to each pupil.

In order to test hypothesis formulated in chapter-I, the investigator had logically categorized and analyzed the data collected for determining significant gains in long jump and high jump performance through plyometric training and compare significant gains between long jump and high jump groups.

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The significant difference in long jump and high jump performances was found out through t-test. Two separate t-tests were employed to find out which group was benefited more significantly.

#### Conclusion

The study reveals that the performance of long jump and high jump were significantly improved through plyometric training. However, the level of improvement was more on long jumpers.

#### RECOMMENDATIONS

On the base of the re3sults obtained the following recommendations were made.

- 1. Similar study can be conducted on other criterion variables such as long jumpers and triple jumpers, sprinters and long jumpers, high jumpers and sprinters etc.
- 2. Studies can be conducted on other sports and games like Foot ball, Basket ball, Cycling, Volley ball Gymnastics, Skating etc.
- 3. Similar type of study can be conducted on different age groups.
- 4. Similar studies can be conducted on the performance of other track and field athletic events.
- 5. Similar study may be conducted separately for girls.
- 6. For different age

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**Fitness & Wellness** 



## EFFECTS OF SUBMAXIMAL AND MAXIMAL INTENSITIES OF BICYCLE TRAININGF ON SELECTEED MOTOR ABILITY COMPONNENTS AND PHYSIOLOGICAL VARIABLES AMONG COLLEGE MEN

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Physical fitness is important for all human beings irrespective of their age. A given work may not be carried out if the required physical strength is not available. Modernization and urbanization have reduced the physical fitness of human beings as man depends more and more on machines for all his work manual labour has been considerably reduced an physical activity is consisted to be low in dignity and hence avoided. Therefore general fitness has come down and to restore it, human beings have to revert to the age old habits.

Cohen under-took a study to determine the cause and effect relationship, if any between varying intensities of aerobic internal exercise and beneficial of aerobic interval training on lipid fractions, body weight, body composition and cardio-respiratory functions were studied in 49 sedentary male Brooklyn college faculty in the age group of 30 to 63. The subjects were trained three times per week for 12 weeks on the stationary bicycle ergo meter. The training included a two minute warm up followed by 30 minutes if cycling at 85 percent, 75 percent and 65 percent of the individual's maximum heart rate and concluded by a 3 minute cool down. The analysis of covariance F-test showed that there were no significant differences in lipid levels among group a results of 12 week conditioning programme.

#### METHODOLOGY

This study was designed to deal with the "Effect of sub maximal and maximal intensities of bicycle training on selected motor ability components physiological variables among college men students" **SELECTION OF SUBJECTS** 

To facilitate the study, forty five men students from Alagappa arts college men students in Karaikudi, were randomly selected as subjects and their age was between 19-51 years. They were assigned in to three groups.

#### SELECTION OF VARIABLES

The research scholar reviewed the various significant changes on selected physiological and motor ability components that selected to sub maximal and maximal intensities if bicycle training a period of 6 weeks, the research scholar reviewed the variable literature from books, journals periodicals, magazines and research papers taking in to consideration the following motor ability components, physiological variables and performance variables were selected.

#### Dependent variable

- 1. Motor ability components
  - a. Speed
- 2. Physiological variables
  - a. Resting pulse rate.
  - b. COMPUTATIONS OF ANALYSIS OF COVARIANCE

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The following tables illustrated the statistical result of the effects of bicycles training on selected motor ability components and physiological variables among college men students and the ordered adjusted means and the difference between means of the groups under study.

	(Score in beats per minute)								
	Maximal	Sub –	Control	Sum of	Sum of	Df	Means	Obtained	
	load	maximum	group	variance	squares		squres	F-ratio	
	group	load	soures of						
		group	variance						
Pre-test	70.53	70.53	70.6	В	0.05	2	0.02	0.03	
mean				W	36.6	42	0.88		
Post-test	65.73	68.06	70.6	В	15.18	2	8.09	0.04	
mean				W	851.33	32	20.37		
Adjested	65.63	66.08	70.6	В	15.20	2	8.16	0.39	
post-test				W	852.35	41	20.84		
mean									

#### Table – II: COMPUTATION OF ANALYSIS OF CO-VARIANCE OF RETING PULSE RATE

#### 4.5 RESULTS OF RESTING PULSE RATE

Table II shows the analyzed data on resting pulse rate. The pre-test means of resting pulse rate were 70.53 for maximal load group and 70.3 for maximal load group. The obtained "F" ratio 0.03 was lesser than the table 'F' ratio 3.22. Hence the ore – test was insignificant at 0.05 level of confidence for the degrees of freedom 2 and 42.

The post-test means were 65.73 for maximal load group, 68.06 for sub-maximal load group and 70.6 for control group. The obtained 'F' ratio 0.04 was lesser than the table 'F' ratio 3.22. Hence the post-test was significant at 0.05 level of confidence for the degrees of freedom 2 and 32.

The adjusted post-test means were 65.63 for maximal load group, 66.08 for sub maximal load group 66.08 for sub maximal load group and 70.6 for group. The obtained F-ratio 0.39 was lesser than table F-ratio 3.22. Hence the adjusted post-test was insignificant at 0.05 level of confidence for the degrees of freedom 2 and 41.

#### DISCYSSION ON THE FIMDING OF RESTING PULSE RATE

The analysis of co-variance of resting pulse rate indicated that there was insignificant improvement on resting pulse rate among college men students was due to the influence of two loads of bicycle training. It shows that the training. It was due to the nature of the training.

	Maximal load group	Sub – maximum load group	Control group	sources of variance	Sum of squares	Df	Means squres	Obtained F-ratio
Pre-test	714 7	7.14	7.14	В	0.01	2	03.005	0.12
mean	7.14			W	1.32	42	0.04	0.15
Post-test	67	6.0	7.14	В	0.86	2	0.42	20
mean	0.7	0.9		W	0.78	42	0.02	20
Adjusted				В	0.42	2	0.24	
post-test mean	6.8	6.92	7.14	w	1.35	41	0.03	7.11

Table III: COMPUTATION OF ANALYSIS OF CONVERIANCE OF SPEED (score in seconds)

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#### Table III A: COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED FINAL MEAN DIFFERENT OF SPEED (Score in seconds)

Control Group	Sub-maximal	Maximal load	M.D	C.I					
	load Group	Group							
7.14	6.92	-	0.32	0.15					
7.14	-	6.80	0.74	-					
-	6.92	6.80	0.10	-					

#### RESULT OF SPEED

The table II shows the analyzed data on speed. The pre-test means of speed were maximal load group, 7.14 sub maximal groups, 7.14 for control; the obtained 'F' ratio 0.13 was lesser than the table value of 0.13, 0.05 level of confidence for degrees of freedom 2 and 42.

The posttest means were 7.14 for maximal load group, 6.91 for submiximal load group and 6.7 control group. The obtained "F" ratio 20 was greater than the table F ratio 3.2 hence the post test was significant as level of confidence for the degrees of freedom 2 and 42.

The adjusted mean of speed for excremental of groups I,II and control group were 6.8, 6.92 and 7.14 respectively. The obtained 'F' ratio of 7.11 greater than the table "F' ratio - 3.22 hence the speed was significant.

Table III (a) shows the Schaffer's posttest ho test of order adjusted. Final mean difference of speed for different groups. The different groups. The difference between control group and sub maximal load training group was 0.32 and submazimal load training group and sub maximal load training group was 0.10, control group and maximum load training group was 0.74.

Hence the first and second group comparisons were significant and third comparisons were significant and third comparison was insignificant.

#### CONCLUTIONS

Within the limitations of the present study, the following conclusions were drawn.

- 1 Speed was significantly improved due the influence of six weeks of maximal and sub maximal bicycle ergo meter training among college men students.
- 2 Maximal load of bicycle training significantly improved speed greater than that of sub maximal load training among college men students.
- 3 Both sub maximal and maximal load of bicycle training did not improve resting pulse rate.

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**Fitness & Wellness** 



## COMPARATIVE ANALYSIS ON PHYSICAL FITNESS BETWEEN INDIA AND SRILANKA CRICKET PLAYERS

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#### ABSTRACT

The purpose of the study was to find out the effect of physical fitness on speed and muscular endurance. To achieve this purpose of the study 30 cricket players between Indian and Sri Lankan under-13 crickets players. The subject was divided into two equal groups. The following physical variable is speed and muscular endurance was selected as dependent variables. Analyses of 't' ratio to find out if there was no significant different existed. There was no significant between in the speed and muscular endurance was significant difference between Indian and Sri Lankan under 13 cricket players.

#### INTODUCTION

Cricket is the game of kings, the king of games. Though it is an old saying, it is quite relevant, rather more at even in the democratic world of today. In India cricket reigns supreme. The glamour and visual delights that the game offers beats every other game below.

Cricket is an golden gripping game for those who play and watch. Cricket not only the game of bat and ball; but code of conduct and essence of sportsmanship. It is the game of ever casting mystery and challenge. The greatest charm of cricket is that it gathers into its family circle, the clever and the dull the expert and the incompetent.

Cricket is the heart beat of hundreds of millions of people, the most popular game in India. It is the only game having all kinds of status people involved. That is none other than the game of Cricket is. The game of cricket is a royal and stylish in nature. It picked up popularity all over the world because of its graceful movement involving in batting, bowling and fielding. And the discipline method using in the game of cricket that there by attracts all the people irrespective of age and sex. The batting, bowling and fielding performances requires optimum motor ability fitness and physiological fitness so that every cricket player could excel in his game.

#### METHODOLOGY

The selection of subjects, tester reliability, instrument reliability, orientation of the subject, research design, criterion measures, administration of test, construction of training schedule and statistical techniques adopted for the analysis of data have been described.

**SELECTION OF SUBJECTS:** To achieve the purpose of the study 15 cricket players each from India and Srilanka under 13 year boys were selected as subjects.

**SELECTION OF VARIABLES AND TESTS:** The research scholar was reviewed the available scientific literature pertaining to the problem from books, Journals, magazines, websites, research papers was the consideration of feasibility on criteria and availability. The following variables were selected:

SI.No	Variables	Tests
1	Speed	50 Yards Dash
2	Muscular Endurance	Sit-ups

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**ANALYSIS OF DATA AND INTERPRETATION OF THE STUDY:** The purpose of the study was to compare speed, muscular endurance, agility and explosive power of India and Sri Lanka cricket players (under 13). Independent 't' ratio were computed and tested for significance at 0.05 level of confidence. The required 't' value was obtained from the table for the level of significance. All the subjects were tested on selected criterion variables to find out the significance of the difference between the means.

**COMPUTATION OF 't' RATIO:** The primary objective of the independent 't' ratio was to describe the differences on physical fitness variables namely speed, muscular endurance, agility and explosive power between India and Sri Lanka. The results of speed were presented in table I.

Group	Mean	Standard Deviation	DM	V DM	't' ratio
India	7.04	0.18	0.14	0.07	2.00
Sri Lanka	7.19	0.20			

#### TABLE: COMPUTATION 't' RATIO OF SPEED FOR INDIA AND SRILANKA CRICKET PLAYERS (UNDER 13)

\* Significant at 0.05 level of confidence

The table I revealed that the mean speed of India and **Sri Lanka** cricket players (under 13) were 7.04 and 7.19 respectively. The standard deviation of two groups in speed was 0.18 and 0.20. The mean difference in speed of two groups was 0.14. The standard error of mean difference in speed of two groups was 0.07. The obtained 't' ratio of speed was 2.00 was lesser than the required value of 2.04 at 0.05 level of confidence with 28 degree of freedom. So it was found to be statistically insignificant and concluded that there was no significant mean difference between India and **Sri Lanka** on speed.

#### TABLE – II: COMPUTATION 't' RATIO OF MUSCULAR ENDURANCE FOR INDIA AND SRILANKA CRICKET PLAYERS (UNDER 13).

Group	Mean	Standard Deviation	DM	V DM	't' ratio	
India	48.66	2.28	0.80	0.02	0.90	
Sri Lanka	49.46	2.77	0.80	0.92	0.86	

\* Significant at 0.05 level of confidence

The table II revealed that the mean muscular endurance of India and Srilanka cricket players (under 13) were 48.66 and 49.46 respectively. The standard deviation of two groups in muscular endurance was 2.28 and 2.77. The mean difference in muscular endurance of two groups was 0.80. The standard error of mean difference in speed of two groups was 0.92. The obtained 't' ratio of muscular endurance was 0.86 was lesser than the required value of 2.04 at 0.05 level of confidence with 28 degree of freedom. So it was found to be statistically insignificant and concluded that there was no significant mean difference between India and Sri Lanka on muscular endurance.

#### SUMMARY CONCLUSIONS AND RECOMMENDATIONS

Within the limitation of the present study, the following conclusions were drawn.

- 1. It was observed that there was no significant difference in the speed between Indian and Sri Lankan under 13 cricket players.
- 2. It was observed that there was significant difference in the muscular Endurance between Indian and Sri Lankan under 13 cricket players.

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## SPORTS PSYCHOLOGY & ITS UTILITY IN SPORTS FOR FITNESS & WELLNESS

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Sports need psychology. Psychologists aim to study athlete's behavior with special reference to the following areas mainly:

- 1) Development of skills for athletic proficiency,
- 2) utilization of facts and forces for planning progressive learning situation.
- 3) Programme reinforcement of correct response and tactics
- 4) Identification of personality traits in the rank athletes.
- 5) Counseling and guidance for overcoming conflict and stress.
- 6) Psychotherapy or behavior therapy for an athletic in mental dress.

#### STRESS MANAGEMENT FOR WELLNESS:

The increased stress of competitions can cause athletes to react both physically and mentally in a manner which can negatively affect their performance abilities. They may become tense, their heart rates race, they break into a cold sweat, they worry about the outcome of the competition, they find it hard to concentrate on the task in hand.

This has led coaches to take an increasing interest in the field of sport psychology and in particular in the area of competitive anxiety. That interest has focused on techniques which athletes can use in the competitive situation to maintain control and optimize their performance. Once learned, these techniques allow the athlete to relax and to focus his/her attention in a positive manner on the task of preparing for and participating in competition. Psychology is another weapon in the athlete's armory in gaining the winning edge.

#### The 4C"s

Concentration, confidence, control and commitment (the 4C"s) are generally considered to be the main mental qualities that are important for successful performance in most sports.

- Concentration ability to maintain focus
- Confidence believe in one's abilities
- Control ability to maintain emotional control regardless of distraction.
- Commitment ability to continue working to agreed goals.

The techniques to relaxation, centering and mental imagery can assist an athlete to achieve the 4C's.

This is the mental quality to focus on the task in hand. If the athlete lacks concentration then their athletic abilities will not be effectively or efficiently applied to the task. Research has identified the following types of attention focus:

• Broad Narrow continuum – the athlete focuses on a large or small number of stimuli.

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• Internal External continuum – the athlete focuses on internal stimuli (feelings) or external stimuli (ball)

The demand for concentration varies with the sport:

- Sustained concentration distance running, cycling, tennis, squash.
- Short bursts of concentration cricket, golf, shooting, athletic field events.
- Intense concentration sprinting events, bobsleigh, skiing

Common distractions are: anxiety, mistakes, fatigue, weather, public announcements, coach, manager, opponent, negative thoughts etc.

Strategies to improve concentration are very personal. One way to maintain focus is a set process goals for each session or competition. The athlete will have an overall goal for which the athlete will identify a number of process goals which help focus on specific aspects of the task. For each of these goals the athlete can use a trigger word (a word which instantly refocuses the athlete's concentration to the goal) e.g sprinting technique requires the athlete to focus on being tall, relaxed, smooth and to drive with the elbows – trigger word could be "technique"

Athletes will develop a routine for competition which may include the night before, the morning, pre competition, competition and post competition routines. If these routines are appropriately structured then they can prove a useful aid to concentration.

#### Confidence

Confidence results from the comparison an athlete makes between the goal and their ability. The athlete will have self-confidence if they believe they can achieve their ;goal. Comes back to a quote of mine – "You only achieve what you believe".

When an athlete has self-confidence they will tend to: persevere even when things are not going to plan, show enthusiasm, be positive in their approach and take their share of the responsibility in success and fail To improve their self-confidence, an athlete can use mental imagery to:

- Visualize previous good performance to remind them of the look and feel
- Imagine various scenarios and how they will cope with them.

#### Control

Identifying when an athlete feels a particular emotion and understanding the reason for the feelings is an important stage of helping an athlete gain emotional control. An athlete's ability to maintain control of their emotions in the face of adversity and remain positive is essential to successful performance are anxiety and anger.

Anxiety comes in two forms – Physical (butterflies, sweating, nausea, needing the toilet) and Mental (worry, negative thoughts, confusion, lack of concentration). Relaxation Is a technique that can be used to reduce anxiety.

When an athlete becomes angry the cause of the anger often becomes the focus of attention. This then leads to a lack of concentration on the task at hand, performance deteriorates, confidence in ability is a lost which fuels the anger – a slippery slope to failure.

#### Commitment

Sports performance depends on the athlete being fully committed to numerous goals over many years. IN competition with these goals the athlete will have many aspects of daily life to manage. The many competing interests and commitments include: work, studies, family/partner, friends, social life and other hobbies/sports Within the athlete's sport commitment can be undermined by:

- a perceived lack of progress or improvement
- not being sufficiently involved in developing the training programe
- not undertaking the objectives of the training program

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- injury
- lack of enjoyment
- anxiety about performance competition
- becoming bored
- coach athlete not working as a team
- lack of commitment by other athletes.

Setting goals with the athlete will raise their feelings of value, give them joint ownership of the goals and therefore become more committed to achieving them. All goes should be SMARTER.

Many people (coach, medical support team, manager, friends, etc) can contribute to an athlete's levels of commitment with appropriate levels of support and positive feedback, especially during times of injury, illness and poor performance.

The introduction helps you to understand stress and what causes, it, and introduces the idea of your "optimum stress level". The topics below show you how to analyze and plan to control stress. Finally we look at many of the good stress management techniques available.

By the end of the section, you should have a much clearer understanding of stress and the importance of managing it. You should be able to analyze the points of pressure in your life, and plan to neutralize them, You will also have access to a wide range of different methods to reduce stress.

#### **Stress Management Techniques**

This section explains how to use stress to you8r advantage. Firstly we will look at stress, what causes it, and understand optimum stress levels. We will then discuss analyzing and planning to control stress. Finally we will look at many of the good stress management techniques available.

BY the end of the section, you should have a much clearer understanding of stress and the importance of controlling it. You should be able to analyze the points of pressure in your life and plan to neutralize them. You will also have an armory of different stress reduction methods. This will help you to control each stress with the most appropriate technique.

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## THE IMPORTANCE OF YOGA IN MODERN LIFE

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#### ABSTRACT

The importance of Yoga in modern life has been accepted across the world. The main goals of yoga in daily life – how these goals can be attained – to high light the significant and place of yoga in competitive sports – by regular practicing yoga benefits pertaining to weight loss peaceful mind physical fitness good health etc., can be attained "Health is not a mere absence of decease, it is a dynamic expression of life, in terms of how joyful loving and enthusiastic" authors finally made some suggestions by introducing the system of yoga in daily life.

#### Introduction

The greatness of any heritage lies in its applicability in all the times. This is equally true of Yogic heritage. In fact, Yoga is rich of potentialities and is a frame of human resource developmental activity, that we have inherited through the years. The Yogic contribution towards the human resource development consists of providing conductive way of life and practical techniques. The Yogic techniques enrich the basic structure of human personality. These speak of universal and secular, character of Yogic contribution towards human life. The Yogic precepts are conductive to dedication and conductive framework of mind. The incentric science and art of yoga is compressive and a long term solution to various problems, it contributes substantially to preventing and cure several ailments. The importance of Yoga for our health, harmony and happiness is now well recognized. India's contribution in promoting Yoga has been accepted across the world. Therefore it is highly essential and need to share my experiences for the expansion of yoga in modern life.

#### **Objectives of Yoga in day-to-day life**

- To provide a forum for exchange of use on Yoga education and health.
- To understand the concept of the Yoga as a science.
- To highlight the significance and place of Yoga in modern life.
- To highlight the significance and place of Yoga in competitive sports.
- To share scientific, philosophical and therapeutic research in Yoga.
- To understand the potential of Yoga as a therapy and contribtion to healthy living.
- To discuss Yoga as a technique for stress management
- To suggest the role of Yoga for promotion of personality.

**Role of Yoga in Sports**: Yoga plays an important role in sports.In yoga,Asana,Pranayama,Suryanamaskara, Meditation and kayotsarga are usually performed by sportsperson for various purpose in Sports.Yoga improve their concentration. It helps in developing physical fitness and it is also good for relaxation,good for rehabilitation after injury.

BENEFITS OF YOGA: Improves concentration - some yogasana [balancing pose], Pranayama like anulom-vilom,

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- 1. bhramari etc., Meditation helps to increase concentration.
- 2. Weight control Sportsmen often gains weight during off-season. This can easily be prevented by practicing all yoga techniques.
- 3. Increase immunity Yoga also increase the immunity.
- 4. Improves all systems Yogasana, Pranayama and suryanamaskar improves all body systems.
- 5. Improves glandular function Daily practice of yoga improves glandular function.
- 6. Develop fitness Yoga asana, pranayama, suryanamaskar develops high level of physical fitness especially flexibility and endurance.
- 7. Tone up muscular and nervous system
- 8. The breathing exercises of yoga helps to control the breath which is very important for Sportsperson.
- 9. Meditation, relaxation poses and some pranayama cure stress and anxiety.
- 10. It cures all components of physical fitness like speed, strength flexibility etc.

**The main goals of "Yoga in Daily Life" are:** Physical Health, Mental Health, Social Health, Spiritual Health, Self-Realisation or realisation of the Divine within us

**These goals are attained by:** Love and help for all living beings, Respect for life, protection of nature and the environment, A peaceful state of mind, Full vegetarian diet, Pure thoughts and positive lifestyle. Physical, mental and spiritual practices, Tolerance for all nations, cultures and religions

**Benefits of Daily Yoga:** Weight loss, a strong and flexible body, glowing beautiful skin, peaceful mind, good health – whatever you may be looking for, yoga has it on offer. However, very often, yoga is only partially understood as being limited to asanas (yoga poses). As such, its benefits are only perceived to be at the body level and we fail to realize the immense benefits yoga offers in uniting the body, mind and breath. When you are in harmony, the journey through life is calmer, happier and more fulfilling.

With all this and much more to offer, the benefits of yoga are felt in a profound yet subtle manner. Here, we look at the top 10 benefits of regular yoga practice.

**1. All-round fitness.** You are truly healthy when you are not just physically fit but also mentally and emotionally balanced. "Health is not a mere absence of disease. It is a dynamic expression of life – in terms of how joyful, loving and enthusiastic you are." This is where yoga helps: postures, pranayama (breathing techniques) and meditation are a holistic fitness package.

Yoga - My personal fitness mantra, My weight-loss formula, My mind soother,

My tool for better communication, My creativity machine, My doubt repeller, My time planner

**2. Weight loss.** What many want! Yoga benefits here too. Sun Salutations and Kapal Bhati pranayama are some ways to help weight loss with yoga. Moreover, with regular practice of yoga, we tend to become more sensitive to the kind of food our body asks for and when. This can also help keep a check on weight.

**3. Stress relief.** A few minutes of yoga during the day can be a great way to get rid of stress that accumulates daily - in both the body and mind. Yoga postures, pranayama and meditation are effective techniques to release stress. You can also experience how yoga helps de-tox the body and de-stress the mind.

**4. Inner peace.** We all love to visit peaceful, serene spots, rich in natural beauty. Little do we realize that peace can be found right within us and we can take a mini-vacation to experience this any time of the day! Benefit from a small holiday every day with yoga and meditation. Yoga is also one of the best ways to relieve from disturbed mind.

**5. Improved immunity.** Our system is a seamless blend of the body, mind and spirit. An irregularity in the body affects the mind and similarly unpleasantness or restlessness in the mind can manifest as an ailment in the body. Yoga poses massage organs and strengthen muscles; breathing techniques and meditation release stress and improve immunity.

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**6.** Living with greater awareness. The mind is constantly involved in activity – swinging from the past to the future – but never staying in the present. By simply being aware of this tendency of the mind, we can actually save ourselves from getting stressed or worked up and relax the mind. Yoga and pranayama help create that <u>awareness</u> and bring the mind back to the present moment, where it can stay happy and focused.

**7. Better relationships.** Yoga can even help <u>improve your relationship</u> with your spouse, parents, friends or loved ones! A mind that is relaxed, happy and contented is better able to deal with sensitive relationship matters. Yoga and meditation work on keeping the mind happy and peaceful; benefit from the strengthened special bond you share with people close to you.

**8. Increased energy.** Do you feel completely drained out by the end of the day? Shuttling between multiple tasks through the day can sometimes be quite exhausting. A few minutes of yoga everyday provides the secret to feeling fresh and energetic even after a long day. A 10-minute online guided meditation benefits you immensely, leaving you refreshed and recharged in the middle of a hectic day.

**9. Better flexibility & posture.** You only need to include yoga in your daily routine to benefit from a body that is strong, supple and flexible. Regular yoga practice stretches and tones the body muscles and also makes them strong. It also helps improve your body posture when you stand, sit, sleep or walk. This would, in turn, help <u>relieve you of body pain</u> due to incorrect posture.

**10. Better intuition.** Yoga and meditation have the power to improve your intuitive ability so that you effortlessly realize what needs to be done, when and how, to yield positive results. It works. You only need to experience it yourself.

#### Conclusion

In modern times greater physical and emotional problems are constantly placed upon various of life. More and more people suffer from physical and mental tension such as stress, anxiety, insomnia and there is an imbalance in physical activity and proper exercise. This is why methods and techniques for the attainment and improvement of health, as well as physical, mental and spiritual harmony, are of great importance, and it is exactly in this respect that "Yoga in Modern Life" comprehensively offers an aid to help one's self.

According to yogic view, diseases, disorders and ailments are the result of faulty ways of living, bad habits, lack of proper knowledge of things related to individual's life, and improper food. The diseases are thus the resultant state of a short or prolonged malfunctioning is caused by an imbalanced internal condition, created due to certain errors of the individuals. Since the root cause of a disease lies in the mistakes of the individual, its cure also lies in correcting those mistakes by the same individual. Hence, it is the individual himself who is responsible in both the cases i.e., for causing as well as for curing the disease. So Yoga is essential for any human being in day to day life.

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## COMPARATIVE STUDY OF EFFECT OF YOGIC AND ISOMETRIC TRAINING ON PHYSICAL FITNESS COMPONENTS

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#### Introduction

Physical fitness has been acclaimed one of the essential requirements of personality development. It is also highly required for the sportsmen of caliber. Many methods have been employed by the coaches and sports trainers to develop fitness of their athletes, similarly, experts are in search of most suitable and economical method which can easily be employed by a common man to develop his physical fitness. Isometric is one of the training methods developed in western countries used for building physical fitness is general and particularly the strength. Yogic practices, particularly the asanas are also employed for developing physical fitness and building health of the Individual. These practices are very common in India. Recently efforts have been made by some researches to use asanas in the training programme of the sportsmen.

There is similarity between Isometric exercises and yogic exercises on the point that both have static contraction as well as stretching the body parts. However, the principle of exercise differs. Where as in Isometrics the performer exerts optimum force during the exercise, the yogic asanas are performed with optimum possible relaxation. Thus the two systems contradict with each other. It is therefore interesting to compare and find out comparative utility of both the systems in training the athletes. With this purpose in mind the following design was chalked out and executed.

**Materials and methods:** Sixty (60) students of age 14 years were selected by using McCloy's classification Index. They were equally distributed in three groups namely A, B & C. Group A&B were experimental group and group C was control one.

Initial test was conducted on all the three groups for measuring the four items of fitness i.e (1)Strength (2) Agility (3) Flexibility (4) Endurance. Standard tests for all the four items were conducted for measuring the prescribed values of fitness factors. After having the initial test of all the groups, training in selected Yogic and Isometric exercises was imparted to two groups respectively for the duration of six weeks. After the expiry of training period the final test was conducted on all the three groups & readings were recorded as per initial test. Data of both the tests were processed through statistical procedure.

**Analysis and interpretation of data:** Significant improvement in strength was observed in both the groups. However, the improvement is found more in Isometric group B than Yogic group A.

The improvement in the performance of agility was found more in Isometric group B as compared to Yogic group A.

But the Yogic group has shown better improvement in flexibility than Isometric group. Both the groups have shown almost equal improvement in Endurance measured by Harvard's step-up test

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#### Group Item Mean of Mean of Final Difference Remarks **Initial Sore** Score of means 2.33 Pull ups 2.11 4.44 Significant diff. Significant diff. Sit ups 23.94 39.00 15.06 А Significant diff. Standing 5.33 5.95 0.62 broad Jump Pull ups 2.11 2.55 Significant diff. 4.66 Sit ups 24.28 41.50 17.22 Significant diff. В Significant diff. Standing 5.7 6.27 0.57 broad Jump

#### Table: 1: Group-wise Readings of Pre and Post Test of Three Item of Strength

Table: 2: Comparisons between the Pre and Post Test Performances of The

Group	Item	Mean of	Mean of Final	Mean of Final Difference	
		Initial Test	Test	of means	
	Agility	31.41	30.78	0.99	Significant diff.
А	Flexibility	1.88	3.12	1.24	Significant diff.
	Endurance	65.86	73.50	7.64	Significant diff.
	Agility	32.76	31.62	1.14	Significant diff.
В	Flexibility	1.56	2.55	0.99	Significant diff.
	Endurance	67.51	75.16	7.65	Significant diff.

#### Two groups in Other Fitness Factors

#### Conclusions

Post-training values indicating improvement of fitness Yogic and Isometric groups when compared with the same values of control group have shown remarkable improvement in their original values therefore it may be inferred that the Yogic training and Isometric training can cause significant improvement in some of the fitness factors of the subjects under study.

Expect for strength and flexibility in all other fitness factors and the post-training level of improvement between yoga and Isometric group shows great resemblance yogic and Isometric can cause almost equal amount of improvement in the physical fitness factors. It is therefore difficult to comment about the superiority of one over the other. However, it is evident from the experimental data that Isometric promotes strength more than yogic training and the yogic system promotes flexibility more that isometric training. Expert for the above difference the two systems can produce equal improvement in other factors under study.

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## THE ROLE OF NUTRITION AND HEALTH STATUS EFFECT THE TALENT AND PERFORMANCE

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#### ABSTRACT

The purpose of the study nutrition and Health Status effects the talent and performances of the child. Health is most important factor for anyone in this world. By both the child and pregnancy the mother should have the good health and better nutrition. When compare with developed countries in India children have among the highest proportion of mal-nutrition in the world. More than half of the all-boys and girls under 4 years of age are mal-nourished. In India 72 per cent of Indian population lived in Villages and they are having various problems, such as poverty, sanitation, Education, Unemployment, nutritional diet and infrastructural facilities.

Even though India is having to produce the talented sports person, Milka Singh, P.T.Usha, Vijayandar Singh etc. But lack of knowledge and not giving the significance of above mentioned and all lagging behind the sports and games. There are sourced for identification of talented players. Everyone will get some talent by Birth on Telugu Language, the proverb meaning "The Flower Blossoms by Birth". The talented boy or girl shows the ability to perform any activity by childhood one of the sources for developing the talent is summer vacation for boys and girls. The best age limit for identifying the player is between 5 and 7 years because it is the best for learning co-ordinated movements and strength. In talented children faced lot of problems like poverty, physiological, Psychological and sociological. The Government and Private Social Organizations can assist to the talented boy or girl to achieve their goals.

The level of health status of persons in a Nation is a robust reflection of the state of development of the Nation. It can be concluded that a nation with good health tends to be productive and that productivity tends to uplift of economic and societal development. Economic and societal developments in turn, tend to improve the indicators of health status and quality of life.

World Health Organization define health as a state of complete physical, mental and social well being and not merely the absence of disease or infirmity. Generally important factor in the consideration of status of health in relation to the overall developmental process is the health among women and children in the total population. The merit of this doctorine is easily understood in terms of biological norms of growth potential, and growth succession in children and reproductive energy utilization in women. Under the above mentioned norms and based on consideration of available indicators of health, it appears that the present state of health in India is poor.

The world health organization estimates 285 million people across the world to be visually impaired of this 30 million are blind 246 million are suffering with low vision. Approximately 24 million people in India are blind and an additional 52 million visually impaired around 4.6 million people suffer colour blindness. India Children have among the highest proportion of mal-nutrition in the world. More than half of the all-girls and boys under 4 years of age are mal nourished. More than 70% of Indian children are anaemic. We cannot

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expect the values weight for age and height for age. The researchers showed that Indian children are very poor growth in physically and mentally. It has been observed that there exists a dismal stae of nutrition among under privileged boys and girls surviving on streets and over all high incidence of clinically discenible untoward physical status in Indian Children.

Now the Indian population is now more than 1 corre with sex ratio of 920 females per 1000 males and with 35% of the population being children in the age group of 0-14 years, the above mentioned figured are threatening. Further more, mal nutrition in India in prevalent among all. Segments of the population and it is fittingly associated with a huge number of sufferers from communicable diseases like respiratory infections Malaria, viral hepatitis, Cholera and uncontrolled fevers. Despite a small but reassuring decrease in fertility rate and an increase in expectation of life at both the facts that about 18 persons out of 100 are not expected to survive beyond age 40 years. We can speak loudly about the poor status of health sector in India.

There is another factor disturbing bring for point in the modern trends of food and nutrient intake in India over the last 10 years cereal intake and calorie intake have declined, despite the facts that there has been an increase in total expenditure. India producing large quantity of wheat and milk and rice. It has been actually observed that non-cereal food items as well as non-food items are increasingly making places in the consumption basket of the poor As a result half of the rural children suffer from mal-nutrition on energy deficiency The development of sports and games depends upon the strength of the children's back ground i.e. means of financial environmental psycho physiological conditions.

Today over 72 percent of the Indian population lives in some 6,38,000 villages and the rest 28 per cent lives in urban areas. Indian villages are flooded with various issues, such as poverty, unemployment and poor infrastructures facilities and poor education procedures. No development effort is complete without a comprehensive coverage of the ideal India, we cannot expect the results in sports and games, unless we provide the poverty alleviation, better livelihood opportunities and provisions of better educational structures.

Even though India is having potentionality to produce the talented sports persons. But lack of knowledge and not giving the significance of above mentioned all lagging behind the sports and games. There are some sources for identification of talented players. Every one will get some talent by birth. The flower blossoms by Birth like talented boy / girl shows the ability perform any activity by childhood. There are some sources.

 Summer vacation: The season is come only once in a year summer offer to many children a wealth of thrilling games and competitions. These 12 to 15 weeks children will spend time in play and get in to a good shape and they have chance to express their talents. In these 12 weeks either the teacher or parent to find the interest of child's game or event. That the right way to identity the talent and it can be possible to improved performance his / her skills.

The experiments proved the children are above 4 years and below 6 years of age getting too heavy load is being placed, physically and psychologically steps. It will effect the talent of an individual performance. Identify their interest and give the practice slowly and steadily. According to researchers proved between 5 and 7 ages and best for learning co-ordinated movements and strength development most effectively between 11 to 14 years of age.

The Government and the public and private sectors must provide the facilities and programmes for young children. In Andhra Pradesh some of the voluntory organizations like "Athletic Institute" was founded in 1960. The task of this institute to serve the society through sports and games. The motto of the institute to encourage the children to participate in competitions and identity the talented children. In finding the talented children the trainer will face number of psychological and sociological problems. He must study the behavour, personality traits and family back ground of the child.

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By conducting the sports festivals in several areas. We can introduce sports and games to the unknown pupil. To put up number of physical education training schools for school children in source of finding the talented children.

There are some more factors like physiq, body structure and psychological traits have also an over all effect on success. It is also realized that these factors also influence the physical fitness status. Therefore during the selection of boy and girl for different sports and games a relative weightage should be given to the age, height and performance.

One of main difficulties is that India failing to detect exemptionally talented children at the age when training would bear the best results. And also most important factor discoursing the rural talents and 80% of population live in the country side. If eliminate these short comings to put the Indian sports on the right track.

I am requesting you all to encourage the children with smiling face, motivate the disinterest children with inspiring thoughts.

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## EXAMINE THE CHANGES IN SELECTED STRENGTH PARAMETERS SUBSEQUENT TO TWELVE WEEKS OF CIRCUIT WEIGHT TRAINING

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#### ABSTRACT

The goal of the study was to examine the changes on selected strength parameters subsequent to eight weeks of circuit weight training. To attain these goal thirty women students from Alagappa University College of Physical Education, Alagappa University, Karaikudi, Tamilnadu were selected as subject. Their age ranged between 18 to 22. They were divided into two equal groups of 15 subjects each and assigned to experimental group and control group. The experimental group underwent circuit weight training programme for three days a week for twelve weeks. The recovery interval of five minutes was given between the circuits. The intensity of the exercise was progressively increased once in two weeks. The subjects move from one station to another with weight for eight stations of following exercises. Bench crunch, Preacher Curls, Squat, Leg Press, Leg Curl, Bench Press, Lateral Raise, Ben-over Lateral raise, whereas the Control Group, under strict supervision did not participate in any specific training and underwent in their respective programme. The subjects were assessed prior to and immediately after the training period. Grip strength and leg Strength was measured by Grip Dynamometer and Leg Dynamometer respectively. Arm strength by Pull-ups test and muscular strength by Bent-Knee sit-ups test. The analysis of co-variance was used to examine the data. The study revealed that due to the effect of twelve weeks of circuit weight training the selected strength parameters such as grip strength, arm strength, leg strength and muscular strength have significant improved. Keywords: Circuit Weight Training, Grip Strength, Arm Strength, Leg Strength, Muscular Strength.

#### INTRODUCTION

Sports' training is an education process it is done for improving sports performance. The sports performance, as any other type of human performance, is not the product of one single system or aspect of human personality. On the contrary, it is the product of the total personality of the sports person. The personality of a person has several dimensions e.g. physical, physiological, social and psychic. In order to improve sports performance, the social and psychic capacities of the sports persona also have to be improved in addition to the physical and physiological ones. In other words, the total personality of a sportsman has to be improved in order to enhance his performance. Sports training, therefore, directly and indirectly aim at improving the personality of the sportsman.

Circuit training is best for beginners and those of average fitness looking to tone up and get in shape. Athletes and sports people would probably only want to use circuits early in the off-season as basic strength and conditioning work, or as an alternative anaerobic interval training method or during an injury rehabilitation period to help maintain aerobic fitness. Both aerobic fitness and strength are better improved methods. Train hard and be safe. However, endurance athletes and games players may choose to use circuit weight training routines to build and maintain moderate strength while at the same time benefiting from its interval type content, which develop anaerobic endurance.

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Potential circuit training exercises that can be used to develops short-term muscular endurance. This type of strength endurance is important in many prolonged sports with intermitted bouts of activity, such as soccer and field hockey. These circuit training exercises can also be used by non-athletes to develop general fitness. In this respect, circuit training is very time efficient helping to develop strength and stamina in a single session pure endurance athletes still require excellent strength endurance but the nature of their events requires a slightly different approach. Exercise selection is governed by the principle of specificity. The circuit training exercises selected must train movements that the athlete will perform during competition. A general circuit might expect to see in a gym will develop muscular endurance but it won't be specific to any particular sport.

#### MATERIAL AND METHOD

The goal of the study was to examine the changes on selected strength parameters subsequent to twelve weeks of circuit weight training. To attain these goal thirty women students from Alagappa University College of Physical Education, Alagappa University, Karaikudi, Tamilnadu were selected as subject. Their age ranged between 18 to 22. They were divided into two equal groups of 15 subjects each and assigned to experimental group and control group. The experimental group underwent circuit weight training programme for three days a week for twelve weeks. The recovery interval of five minutes was given between the circuits. The intensity of the exercise was progressively increased once in two weeks. The subjects move from one station to another with weight for eight stations of following exercises. Bench crunch, Preacher Curls, Squat, Leg Press, Leg Curl, Bench Press, Lateral Raise, Ben-over Lateral raise, where as the Control Group, under strict supervision did not participate in any specific training and underwent in their respective programme. The subjects were assessed prior to and immediately after the training period. Grip strength and leg Strength was measured by Grip Dynamometer and Leg Dynamometer respectively. Arm strength by Pull-ups test and muscular strength by Bent-Knee sit-ups test. The analysis of co-variance was used to examine the data. **RESULT AND DISCUSSION** 

	Circuit	Control	Source of	Sum of	df	Mean	'F' ratio
	Weight	Group	Variance	Squares		Squares	
	Training						
Pretest	36.33	35.20	Between	13.65	1	13.65	
Mean SD	2.09	2.54	Within	193.39	28	6.91	1.98
Posttest	45.33	36.20	Between	394.98	1	394.98	
Mean SD	2.97	2.08	Within	223.33	28	7.98	49.50*
Adjusted	45.03	36.86	Between	212.25	1	212.25	
Posttest			Within	85.34	27	3.16	67.17*
Mean							

#### Table – I: ANALYSIS OF COVARIATION ON GRIP STRENGTH OF CIRCUIT WEIGHT TRAINING AND CONTROL GROUPS

Significant at 0.05 level of confidence. (The table value required for significance at 0.05 level with df 1 and 27 is 4.21 and 1 and 28 is 4.20).

Table I shows that the pre test means of grip strength of circuit training and control group are 36.33 and 35.20 respectively. The obtained 'F' ratio value of 1.98 for pre test means on grip strength is lesser than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The post-test means on grip strength of circuit weight training and control groups are 45.33 and 36.20 respectively. The obtained 'F' ratio value of 49.50 for post-test data on grip strength is greater than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28.

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adjusted post-test means on grip strength of circuit weight training and control groups are 45.03 and 36.86 respectively. The obtained 'F' ratio value of 67.17 of adjusted post-test data on grip strength is greater than the table value of 4.21 required for significance at 0.05 level of confidence with degrees of freedom 1 and 27.

The results of the study showed that there was significant difference among the adjusted post-test means of circuit weight training and control groups. This shows that circuit weight training group had significant impact on grip strength of the subjects.

Table – II: ANALYSIS OF COVARIATION ON ARM STRENGTH OF CIRCUIT WEIGHT TRAINING

	AND CONTROL GROUPS										
	Circuit	Control	Source of	Sum of	df	Mean	'F' ratio				
	Weight	Group	Variance	Squares		Squares					
	Training										
Pretest	12.85	12.57	Between	4.04	1	4.04					
Mean SD	2.83	2.74	Within	1820.93	28	65.03	0.06				
Posttest	18.62	13.28	Between	598.54	1	598.54					
Mean SD	3.46	2.59	Within	1808.93	28	64.60	9.26*				
Adjusted	17.58	12.84	Between	504.11	1	504.11					
Posttest			Within	25.01	27	0.93	20.16*				
Mean											

Significant at 0.05 level of confidence. (The table value required for significance at 0.05 level with df 1 and 27 is 4.21 and 1 and 28 is 4.20).

Table II shows that the pre test means of arm strength of circuit training and control group are 12.85 and 12.57 respectively. The obtained 'F' ratio value of 0.06 for pre test means on arm strength is lesser than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The post-test means on arm strength of circuit weight training and control groups are 18.62 and 13.28 respectively. The obtained 'F' ratio value of 9.26 for post-test data on arm strength is greater than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The adjusted post-test means on arm strength of circuit weight training and control groups are 17.58 and 12.84 respectively. The obtained 'F' ratio value of 20.16 of adjusted post-test data on arm strength is greater than the table value of 4.21 required for significance at 0.05 level of confidence with degrees of freedom 1 and 27.

The results of the study showed that there was significant difference among the adjusted post-test means of circuit weight training and control groups. This shows that circuit weight training group had significant impact on arm strength of the subjects.

Table – III: ANALYSIS OF COVARIATION ON LEG STRENGTH OF CIRCUIT WEIGHT TRAINING AND CONTROL GROUPS

	Circuit	Control	Source of	Sum of	df	Mean	'F' ratio
	Weight	Group	Variance	Squares		Squares	
	Training						
Pretest	91.53	92.26	Between	5.91	1	5.91	
Mean SD	4.43	4.87	Within	1028.00	28	36.71	0.16
Posttest	103.86	94.13	Between	711.24	1	711.24	
Mean SD	3.02	3.68	Within	694.40	28	24.80	27.70*
Adjusted	104.26	93.96	Between	223.72	1	223.72	
Posttest			Within	76.18	27	2.82	79.33*
Mean							

Significant at 0.05 level of confidence. (The table value required for significance at 0.05 level with df 1 and 27 is 4.21 and 1 and 28 is 4.20).

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Table III shows that the pre test means of leg strength of circuit training and control group are 91.53 and 92.26 respectively. The obtained 'F' ratio value of 0.16 for pre test means on leg strength is lesser than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The post-test means on leg strength of circuit weight training and control groups are 103.86 and 94.13 respectively. The obtained 'F' ratio value of 27.70 for post-test data on leg strength is greater than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The adjusted post-test means on leg strength of circuit weight training and control groups are 103.86 and 94.13 respectively. The obtained 'F' ratio value of 27.70 for post-test data on leg strength is greater than the adjusted post-test means on leg strength of circuit weight training and control groups are 104.26 and 93.96 respectively. The obtained 'F' ratio value of 79.33 of adjusted post-test data on leg strength is greater than the table value of 4.21 required for significance at 0.05 level of confidence with degrees of freedom 1 and 27.

The results of the study showed that there was significant difference among the adjusted post-test means of circuit weight training and control groups. This shows that circuit weight training group had significant impact on leg strength of the subjects.

	Cinquit	Control	Course of	Sum of	46	Magin	(Fl matia
	Circuit	Control	Source of	Sum of	ar	iviean	Fratio
	Weight	Group	Variance	Squares		Squares	
	Training						
Pretest	34.20	32.67	Between	93.63	1	93.63	
Mean SD							3.76
	3.28	6.37	Within	697.73	28	24.92	
Posttest	41.33	33.13	Between	504.30	1	504.30	
Mean SD							36.67*
	2.49	4.643	Within	385.07	28	13.75	00.07
Adjusted	38.73	32.88	Between	223.72	1	223.72	
Posttest							89.39*
Mean			Within	67.57	27	2.503	

Table – IV: ANALYSIS OF COVARIATION ON MUSCULAR STRENGTH OF CIRCUIT WEIGHT TRAINING AND CONTROL GROUPS

Significant at 0.05 level of confidence. (The table value required for significance at 0.05 level with df 1 and 27 is 4.21 and 1 and 28 is 4.20).

Table IV shows that the pre test means of muscular strength of circuit training and control group are 34.20 and 32.67 respectively. The obtained 'F' ratio value of 3.76 for pre test means on muscular strength is lesser than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The post-test means on muscular strength of circuit weight training and control groups are 41.33 and 33.13 respectively. The obtained 'F' ratio value of 36.67 for post-test data on muscular strength is greater than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The adjusted post-test means on muscular strength of circuit weight training and control groups are 38.73 and 32.88 respectively. The obtained 'F' ratio value of 89.39 of adjusted post-test data on muscular strength is greater than the table value of 4.21 required for significance at 0.05 level of confidence with degrees of freedom 1 and 27.

The results of the study showed that there was significant difference among the adjusted post-test means of circuit weight training and control groups. This shows that circuit weight training group had significant impact on muscular strength of the subjects.

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#### CONCLUSION

It was concluded that due to the effect of twelve weeks of circuit weight training the selected strength parameters such as grip strength, arm strength, leg strength and muscular strength have significant improved.

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**Fitness & Wellness** 



## IMPACT OF VARIED INTENSITIES OF CIRCUIT TRAININGS ON SELECTED STRENGTH AND ENDURANCE PARAMETERS OF WOMEN HOCKEY PLAYERS

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#### INTRODUCTION

Any physical activity leads to anatomical, physiological, bio-chemical and psychological changes. The efficiency of a physical activity results from its duration, distance and repetitions (volume); load and velocity (intensity); and the frequency of performance (density). When planning the dynamics of training, consider these aspects, referred to as the variables of training. Model all these variables according to the functional and psychological characteristics of competition. Throughout the training phases preceding a competition, define which component to emphasize to achieve the planned performance objective. As a rule emphasizes intensity for sports of speed and power and volume for endurance sports (Bompa, 1999).

Intensity of loading is characterized by the strength of the stimulus or by the concentration of work executed per unit of time within a series of stimuli. Intensity for endurance or speed is calculated according to the speed in maximum strength or the frequency of movement. For strength exercises, the amount of resistance is measured and for jumping or throwing, the height or distance is measures (Baechle, Thomas R., 1994).

In the interest of stability of performance especially in technical events with beginners, the intensity must be low enough to permit efficient execution of the technique in question. On the other hand, in those events demanding maximum and elastic strength, one must work through a particular extent of loading in the competition specific range of intensity in order to stabilize athletic technique corresponding to the demands of competition (Frank W. Dick., 1980). The purpose of the present study was to find out the effect of varied intensities of circuit trainings on selected strength and endurance parameters of women Hockey players.

#### PROCEDURE AND METHODOLOGY

#### SELECTION OF SUBJECTS

For the present study, Forty Five women Hockey players studying Bachelor's degree in affiliated colleges of Alagappa University, Karaikudi, Tamilnadu, were selected randomly as subjects. Their age ranged from 18 to 24. Fifteen subjects were distributed into three equally groups. Group – I underwent high intensity circuit training Group – II underwent Low intensity circuit training and Group – III acted as control group, who did not participate in any special Training. The experimental groups with varied load and velocity (intensity) underwent their respective training programme for three day in a week for twelve weeks.

#### SELECTION OF VARIABLES

Keeping the feasibility criterion in mind, the following variables were selected for the study.

#### DEPENDENT VARIABLES

- a. Leg Strength
- b. Strength endurance

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#### INDEPENDENT VARIABLES

- a. High the Intensity circuit Training
- b. Low intensity circuit Training

#### **CRITERION MEASURES**

Leg Strength	Leg lift with dynamometer
Strength endurance	Bent knee sit-ups.

#### STATISTICAL ANALYSIS

The data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significant difference, if any among the groups when ever the obtained 'F' ratio was found to be significant, the scheffe's was applied as post hoc test to find out the paired mean difference, if any, between the high intensity circuit training group and Low intensity circuit training group. The level of significance was set at 0.05 level.

#### ANALYSIS OF THE DATA

The influence of high and low intensities of circuit training on each criterion variables were analyzed separately and presented below.

The analysis of covariance on leg strength of the pre and post test scored of high intensity circuit training group; low intensity circuit training group and control group have been analyzed and presented in Table I.

		High Intensity Circuit Training Group	Low Intensity Circuit Training Group	Control Group	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio
-	Mean	90.85	90.83	90.82	Between	0.013	2	0.007	
Pre test	S.D	0.214	0.237	0.221	Within	7.70	42	0.18	0.34
	Mean	96.81	92.99	90.84	Between	190.14	2	95.07	
Post test	S.D	0.214	0.237	0.221	Within	7.70	42	0.18	525.17*
Adjusted	Mean	90.85	91.92	90.84	Between	190.31	2	95.16	
Post Test					Within	6.73	41	0.16	594.75*

TABLE- : ANALYSIS OF COVARIANCE OF THE DATA ON LEG STRENGTH OF PRE AND POST TESTS SCORES OF HIGH INTENSITY CIRCUITRAINING, LOW INTENSITY CIRCUIT TRAINING AND CONTROL GROUPS

\* **Significant at .05 level of confidence.** (The table values required for significance at .05 level of confidence for 2 and 42 and 2 and 41 are 3.222 and 3.226 respectively)

The table I shows that the adjusted post-test means of high intensity circuit training group, low intensity circuit training group and control group are 96.46, 91.92 and 90.84 respectively on leg strength. The obtained "F" ratio of 594.75 for adjusted post-test means is more than the table value of 3.226 for df 2 and 41 required for significance at 0.5 level of confidence on leg strength. The results of the study indicted that there was a significant difference among the adjusted post-test means of high intensity circuit training group low intensity circuit training group and control group on leg strength.

Since, three groups were compared, whenever the obtained 'F' ratio for adjusted post test was found to be significant, the Scheffe's test to find out the paired mean differences and it was presented in Table I-A.

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#### TABLE I-A: THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN PAIRED MEANS ON LEG STRENGTH

High Circuit group	Intensity training	Low Circuit group	Intensity training	Control Group	Mean Differences	Confidence Internal Value
95.46		91.92		-	3.54*	1.04
95.46		-		90.84	4.62*	1.04
-		91.92		90.84	1.08*	1.04

#### \*Significant at .05 level of confidence.

The table I-A shows that the mean difference values between high intensity circuit training group and low intensity circuit training group, high intensity circuit training group and control group 3.54, 4.62 and 1.08 respectively on leg strength which were greater than the required confidence interval value 1.04 for significance. The results of this study showed that there was a significant difference between high intensity circuit training group and low intensity circuit training group, high intensity circuit training group and control group and control group and low intensity circuit training group, high intensity circuit training group and control group and low intensity circuit training group and control group on leg strength. The analysis of covariance on strength endurance of the pre and post test scores of high and low intensity circuit training group and control group have been analyzed and presented in Table II.

TABLE – II: ANALYSIS OF COVARIANC OF THE DATA ON STRENG ENDURANCE OF PRE AND POST TESTS SCORES OF HIGH INTENSITY CIRCUIT TRAINING, LOW INTENSITY CIRCUIT TRAINING AND CONTROL GROUPS

		High	Low	Control	Source	Sum of	Df	Mean	Obtained
		Intensy	Intensity	Group	of	Squares		Squares	'F' Ratio
		Circuit	Circuit		Variance				
		Trainig	Training						
		Group	Group						
Pre	Mean	37.40	.60	37.27	Between	0.006	2	0.003	
Test	S.D	0.95	0.80	0.998	Within	0.66	42	0.0157	0.058
Post	Mean	43.53	40.73	37.40	Between	0.989	2	0.445	
Test	S.D	0.98	0.77	0.88	Within	1.69	42	0.04	11.125*
Adju	Mean	43.19	40.42	37.39	Between	0.762	2	0.381	
sted					Within	1.62	41	0.0395	9.645*
Post									
Test									

\* **Significant at .05 level of confidence**. (The table values required for significance at .05 level of confidence for 2 and 42 and 2 and 41 are 3.222 and 3.226 respectively)

The table II shows that the adjusted post-test means of high intensity circuit training group low intensity circuit training group and control group are 43.19, 40.42 and 37.39 respectively on strength endurance. The obtained "F" ratio of 9.645 for adjusted post-test means is more than the table value of 3.226 for df 2 and 41 required for significance at .05 level of confidence on strength endurance. The results of the study indicated that there was a significant difference among the adjusted post-test means of high intensity circuit training group, low intensity circuit training group and control group on strength endurance.

Since, three groups were compared, whenever the obtained 'F' ratio for adjusted post test was found to be significant, the Scheffe's test to find out the paired mean differences and it was presented in Table II-A.

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## TABLE II-A: THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN PAIRED MEANS ON STRENGTH ENDURANCE

High Circuit group	Intensity training	Low Circuit group	intensity training	Control Group	Mean Differences	Confidence Interval Value
43.19		40.42		-	2.77*	1.18
43.19		-		37.39	5.80*	1.18
-		40.42		37.39	3.03*	1.18

#### \*Significant at .05 level of confidence

The table II-A shows that the mean difference values between high intensity circuit training group and low intensity circuit training group, high intensity circuit training group and control group and low intensity circuit training group and control group 2.77, 5.80 and 3.03 respectively on strength endurance which were greater than the required confidence interval value 1.18 for significance. The results of this study showed that there was a significant difference between high intensity circuit training group and low intensity circuit training group, high intensity circuit training group and control group and control and low intensity circuit training group and control group on strength endurance.

#### DISCUSSION AND FINDINGS

The results of the study showed that there was a significant difference among the high intensity circuit training group, Low intensity circuit training group, and control group on strength and strength endurance parameters namely Leg strength and Strength endurance. And also it was showed that there was a significant improvement on leg strength and strength endurance due to high intensity circuit training and Low intensity circuit training.

#### CONCLUSIONS

- 1. There was a significant difference between high and low intensity circuit training on selected strength and endurance parameters namely leg strength and strength endurance.
- 2. And also it was found that there was a significant improvement on selected criterion variables such as leg strength and strength endurance and due to high and low intensity circuit training

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## ANALYZE OF HEALTH RELATED FITNESS PROFILE AMONG SCHOOL STUDENTS IN CHENNAI

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#### INTRODUCTION

Proper growth and maintenance of good health, participation in daily physical activities is an indispensable one. The high level of physical fitness comes from years of daily experience in a selected variety of vigorous physical activities. It is a biological principle that function builds structure and structure decides function. Man needs vigorous exercises for growth and development. To perform the daily activities in a more efficient manner, a condition of muscles, their strength and endurance are essential to man. A muscle must be overloaded in order to be strengthened (Govindarajulu, 1991).

Every human being participates in some kind of sports activity or physical exercise during the course of his life. This exercise may assume different forms for different individuals. It may be walking, jogging, cycling, working in a factory, participation in games and sports etc. Regular participation in exercise program me markedly influences physical, physiological and mental fitness of an individual. According WHO (World Health Organization) the Physical activity is defined as any bodily movement produced by skeletal muscles that cause energy expenditure (Caspersen1985). At school, physical activity includes participating in physical education, recreation and dance programmes, school athletics and active play during the recess; walking or cycling to and from school; and extracurricular opportunities that offer physical activities during leisure time Physical activity can be performed at various intensities: low, moderate and vigorous. A sedentary lifestyle includes no or little physical activity. Moderate intensity physical activity produces smaller increase in heart rate and breathing rate than vigorous physical activity (DHPAHIP 2004).

Regular physical activity is critically important for the health and well-being of young people (Boreham C, Riddoch C.2001). It improves young people's physical fitness, i.e. fosters muscle and bone strength which is a vital basis for healthy growth and development and the reduction of injuries, and enhances heart and lung function and cardio-respiratory endurance (Williams et al.2002). An important issue concerning childhood health is weight control. Regular physical activity can help prevent and reduce obesity or to maintain a healthy weight (Epstein 1996). Obesity, which is caused by an imbalance of energy intake and expenditure, is becoming increasingly prevalent among young people, and consequently are diseases for which obesity is a risk factor. Recent studies on diabetes show that the adult onset of diabetes (type 2 diabetes) is in fact no longer limited to adults. Research suggests that sedentary behavior among children contributes to their obesity and obesity hinders young people from being more physically active (Stubbs and Lee 2004).

#### METHODOLOGY

The purpose of the study was to find out the health related fitness among the school students age ranged between 12 to 14 years to achieve this 500 students were selected from ten different schools in Chennai city. A BMI test was conducted among the selected sample and based on the BMI score they were categorized under four groups namely under weight (255), normal weight (141), over weight (66) and obese (38). The researcher reviewed

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the available scientific literatures to assess the analysis of health related fitness profile among school students. The variables selected for this study were Body composition, Muscular strength, Cardio respiratory endurance. Standardized tests were conducted to collect the required data and were statistically analyzed by the application of descriptive statistics and one way ANOVA was used. The Scheffe's post hoc test was used to find out the paired mean significance difference at 0.05 level. The results are presented below.

#### 1. Body Mass Index Status

Table-I: Showing the Percentage and Number of Subjects in Underweight, Normal Weight, Over Weight and Obese Category in Body Mass Index Status

Category	Under weight	Normal weight	Over weight	obese
Percentage	51%	28%	13%	8%
Number of students	255	141	66	38

Form the above table , it was observed that 51%(255 subjects) of the randomly selected 500 subjects for the Body Mass Index status analysis were in the underweight category, since their Body Mass Index scores fell less than 5<sup>th</sup> percentile. It was found 28% (141) of the subject were in the normal weight category, since their scores fell between 5<sup>th</sup> percentile and less than 85<sup>th</sup> percentile. It was found that 13% (66 subjects) of the subject were in the overweight category, since their scores fell between 85<sup>th</sup> percentile and less than 95<sup>th</sup> percentile. It was found that 8% (38 subjects) of them were in the obese category, since their scores fell to or above 95<sup>th</sup> percentile.

#### 2. Result of Muscular Strength

Table II: Computation of Analysis of ANOVA on Muscular Strength (Scores in Numbers)

Group I Under	Group II Normal	Group III Over Weight	Group IV Obesity	SV	DF	SS	MS	OF
Weight	Weight							
					3	1955.96	651.98	
8.95	11.60	7.41	4.29	В				
				w	496	37023.9	7.47	87.33*

\*significant

Table II shows that the muscular strength the means of were 8.95 for group I, 11.6 for group II, 7.41 for group III and 4.29 for group IV respectively. The obtained 'F' ratio 87.33 was higher than the table 'F' ratio 2.62. Hence muscular strength was significant at 0.05 level of confidence for the degrees of freedom 3 and 496. Since the obtained value is greater than the table value, it is said to be significant. To find out the paired mean difference Scheffe's test was applied and was given below.

Group I	Group II	Group III	Group IV	MD	CI
Under Weight	Normal Weight	Over Weight	Obesity		
8.95	-	7.41	-	1.54*	0.82
-	11.60	7.41	-	4.19*	0.82
8.95	11.60	-	-	2.65*	0.82
-	-	7.41	4.29	3.12*	0.82
8.95	-	-	4.29	4.66*	0.82
-	11.60	-	4.29	7.31*	0.82

\* Significant

Table III shows that the mean difference of underweight group and overweight group, normal weight group and overweight group, underweight group and normal weight group, over weight group and obesity

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group, underweight group and obesity group and normal weight group and obesity group were 1.54, 4.19, 2.65, 3.12, 4.66, and 7.31 respectively. They were greater than the confidence interval value 0.82 at 0.05 level which indicates that there was significant difference among between underweight group and overweight group, normal weight group and overweight group, underweight group and normal weight group, over weight group and obesity group, underweight group and normal weight group and obesity group on muscular strength.

## 3. Result of Cardio Respiratory Endurance

#### Table- IV: Computation of Analysis of ANOVA on Cardio Respiratory Endurance (Scores in Numbers)

Group I Under Weight	Group II Normal Weight	Group III Over Weight	Group IV Obesity	SV	DF	SS	MS	OF
				В	3	8.13	2.71	
1.49	1.59	1.35	1.10	W	496	6.35	0.01	211.49*

The table value required for significance at 0.05 level of confidence with degree of freedom 3,496 is 2.43.

Table IV shows the analyzed data on cardio respiratory endurance the means of were 1.49 for group I, 1.59 for group II, 1.35 for group III and 1.10 for group IV respectively. The obtained 'F' ratio 211.49 was higher than the table 'F' ratio 2.62. Hence muscular endurance was significant at 0.05 level of confidence for the degrees of freedom 3and 496. Since the obtained value is greater than the table value, it is said to be significant. To find out the paired mean difference Scheffe's test was applied and was given below.

Γable –V: Scheffe's Confidence Interval	<b>Test Scores on Cardio Respirat</b>	tory Endurance (Scores in Numbers
---	---------------------------------------	-----------------------------------

Group I	Group II	Group III	Group IV	MD	CI
Under Weight	Normal Weight	Over Weight	Obesity		
1.49	-	1.35	-	0.13*	0.03
-	1.59	1.35	-	0.24*	0.03
1.49	1.59	-	-	0.10*	0.03
-	-	1.35	1.10	0.25*	0.03
1.49	-	-	1.10	0.38*	0.03
-	1.59	-	1.10	0.49*	0.03

#### \* Significant

Table V shows that the mean difference of underweight group and overweight group, normal weight group and overweight group, underweight group and normal weight group, over weight group and obesity group, underweight group and obesity group and normal weight group and obesity group were 0.13, 0.24, 0.10, 0.25, 0.38 and 0.49 respectively. They were greater than the confidence interval value 0.03 at 0.05 level which indicates that there was significant among between underweight group and overweight group, normal weight group and overweight group, underweight group and normal weight group and overweight group and obesity group and normal weight group, over weight group and obesity group and obesity group and normal weight group, over weight group and obesity group and normal weight group and obesity group on cardio respiratory endurance.

#### **Discussion on the Findings**

The result on the muscular strength was presented in the table II proved that there was significance difference among the underweight, normal weight, overweight, obesity group. The obtained 'F' value of 87.33 was greater than the required table value of 2.62 to be significant at 0.05 level. The investigator subjected the adjusted means for post hoc analysis of the means through scheffe's confidence interval test. Te obtained result presented in the table V and the result proved that normal weight group shows significant improvement in

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muscular strength shows better improvement than the underweight, overweight and obesity group. The result on the cardio respiratory endurance was presented in the table VIII proved that there was significance difference among the underweight, normal weight, overweight, obesity group. The obtained 'F' value of 211.49 was greater than the required table value of 2.62 to be significant at 0.0 level. Since there was significant. The investigator subjected the adjusted means for post hoc analysis of the means through scheffe's confidence interval test. Te obtained result presented in the table IX and the result proved that normal weight group shows significant improvement in cardio respiratory endurance shows better improvement than the underweight, overweight and obesity group.

#### Conclusions

It was concluded that there was significant deference among underweight, normal weight, over weight and obese on health related fitness variables

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