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A Study On Postural Assessment Of High School Boys In Mysore City

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INTRODUCTION

Posture is often defined as the relative arrangement of body parts. Good posture is the state of muscular and skeletal balance that protects the body structures against injury or progressive deformity independent of the attitude (erect, lying, stooping, bent) in which these structures are working or resting. Under such conditions, muscles work more efficiently, and ideal positions are allocated to the thoracic and abdominal organs. (Kendall FP, 1986 & Knoplich J, 1986). Bad posture is a defective relationship between the several parts of the body that produces greater tension in the supportive structures, and where a less efficient body balance on the supportive base occurs. There are natural and unnatural factors that can influence the subject's posture, such as heredity, the environment or physical conditions in which the subject lives, socioeconomic level, emotional factors, and physiologic alterations due to human growth and development. The pre-pubertal phase and puberty are periods of life during which the posture undergoes many adjustments and adaptations due to changes in the body and to demanding psychosocial factors. Between 7 and 12 years of age, a child´s posture undergoes a big transformation to reach a compatible balance with the new corporal proportions. Bankoff and Brighetti (1986) discuss the question of the formation of the body schema in childhood through the motor experiences during this period and how an imbalance in the tonic-postural structure can last for the entire adolescence and adult life. Pires et al.(1990), report that improper postures adopted by children at home and school cause an imbalance in the body musculature, resulting in postural alterations, and they assert that vigilance by parents and teachers is very important for the timely correction of postural deviations so as to avoid permanent deformities. The identification of the postural habits adopted by children and the postural alterations that often result is important for prevention (Pereira APB, 2001), to encourage a healthier posture for children, and to prevent resulting painful syndromes or injures. Therefore, the main objectives of this study were to identify which postural alterations occur most frequently in students between thirteen (13) to ten (10) years of age and to provide information to parents and teachers about the problem of bad posture.

METHODS

The present study were selected 360 samples and assessed one hundred and twenty (120) high school boys in each of three (3) age groups between 13 to 15 years of age (Table1). The children were selected randomly, and the exclusion criteria were students with neuromuscular and/ or traumatic pathologies.

Table 1. Description of children age groups as employed in this repost.

Sl. No.	Group of Classification	Age
1	13 years old	12 years 6 months to 13 years 5 months
2	14 years old	13 years 6 months to 14 years 5 months
3	15 years old	14 years 6 months to 15 years 5 months

Procedures

The data were collected at the high school in the Mysore city. The students´ parents were notified through a letter with information about the postural examination, and signed the informed consent. After the postural assessment, the students with significant postural alterations were referred to the physiotherapy team. A class entitled Posture Day for parents, students, and school employees, but primarily for teachers, was given to provide information about the problem of bad posture.

A New York posture rating chat was used for the postural assessment. The reference points of Kendall et al.1 were used as normal parameters. Each student had the following bone references marked as follows: cervical (C5 and C7), thoracic (T2 and T7), lumbar (L1 and L5), and sacral (S1) spinous

process;

The postural assessment was made Static standing postur of the students made in the orthostatic posture in the sagittal and frontal planes. In the sagittal plane, the following alterations were analyzed: Lumbar hyperlordosis, thoracic hyperkyphosis, medial rotation of the shoulder, cervical hyperlordosis. Additionally, in the frontal plane, the following were analyzed: lateral pelvic inclination; shoulder imbalance; head tilt;

RESULTS

Table 2 - comparison among the postural deviations of the spinal deformity in 13 to 15 years high school boys

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Sl. No.	**Postural Variations**	**13 year old Boys**	**14 year old Boys**	**15 year old Boys**
1	Thoracic kyposis	24.99%	28.33%	44.99%
2	Lumber lordosis	51.66%	56.66%	57.49%
3	Scoliosis	37.89%	42.49%	64.99%

Figure 1. Comparison among the postural deviations of the spinal deformity

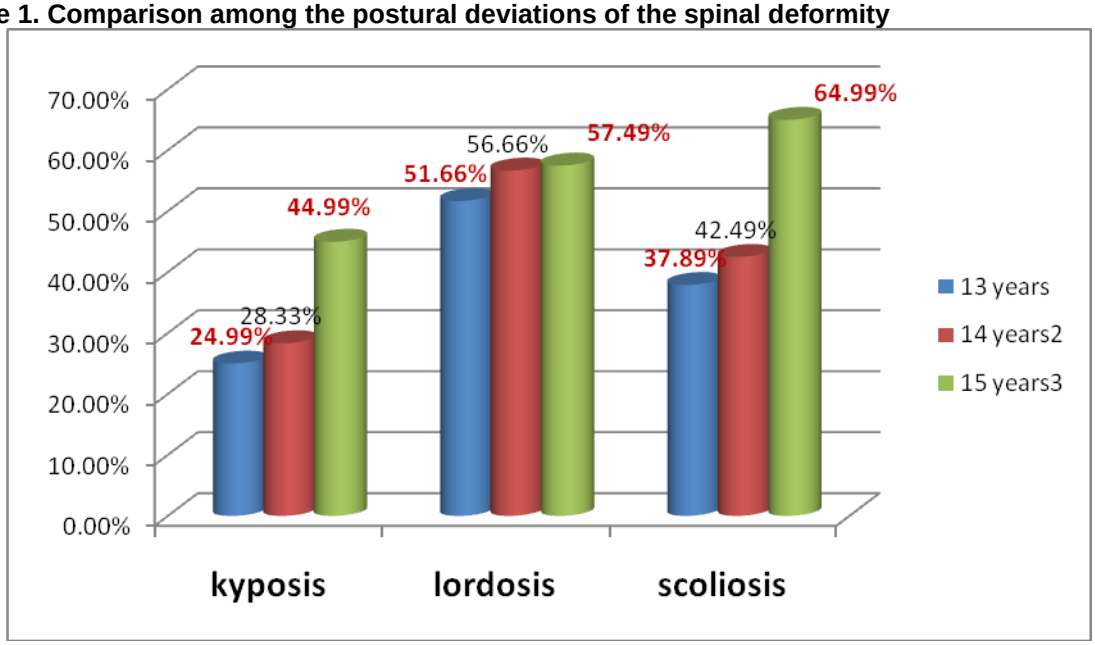
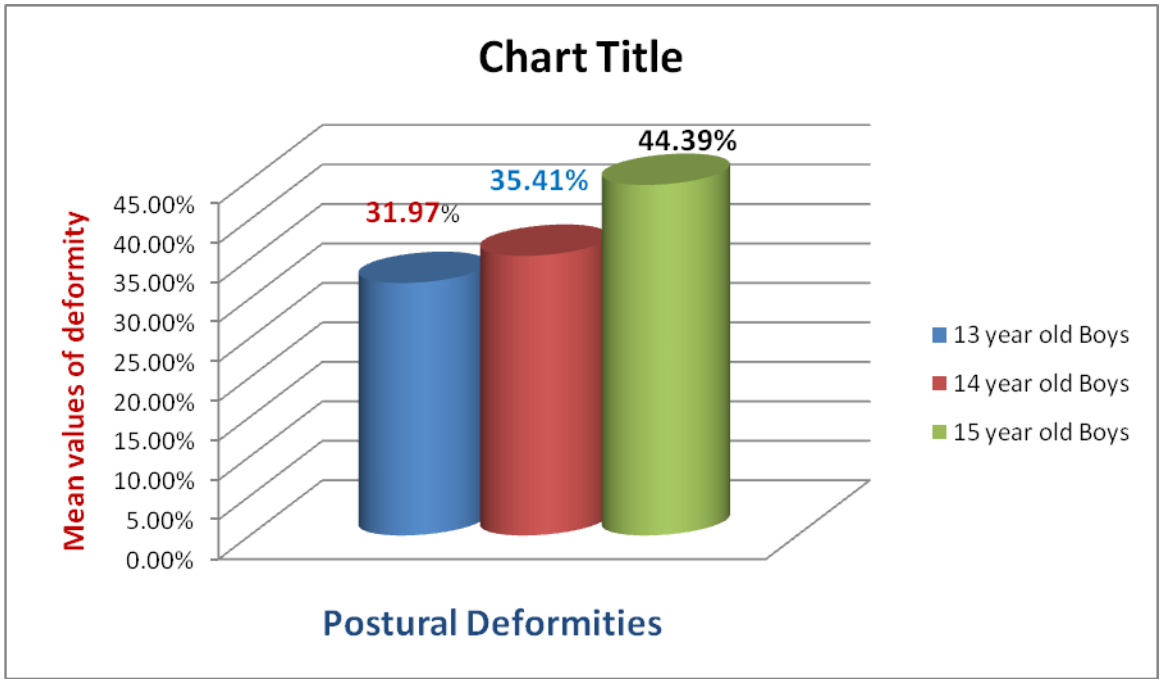


Table 3. Comparison of mean values among the postural deviations with all students

Postural deviation		13 year old Boys	14 year old Boys	15 year old Boys
	Sd. Deviations	0.1333736	0.14165	0.1010363
	Mean Per cent	31.97 %	35.41%	44.39%

Figure 2. Comparison among the postural deviations of the spinal deformity



In the table 3 depict the results of mean of postural deformity was 31.97, 35.41 and 44.39 per cent in age 13, 14 and 15 years age high school boys respectively. The researcher was comparing the mean values between three categories. The Mean deference was found 3.44 and 12.14 with respectively to 14 and 15 years old high school boys with 13 years old boys. This results show that more percentage of deformity has been in 14 and 15 years high school boys then 13 years old boys.

DISCUSSION

A child is not supposed to have an adult´s standard alignment, because greater mobility and flexibility occur during development. The large range of motion in the child may cause temporary deviations in the alignment that would be considered abnormal in adults. At the same time, this flexibility in a certain way protects against fixed postural malalignment. In this study, the frequencies of the lumbar hyperlordosis are postural deviations that have as a common cause a deficit of abdominal restraint (Pinho RA 1995, Rosa Neto FN 1991, Bertoldi LF 2001). Abdominal protrusion relates directly to the mentioned alterations in an attempt to correct the anteroposterior balance that is compromised. The muscles of the antero-lateral abdominal wall have the postural function of abdominal restraint – stabilizing the lumbar spine when these muscles are in balance with the lumbar para-vertebral – and of pelvic retroversion (Tanaka C, 1997). During the child´s development, the abdominal work becomes more effective, which occurs mainly between 13 and 15 years of age, with the decrease of the waist line and of the abdominal protrusion. This fact may be one of the reasons for the progressive decrease of the pelvic anteversion, lumbar hyperlordosis. These deviations decreased with increasing age for all the age groups in this study, In his sample, Rosa Neto (1991), obtained results that indicated a lower frequency of pelvic anteversion: 15.2% without distinction among the ages groups.

Shoulder imbalance may be related to the subject´s side dominance(Kendall FP, 1995). Raine and Tworney (1997), discussed this relationship, stating that the lower shoulder would correspond to the dominant side. Nevertheless, they point out that this difference is very small and may not be discerned clinically. They do note that they found the right shoulder to be more frequently lower by one degree than the left one. This postural alteration may also be associated with muscular asymmetry, lateral spine deviation (Fornasari CA, 1994) or to lateral pelvic inclination, being harmful when it is accentuated. During the school years, the child´s posture is subjected to many influences, and some alterations may appear due to improper postural habits (Casarotto RA, 1994).

The influence of transportation of school materials on the occurrence of the postural deviations (eg shoulder imbalance and scoliosis) in students was investigated by Rebellato et al. who assessed the way of carrying the backpack, the weight of school materials, the average forces on the muscular groups responsible for the maintenance of the transported load, and the postural alterations observed during the

use of the backpack. The slight spine deviation towards the contra lateral higher hip can appear as early as in 13 and 15 year-olds, with a compensating lower shoulder on the higher hip side. Scoliosis was observed in 36% of the 13 year-olds, 45% of the 14 year-olds, 52% of the 15 year-olds. Mota (1991), analyzed the incidence of scoliosis in a sample of 102 students (between 11 and 16 years of age) and found it to be higher among females, with 12.5% of girls presenting structural scoliosis and 25% a functional variant. A difference in the leg length greater than or equal to 1.5 cm is regarded as a significant alteration that may cause a postural deviation such as scoliosis (Magee DJ. , 2002). In our study, we found only a small incidence of significant lower limb length difference, both regarding real length as well as an apparent difference. Another notable postural alteration presented in this study was the increase of the thoracic hyperkyphosis. This increase is usually related to periods of rapid growth (Warner WC, 1996) and it can occur in subjects during the growth spurt of puberty, which is very important in boys, since there is a tendency to adopt this posture as a manner of hiding biological development. Since puberty can occur earlier for some people, perhaps this is the reason why increased thoracic hyperkyphosis was found in our study. Pinho and Duarte11 found similar values of thoracic hyperkyphosis among the ages (9% at 7 years, 17% at 8, and 10% at 9 and 10 years of age). Some authors have related scapular instability to the occurrence of thoracic hyperkyphosis (Bankoff ADP 1986, Ferronato A, 1998). In summary, the data from this study show that the posture assumed by the child is modified during the dynamic process of the neuro- psychomotor development. It has been noted several times that a disarrangement of posture can be physiologic during a certain phase of musculoskeletal system development, but later in development, it can be improper and cause harmful overloads to the body.

CONCLUSION

This study showed high incidences of postural alterations in school-aged children. Some of the postural alterations described, such as knock-knee, medial rotation of hip, and lumbar hyperlordosis, reflect normal postural development, and they are corrected naturally during the children's growth. Other alterations, such as the scoliosis, are asymmetries that can be caused by daily demands on the body, including sitting in inadequately designed school furniture, practicing sedentary behavior, carrying heavy backpacks, and wearing improper shoes. However, there is little information characterizing postural standards for children. There are not much studies on some of the postural alterations. Therefore, in this study we not only describe postural alterations occurring most often in children between 13 to 15 years of age, but also emphasize the importance of providing information to parents and teachers about the problem of bad posture and its possible negative consequences, including pain and functional impairment, to the quality of life both in childhood and adulthood.

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The Role Of Indoor Games On Mental Health At Different Age Groups

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Introduction
For thousands of years people have invented indoor games and sport to amuse themselves when confined within a house or building, later centuries co-related this amusement concepts of indoor games to rule out the mental related stress problems and cognitive dysfunction associated with psychiatric disabilities. Indoor game being a sportive amusement, hobbies, have also proved to boost up the mental status, I.Q of individuals at all age groups. Indoor games include Basketball, Chess, Card Games, Board Game, Table Top Game, each having their own specificity to increase I.Q. (Intelligence Quotient) level during its performance.

Objectives :
To assess the influence of indoor games on mental health in all different age groups like, childhood, teenage, adolescence, adulthood.Impact of particular indoor game on particular age group to perform I.Q. reading level before and after indoor activities. Difference of recovery of mental illness after ongoing indoor activity. Treatment of mental disorders through indoor activity.

Hypothesis :
There will be persistent influence of indoor game in mental development and boosting of memory at certain age groups. Indoor game simultaneously corrects the disorder related to mental illness by acting as a sort of mental therapy to excite memory cells
.

The Sample :
Keeping major objectives of the study in view appropriate design is adapted. The study was conducted on 200 samples among which childhood age (50 samples), teenage (50 samples), adolescence (50 samples), and adulthood (50 samples) of both age genders 25 each in each age group. Attempts will be made to categorize sample into equal sub group based on I.Q. this will be accounted for accessing for the mental development at particular age group under the influence of indoor activity. The sample design as under :

Age Group	Years	Male	Female	Total
Childhood	5 – 12	25	25	50
Teenage	13 – 22	25	25	50
Adolescent	23 – 30	25	25	50
Adulthood	31 – 40	25	25	50
Total		100	100	200

Tools :
I.Q. Skill (Wechsler Intelligence skill for children)Wechsler Adult Intelligence Scale (WAIS).
Mental Toughness questionnaire by Alan Goldberg (1995) Sportsman Personality Test (Indian Adaptation) by Dubey (2000) The self confidence questionnaire by M. Basavanna (1971)

Significance of the study:
Indoor games works as a boon for updating the memory by creating the necessity of thinking appropriately. It shows different degree of variation in I.Q. different age group.

Results :
The present study attempts to explore the role of I.Q. mental health, personality and self confidence among the male and female ranging from childhood to teenage to adolescent to finally adult sports persons. The sample was matched for three indoor games viz., Chess, Basketball and Play Cards. In the present study before and after mean were designed.

Table – 1

Showing relationship between independent psychological factors and dependent variables

Sl.No.	Variable	r-value
1.	Intelligent Quotient	
	a) Performance in Chess	0.290*
	b) Performance in Basketball	0.128 **
	c) Performance in Play Card	0.118*
2.	Sports Personality	
	a) Performance in Chess	0.124**
	b) Performance in Basketball	0.416**
	c) Performance in Play Card	0.408**
3.	Mental Health Inventory	
	a) Performance in Chess	0.231**
	b) Performance in Basketball	0.381**
	c) Performance in Play Card	0.218**
4.	Self Confidence	
	a) Performance in Chess	0.3150**
	b) Performance in Basketball	0.1764**
	c) Performance in Play Card	0.2834**

* Significant at 0.05 level ** Significant at 0.01 level *** Significant at 0.2 level

Conclusion:
The male and female players have the higher self confidence than those of females.
The male respondents have possessed more higher personality development than those of female.
Female child have greater sports personality than male child. Female child have greater self confidence and mental health inventory. In case of teenage, adolescent and adulthood, male had supremacy over female indoor game players in terms of self confidence, mental health inventory and sports personality.
Thus there is a significant sex difference in of self confidence, mental health inventory and sports personality. Younger group have significantly higher less sports personality, self confidence and mental health inventory There is a significant difference between two sub group of self confidence in indoor games self confidence respondents have performed significantly higher on all the three indoor games of chess, basketball and play card games.

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A Study On Adjustment And Personality Among Athletes And Non-Athletes

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Introduction :
A scientific knowledge of the nature of human beings and also of the process and conditions of their growth and development can be had only when a systematic study of the whole man is undertaken. The systematic study of the whole man is undertaken in two inseparable fields, identified as the psychology of adjustment and psychology of personality.

Adjustment :
It is a process, which includes many components such as home adjustment, health adjustment, submissive self assertion, emotionality, hostility friendliness, masculinity femininity etc.

Personality :
The individual characteristics and ways of behaving that, in their organization of patterning account for an individual's unique adjustments to his total environment.

Statement of the problem:

A study on adjustment and personality among athletes and non-athletes.

Objectives :

- To describe the nature of personality of athletes and non-athletes.
- To describe the nature of adjustment of athletes and non-athletes.
- To study the correlation existing between adjustment and personality.

Hypothesis :

There would be significant correlation between the adjustment and personality of athletes and non-athletes.

Results:

Correlation existing between adjustment and personality

Variables in relation	Coefficient of correlation
Adjustment and personality	0.367*

Significant at 0.05 level.The above table describes the nature of correlation existing between adjustment and personality. The coefficient of correlation is equal to 0.367, this indicates that there is a positive, noticeable, and significant correlation between adjustment and personality. The level of significance in 0.05. This means increase in any value increases the other.

Conclusions :

- In the present study the adjustment and the personality place an important role between these two psychological characters which will be improve the quality of psychology and fitness of athletes and non-athletes.

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Yoga and Pranayama: A View

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Abstract
Yoga breathing which is known as pranayama yoga is the first step toward re-orienting and improving the functioning of your mind and body by learning to optimize the breathing process. The Yogis were the first to discover the importance of oxygen and breathe control and devised an exact science of breathing. They called it PRANA-YAMA, from the Sanskrit word prana meaning breath, and Yama, its control or cessation. Pranayama includes following correct breathing technique and breath control.
Key words: Yoga, Prana, Apana, Udana, Samana, Vyan

Introduction
Pranayama is control of 'breathing'. Prama is 'breath' energy in the body. On subtle levels Prana represents the Pranic energy responsible for life force, and ayma means control so Pranayama is 'control of breath'.One can control the rhythms of pranic energy with pranayama and achieve healthy body and mind (Patañjali and Woods (transl.) 1914). Patanjali in his text of yoga sutras said 'pranayama as means of attaining higher states of awareness, he mentions the holding of breath as important practices of reaching samadhi' (MonierMonier Williams, 2019). Five types of prana are responsible for various pranic activities in the body, they are PRANA, APANA, VYAN, UDANA&SAMANA. Out of these PRANA and APANA are most important. Prana upward folwing and Apana is downward flowing(Yoga 2019). Practice of Pranayama achieves the balance in the activities of these prans, which results in healthy body and mind.

Stages of Yoga Breathing Process:
- Inhalation which is called (puraka), fills the lungs with air and stimulates the whole body.
- Retention, is called (kumbhaka) during retention the bodies temperature is raised and the oxygen is absorbed.
- Exhalation, is called (rechaka) here the diaphragm is returned to its original position and toxic air is released into the atmosphere (Phillips, Stephen H., 2013).

Types of Yoga Breathing (Pranayama):
Following are the pranayama exercises you can practice
- Rhythmic breathing and deep breathing Harmonies your body with your breath
- AlomVilom Ideal Pranayama for Healthy Heart
- Kapalabhati Ideal for respiratory system, boosts memory
- Agnisar Takes care of your abdomen/ digestive organs/intestines.
- Bhastrika Ideal for diseases of the nose, chest and cures Asthma
- Surya BhediWarms up the body in winters
- Chandra Bhedi Cools the body in summer
- Ujjayi Cures asthma, cough, cold and diseases of nose and ears
- Bhramri Pranayama Increases blood circulation, stimulates thyroid glands
- Shitali Pranayama Has a cooling effect, makes you beautiful
- Shitkari Pranayama Has a cooling effect, makes you beautiful

Benefits from Pranayama:
Benefits of pranayama are both tangible and intangible. God has provided prana, the supreme source of power free of cost to all human beings. Proper utilization of this free source of energy can make remarkable changes to our health, vitality and self-confidence (David Carpenter; Ian Whicher 2003).

Hence, we cannot simply equate prana with oxygen present in the air, the air we breathe is also filled with vital energy known as prana.All benefits of pranayama cannot be written down, there are lot of subtle changes like mental peace and clarity of thought that occur in our mind.

Reduced Breathing Rate:
With yoga breathing you can train yourself to breathe more slowly and more deeply. You can reduce your breathing rate from about fifteen breaths a minute to 5-6 breaths a minute, which amounts to reducing the breathing rate by one third. Reduced breathing rate leads to: According to Feuerstein, Georg (2019) some tips about inhalation and exhalation

- Slowing down the heart rate as more oxygen can be pumped even with less number of breaths. Follow the ration of 1:2 for inhalation: exhalation.
- Reduced wear and tear of internal organs.
- Lowering of blood pressure, relaxation of body tensions and quieter nerves.

Pranayama Practice Increases Life:
As per yoga philosophy, longevity depends on your breathing rate. Lowering of breathing rate is likely to increase your life. For example, a tortoise takes four to five breaths in a minute and it lives up to 200 years or more.

Blood Circulation Improves:
As a result of breathing, the freshly oxygenated blood (during inhalation) travels from lungs to the heart. The heart pumps it via arteries and blood vessels to every part of the body, where in turn it seeps into every tissue and cell. This improves the blood circulation and more oxygen/ prana or cosmic energy reaches all parts of your body.

Pranayama for Healthy Heart:
Our heart is the most industrious organ of our body. The heart beats 100,000 times a day. It is pumping blood day in and day out non-stop all your life. The health of your heart determines your life expectancy and quality of life in old age. More oxygen in the blood means more oxygen to muscles of the heart.

Benefits of Pranayama for Functioning of Body Organs:

- Better functioning of autonomic system improves the working of lungs, heart, diaphragm, abdomen, intestines, kidneys and pancreas.
- Digestive system improves and diseases pertaining to digestive organs are cured.
- General irritability due to lethargy/ fatigue vanishes.
- By pranayama practice all body organs gets more oxygen, toxins are removed from body, therefore onset of various diseases is prevented. Pranayama strengthens the immune system.

Mental Health Better:
Pranayama practice provides freedom from negative and harmful mental conditions like anger, depression, lasciviousness, greed for money, arrogance etc., (Iyengar, 2009).
With pranayama fluctuations of mind are controlled and it prepares the mind for meditation. With practice of pranayama, you will start experiencing lightness of body, feeling of inner peace, better sleep, better memory and better concentration whereby improving the spiritual powers/ skills.

Better Breathing Improves Quality of Life in Old Age:
As a person with sedentary lifestyle reaches middle age, lung tissues tend to grow less and less elastic and lung capacity decreases. Pranayama can help to reduce the effects of following old age problems:

- Loss of vitality.
- Accumulation of uric acid in the blood stream which often leads to frequent joint pains and discomfort.
- Backaches, headaches, rheumatism, stiffening muscles and joints.
- Proper circulation of blood is impeded by a sluggish diaphragm or hardening arteries.

Conclusion:
It is recommended to start learning pranayama from a yoga teacher without any delay in order to experience the immense benefits of pranayama. Benefits of yoga breathing can be realised only by experience. Establish a daily routine of yoga breathing exercises. If you want to start on your own, first start with rhythmic deep breathing to get into the rhythm.

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Individualized Effect And Compared Effect Of Various Muscle Specific Resistance Training On Selected Physiological And Psychological Variables Among Inter-Collegiate Hockey Players.

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ABSTRACT

The study was to find out the individualized effect and compared effect of various muscle specific resistance training on selected physiological and psychological variables among inter-collegiate hockey players. For this purpose sixty intercollegiate hockey players were selected from participants of district level inter-collegiate tournament. The subject's age ranged from 18 to 25 years. The subjects were divided into two equal groups of thirty each. Group-I underwent Various Muscle Specific Resistance Training Group (VMSRTG),Group – II acted as control group. The duration of the training period was restricted to twelve weeks and the number of sessions per week was confined to three. Analysis of Variance (ANOVA) was applied to determine whether the programmes of training produced significant improvements in selected variables after twelve weeks of training. After twelve weeks of various muscle specific resistance training the experimental group showed significant improvement on the selected physiological and psychological variables.

KEYWORDS: resistance training, anaerobic, anxiety.

INTRODUCTION

Resistance training is a form of exercise for the development of strength and size of skeletal muscles. Resistance training, also known as weight training, is for everyone. According to the American Sports Medicine Institute (ASMI) resistance training is a "specialized method of conditioning designed to increase muscle strength". Resistance training can be performed in a variety of ways with resistance machines, free-weights (dumbbells and barbells), rubber tubing, or own body weight, as in doing pushups, squats or abdominal crunches.

BENEFITS OF RESISTANCE TRAINING

As the goal of resistance training, the ASMI says, is to "gradually and progressively overload the musculoskeletal system so it gets stronger". Regular resistance training will strengthen the bones, and strengthen the muscles. According to **Keith Cinea**, any fitness programme should include resistance training, along with aerobic exercise and flexibility training. Aerobic workouts, which strengthen the cardiovascular system, focus primarily on the large muscle groups of the lower body. Strength training offers a way of balancing that out by challenging all the major muscle groups, including those in the chest, arms, back and abdomen. According to medical research, generally the resistance training strengthens the muscular system, strengthens the skeletal system, and improves bone density (decreases the chance of osteoporosis) and increases metabolism. So a well -planned resistance training program should be a part of everyone's health, fitness and lifestyle regardless of age, gender or goals.

STATEMENT OF THE PROBLEM

The present study was to find out the individualized effect and compared effect of various muscle specific resistance training on selected physiological and psychological variables among inter-collegiate hockey players.

Anaerobic power:
Anaerobic power is power used in high-intensity bouts of exercise lasting fewer than ten seconds; which is the peak amount of time for phosphocreatine reserves to empty as a primary fuel source.
The entire minute or two shift is primarily anaerobic. Goalies, who are typically on the ice for the entire 3-periods of play, will use more of a mix of energy systems (aerobic and anaerobic) and off-ice and on-ice hockey training typically is a mix of aerobic and anaerobic.

Anxiety:
Anxiety: A feeling of apprehension and fear, characterized by physical symptoms such as palpitations, sweating, and feelings of stress.

METHODOLOGY
For the purpose of this study 60 players were selected randomly from AcharyaNagarjuna university the age of the subject were in the range between 18 – 25 years. Anaerobic power and anxiety was selected as the study variables. All the subjects were divided into two equal group each group consist of 30 subject. The pre-test (initial) Margaria Kalamen power for anaerobic power and Questionnaire for anxiety was conducted and the performance was recorded for both the group. Group I underwent various muscle specific resistance training(VMSRTG) for 12 weeks and group II was not given any treatment after 12 weeks the post-test was conducted for group I and group II.

STATISTICAL TECHNIQUE
Analysis of Variance (ANOVA) was applied to determine whether the programmes of training produced significant improvements in selected variables after twelve weeks of training.

RESULTS

Table - 1
Computation of Analysis of Variance of pre and post-test for the group I and group II on anaerobicpower

Test	Group I	Group II	SV	SS	DF	MS	F-ratio
Pre test	9.65	9.67	Between	0.01	1	0.01	0.11
			Within	3.82	58	0.07	
Post test	9.92	9.68	Between	0.87	1	0.87	8.21*
			Within	6.12	58	0.11	

***significant at 0.05 level (4.01)**

The table I shows the pre and post-test mean of anaerobic power for the both groups. The pre-test means of the group I and group II were 9.65 and 9.67 respectively. The obtained F value on the pre-test score 0.11 was lesser than the table value 4.01 significant at 0.05 level. It proved that there was no significant difference between the group at the initial stage and randomization at the initial stage was equal post-test mean for the group I and group II were 9.92 and 9.68 respectively. The obtained F value on the post test score 8.21 was greater than the table 4.01 and was significant at 0.05 level. Post test score analysis proved that there was significant difference between the groups.

Figure I

Bar diagram showing the mean values of pre-test and post-test on Anaerobic Power of VMSRTG and CG

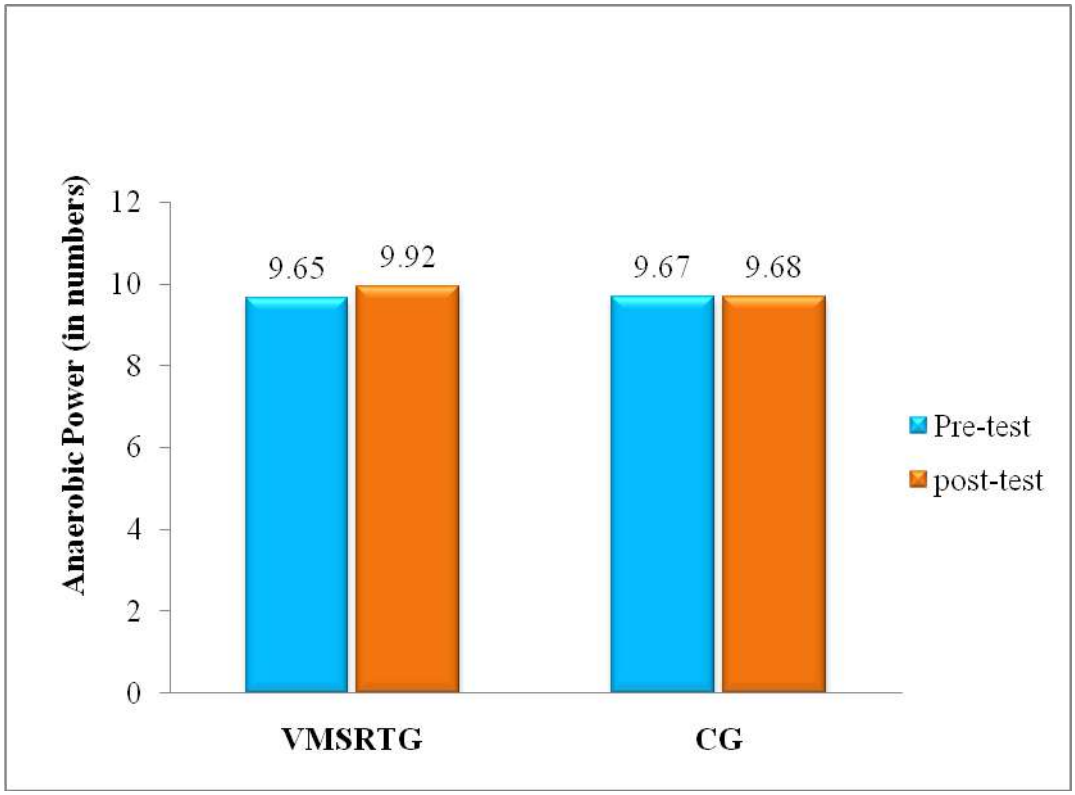


Table - II

Computation of Analysis of Variance of pre and post-test for the group I and group II on anxiety

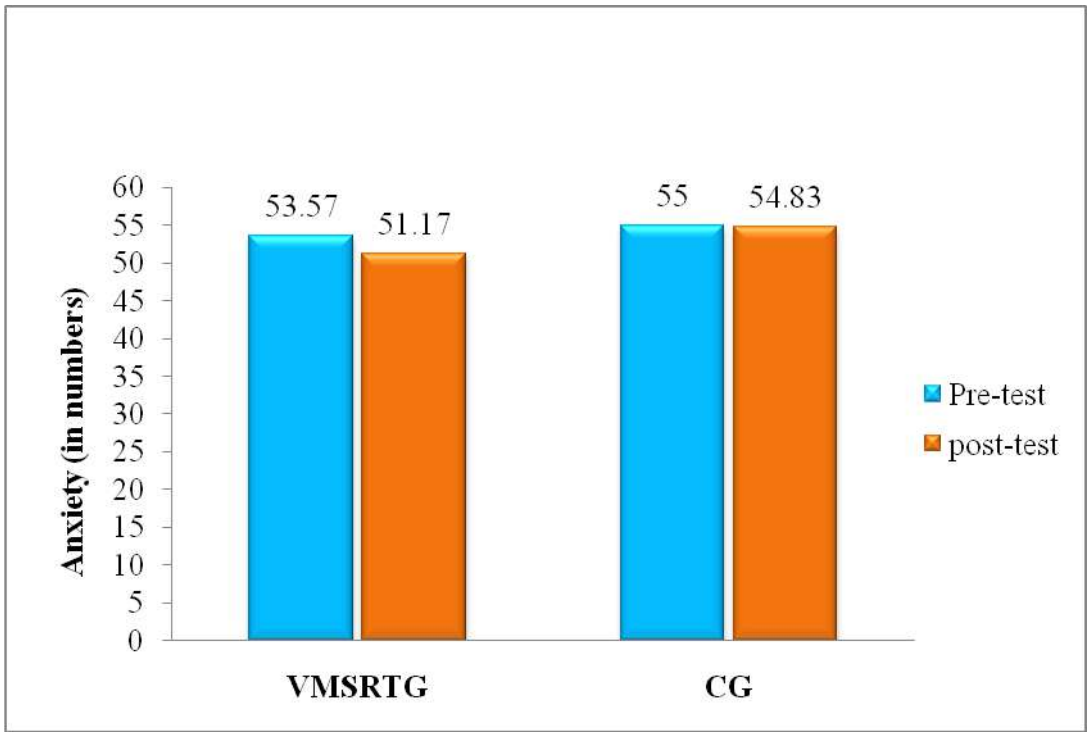
Test	Group I	Group II	SV	SS	DF	MS	F-ratio
Pre test	53.57	55.00	Between	30.82	1	30.82	1.24
			Within	1437.37	58	24.78	
Post test	51.17	54.83	Between	201.67	1	201.67	8.39*
			Within	1394.33	58	24.04	

***significant at 0.05 level (4.01)**

The table II shows the pre and post-test mean of anxiety for the both groups. The pre-test means of the group I and group II were 53.57 and 55.00 respectively. The obtained F value on the pre-test score 1.24 was lesser than the table value 4.01 significant at 0.05 level. It proved that there was no significant difference between the group at the initial stage and randomization at the initial stage was equal post-test mean for the group I and group II were 51.17 and 54.83 respectively. The obtained F value on the post test score 8.39 was greater than the table 4.01 and was significant at 0.05 level. Post test score analysis proved that there was significant difference between the groups.

Figure II

Bar diagram showing the mean values of pre-test and post-test on Anxiety of VMSRTG and CG



CONCLUSIONS

1. It was concluded that the experimental group made a significant changes on selected physiological and psychological variables namely anaerobic power and anxiety from base line to post test.
2. The control group did not show any significant difference in this study.

RECOMMENDATIONS

1. From the present study, it may be concluded that the improvement on selected physiological and psychological variables anaerobic power and anxiety. Hence, Trainers and Physical Educators could adopt such training to improve specific resistance training group among their athletes.
2. A similar study may be conducted by selecting on physiological and other performance factors as criterion variables.
3. A similar study may be attempted by selecting the school level hockey players as subjects.
4. A similar study may be conducted on female as subject.
5. A similar study may be undertaken to analyze the hematological factors.

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"FITNESS BETWEEN SELECTED TEAM GAMES"

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Introduction :

The games under study are team games. In any game physical fitness is a basic requirement, unless the individual physically and mental fit his performance may not be upto the mark. The action of the motor components will reflect in the performance of the team it means an individual member with less physical fitness will result in the inferior performance of the teams.

Statement of the problem:

The purpose of this study was to compare selected physical components among the selected team game volleyball, basketball, football and hockey players.

Delimitation:

1) The study was delimited to the selected physical components viz : muscular power, agility, muscular strength, muscular endurance, cardiovascular endurance, flexibility and speed.
2) Factors the study was delimited on selected team games of 20 male players of each game of volleyball, basketball, football and hockey.
3) Ranging between the age of 16 to 25 years.
4) The study is further delimited to the atleast participated in inter-collegiate tournament of Gulbarga University, Kalaburagi.

Limitation :

1) No attempts is made by the researcher to test other areas of physical components then speed, strength, agility, flexibility, co-ordination endurance and power, because of the greater expenditure and more number of tester required to test all areas of physical components.
2) The selected areas of physical components were determined only by field tests that have already been standardized and not by all controlled and more accurate. Laboratory tests because of non-availability of required instrument.
3) Since the subjects choosen cause from different colleges of Gulbarga University, Kalaburagi which are affiliated to university and they deferred in their routline life, habits and other environment factors which could not be controlled.

Objective of the study:

- If this study shows any significant difference in the physical components of volleyball, football, basketball and hockey players. The results of this study may be used to develop and improve the particular component of physical fitness in which the team is lacking.
- The findings of this study would add to the existing knowledge of physical educationalists, and useful to those involved in organization of sports and training to select individual who are more suited towards a particular sports according to level of physical components.
- The findings of this study may asserts in determining the degree and level of physical components required for volleyball, football, basketball and hockey players.

Hypothesis :

To achieve the purpose the study it is hypothesized that these would not be any significant difference in the level of physical components between volleyball, football, basketball and hockey players.

Results:

Table

Team Games variability in physical components

Components	Score of variance	Sum of squares	Mean squares variance	F-value	Critical difference
Muscular Power	Between groups	1.70	5.68	12.53	0.199
	Within groups	3.44	4.53		
Agility	Between groups	5.73	1.912	6.23	0.518
	Within groups	23.31	3.67		
Muscular Strength	Between groups	57.65	9.22	1.91	2.970
	Within groups	765.1	10.07		
Cardiovascular Endurance	Between groups	4615	1538	0.31	657.63
	Within groups	3752	4937		
Flexibility	Between groups	5.00	1.00	1.80	0.09
	Within groups	7.07	1.00		
Speed	Between groups	1.29	4.03	3.46	0.33
	Within groups	9.46	1.02		

Significant at 0.5 level Critical difference Scheffe's = 0.199.

Table shows that team game variability of group of volleyball, football, basketball and hockey in selected physical components. Whereas the muscular power 'F' value is 12.53, agility 0.5183, flexibility 1.80 and speed 3.46 are significant at 0.05 level of confidence with Schefee's critical difference value of 0.119, 0.5183, 1.80 and 3.46 respectively.

Conclusions :

- Significant difference was found in selected factors of physical components volleyball, football, basketball and hockey.
- The volleyball, football, basketball and hockey groups were found relatively equal in leg strength, indicating leg strength equally importance for volleyball, football, basketball and hockey. The volleyball and basketball players might have developed this quality by frequent indulging in vigorous leg action of jump and football player require larger amount of leg strength to kick for distance. The hockey group scored lowest in leg strength as little vigorous leg action are involved except running.

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"PHYSIOLOGICAL AND FITNESS IN RELATION TO AEROBIC PERFORMANCE ON PRE-UNIVERSITY BOYS"

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Introduction :

Physical education is an education through human movement where many of the education objectives are achieved by means of big muscle activities involving sports, games, gymnastic, dance and exercise. Optimum level of physical fitness is an ideal pre-requisite for the individuals to participate in such a kind of physical activity which required minimum or optimum amount of physical fitness and the development of the required physical fitness in an important aspect. But development of the physical fitness being the prime factor of consideration of the physical education and sports coacher around the world as it is essential for the participation of health fitness physical activity and highly skilled sporting activity.

Methodology :

For the purpose of this study pre-university boys were selected on the basis of coopers 12 meters run walk test. From the upper 30^{th} percentile 250 students were randomly selected for high aerobic capacity group and from the lower 30^{th} percentile 250 students were studying graduate course during the academic year. The subjects were free to withdraw their consent in any case of they felt any difficulty during testing period.

Statement of the problem:

1. The present study physical fitness has become most important element for pre-university boys. In order to guage physical and physiological variables among pre-university boys.
2. To compare the high and low aerobic capacities between the pre-university boys of Gulbarga district.

Hypothesis :

1. In present fitness study has become the most important element for all pre-university boys. In order to estimate physiological and fitness variables.

Objective of the study :

1. The study will help to prepare standard norms for selected physical physiological variables.
2. The result of the study will show the quantitatively the aerobic capacity and body composition.
3. The study will help to know the improvement of psychology content on the subject after high aerobic training.

Results :

Table – 1 Intra Class co-efficient of correlation of selected criterion variable

Sl.No.	Variables	r-ratio
1.	Physiological Variables	
	a) Resting heart rate	0.96*
	b) Resting respiratory rate	0.87*
	c) Resting systolic blood pressure	0.88*
	d) Resting diastolic blood pressure	0.88*

2.	Haematological variables	
	a) Haemoglobin	0.93*
	b) R.B.C. Count	0.92*
	c) WBC Count	0.89*
3.	Physical variables	
	a) Percentage of body fact	0.88*
	b) Lean body mass	0.94*
	c) Total body weight	0.90*

The test and re-test method was followed in order to establish reliability of data by using 10 subjects at random. All the variables selected in the present study were tested twice for the subjects by the quantity of personals under parallel situation. The introduction gathering of under studies co-efficient of connection was utilized to discover the reliability of the information as not compulsory and the results were displayed in above table.

Conclusions :

1. The resting cardiac rate the result of the study influences high aerobic group is lower as compared to significance level of low aerobic group, the study is influences to practice high aerobic activity to perform health life.
2. The resting respiratory rate, the result of the study is influences lower in high aerobic group as compared to significance level of low aerobic group; the study is influences to practice high aerobic activity to perform healthy life.
3. The systolic blood pressure, the result of the study is influences are lower in high aerobic group as compared to significance level the low aerobic group.
4. The diastolic circulatory strain, the result of the examination is influences are lower in high aerobic gathering as compared to significance level of the low aerobic gathering.
5. The haemoglobin content the result of the study is influences is high in high aerobic group as compared to significance level of low aerobic group.
6. The total RBC count is the result of the study is influences high in high aerobic compared to significances level of lower aerobic group.
7. The WBC count is lower in high Arabic group compared to significance level of low Arabic group. The study is influences to practice high aerobic activity to perform healthy life.
8. The total body weight the result of the study is influences is lower in high aerobic group compared to significance level of low aerobic group.
9. The lean body mass the result of the study is influences aerobic group is lower as compared to significance level of low aerobic group.
10. The percentage of body fat the result of the study is influences is lower in high aerobic group compared to significance level of low aerobic group.

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The Effectiveness Of Whole Body Cryotherapy (Wbc) Based On Perceived Recovery Measurement After Recovery Exercise Among Injured Athletes

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Abstract
The present study aims to determine the effectiveness of whole body cryotherapy on the recovery of injured athletes.
Procedure: In this study, 50 injured athletes were selected as the subjects of the study. Each study subject received two sessions of whole body cryotherapy. The recovery related tests were applied on the subjects in three time periods of pre-test, post-test and follow up (one moth) .The perceived recovery status scale(PRSS) was used as the rating scale for the recovery of injured athletes. The data was analyzed using repeated measure Anova test.
Findings: whole body cryotherapy significantly improved recovery of injured athletes. ($p < 0.01$).
Result: There is a significant difference between pre-test post-test and follow-up of study group on effect of whole body cryotherapy in relation to recovery of injured athletes.
Key words: whole body cryotherapy (WBC), injured athletes, range of motion (ROM)

Introduction

Experiencing an injury is one of the most traumatic things to happen to an athlete, yet no athlete is immune to injury despite experience or ability (Lattimore, 2017).A sport injury can be referred to any injury, pain or physical damage that happens due to sport, workouts or physical activities andwhich can be acute or chronic. Sport injuries are mostly related to musculoskeletal system which pertains muscles, bones, joints and tissues like ligaments and tendons. In modern competitive sport, injured athletes are under pressure to return to competition as early as possible, which is often a demand for both the sportsperson and the team management (Himmat Dhillon et al, 2017).It is the responsibly of coaches to ascertain the complete recovery of athlete and that the chosen recovery plan covers all aspects of a good rehabilitation process.Athletes' body tends to return to a normal state of health or recovery in many ways which significantly affects their performance depending on the duration of recovery and type of professional sport.Recovering from a sport injury can be a difficult and time consuming process (William Kraemer 2009).Athletes may regain their strength during the recovery process and can continue their sport activities. This transition is significant due to many reasons. While the athlete may be medically recoverable (i.e. flexibility, range of motion, strength and inflammation), preparation and returning to competition needs energy, speed and endurance restoration at the level of professional sport. The injured athlete needs to do additional effort to be able to compete again. Pre-competition preparation window is an important element in terms of athletic performance with the aim of improving oxygen uptake, cardiac output, blood flow to skeletal muscle and neuromuscular activation (McGowan CJ 2015). The athletes and their coaches desire to reduce the recovery time and therefore enhance the performance of athletes after injuries by different methods and technologies.WBC is relatively common technique in the context of athlete's recovery (Giovanni Lombardi et al, 2017).Nowadays whole body cryotherapy (WBC) has become one of the popular methods in sports medicine. (Lombardi et al 2017). WBC is increasingly accessible to athletes, and is purported to enhance recovery after exercise and facilitate rehabilitation post-injury (Bleakley CM 2014). Cryotherapy is commonly described as a procedure to relieve pain and to decrease inflammation in musculoskeletal problems (Banfi G 2010). It improves the recovery by enhancing oxygenation of working muscles and reduction of cardiovascular strength (Krüger et al., 2015), inducing peripheral vasoconstriction (Hornery et al,2005), lowering submaximal heart rate and increasing stroke volume (Zalewski et al,2014), stimulating parasympathetic

system and increasing norepinephrine (Hausswirth et al., 2013). These effects result in enhanced recovery and consequently analgesic effect (Kruger et al, 2015). WBC includes the exposure of body to extremely low temperature. The athlete stands in a chamber for a small time period (1-3 minutes) which results in lowering the skin temperature and stimulating the receptors (Lombardi G et al, 2017). WBC is not injurious or risky in physically fit subjects (Banfi G et al 2010).Unfortunately there are not much researches that have studied the effect of WBC on the recovery of injured athletes, therefore the current study seeks to assess the effectiveness of WBC on the injured athlete's recovery.

Methodology:

The present study is done with the pre-test, post-test and follow up (1 months) plan. The sample population includes the athletes with sport injuries (Cramp, soreness, sprain, strain, articular damage, dislocation, and bursitis). The study is conducted in Bangalore, Karnataka, India. The fifty available subjects were selected for the test. The inclusion criteria was the athletes with injuries and those employed as professional athletes. The participation in the test was voluntarily, with the subject's consent and the participants could leave the test whenever they wanted.

For the research implementation, 50 subjects were opted. The study group received two sessions of whole body cryotherapy in morning and evening sessions. The recovery related tests were applied on the injured athletes prior to first session and post to the second session and also in a follow up period (after one month). The scores were given based on the perceived recovery status scale. The following tools were used to collect the data:

The personal information questionnaire: This questionnaire is made by the researcher and assesses the personal information and the previously mentioned inclusion criteria.

Perceived recovery status scale (PRSS): The PRSS Scale was originally developed as a practical perceptual (psychobiological) means of predicting changes in performance during a series of high intensity exercise (sprinting) periods. The PRS scale, based on 1-10, matches up with the feeling of athletes about their recovery and also what can be expected from their performance.

The data were analyzed using SPSS-21 software and by the repeated measure Anova test. The dependent variable is WBC and the independent variable includes recovery of athlete. The significance level is 0.01.

Findings:

Out of 50 subjects, 29 were male and 21 were female. The mean and standard deviation (SD) of age of subjects in the study group were found to be 26 ± 4.14.The mean and SD of recovery score of injured athletes along with number of subjects is represented in table 1.

Table 1: Mean, standard deviation and number of the participants in three stages of pre-test, post-test and follow up

Variable	Mean	SD	No. of participants
Pre-test recovery	7.56	2.002	50
Post-test recovery	24.50	2.270	50
Follow up recovery	26.92	1.688	50

The table 2 illustrates the within subject effect for assessment of recovery in three measurement levels of pre-test, post-test and follow up.

Table 2 :tests of within subject effect for assessment of “recovery” in three measurement levels (pre-test, post-test, follow up)

Source of change	**Sum of squares**	**Df**	**Mean square**	**F**	SIG
Cryotherapy interaction with the group	11127.16	2	5563.58	1459.762	0.001
Error	373.50	98	3.81		

From the table 2 and with the emphasis on the value of F obtained from the effect of cryotherapy on the recovery with regard to three levels of measurement (pre-test, post-test, follow up) which is significant at the level of α=0.001, it can be raised that there is a significant difference between recovery in the three measurement levels; which can be observed by referring to the means in the descriptive statistics table. Also, the effect size value (0.96) in the last column of the above table, suggests that the rate of effect size of cryotherapy is very high on athlete’s recovery.
The effect size rate in three levels of measurement is observed in the figure 1.

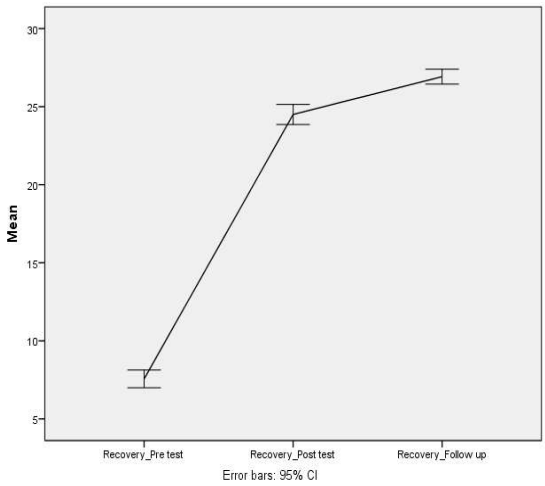

Figure 1: The effect size rate in three levels of measurement

Table 3: Bonferroni Post Hoc test related to the comparison of recovery in three level of measurement (pre-test, post-test, follow up)

Difference level Level of Significance	**Pre-test**	**Post-test**	**Follow up**
Pre-test		-16.94	-19.36
Post-test	0.001		-2.42
Follow-up	0.001	0.001	

From the table 3 and with the emphasis on the obtained values based on the values of means of Recovery of injured athletes in three levels, it is stated that there is a significant difference at the level of α=0.01 between the pretest with post-test, pre-test with the follow up and also post-test with the follow up.

Discussion and conclusion

The purpose of this study was to investigate the effectiveness of whole body cryotherapy on the recovery of injured athletes. The results from this study demonstrated that there is a significant difference between the pretest with post-test, pre-test with the follow up and also post-test with the follow up scores of recovery of athletes in the study group. In other words, whole body cryotherapy results in an increase in the recovery of injured athletes. In this context ,few studies were conducted on the effect of WBC on endocrine hormones, inflammatory markers, muscle damage parametes, fatigue recovery, pain and post exercise recovery of athletes. In the study by (Zimann et al.2012) the effect of whole body cryotherapy on blood cytokine profile was evident. Blood cytokine is pro-inflammatory factor which increases with excessive exercise and injury and is associated with increased catabolic processes which delays the recovery. Therefore, it is reasonable to note that the recovery improvement observed in this study is affected by cytokine reduction resulting from whole body cryotherapy. In another study by (Hausswirth et al., 2011) the effect of whole body cryotherapy on psychological recovery including decreased perception of muscular tiredness and pain was observed.As pain is directly related to swelling and inflammation, it can be stated that reducing in inflammation as a result of WBC can decrease the pain perception in injured athletes. Also (Kruger et al 2014) found an increase in oxygenation of the working muscles, as well as a reduction in cardiovascular strain. Oxygenation of muscles plays a huge role in muscle recovery. Thus, the enhancement in recovery observed in this study could be due to an increase in the level of muscle oxygenation that occurs as a result of cryotherapy in the body. In the final conclusion, it can be said that the above studies indirectly show that the use of cryotherapy can be effective in recovery improvement. Therefore, the present study directly addressed the effect of whole body cryotherapy on the injured athlete's recovery, and it was observed that whole body cryotherapy can improve the recovery of injured athletes. Thus, it is recommended that, considering the effect of whole body cryotherapy on the recovery of injured athletes, the coaches and elite athletes are more concerned about the role and importance of WBC as a new intervention for recovery of athletes. Thus, according to the findings of this study, it is recommended that sports coaches and elite athletes use a whole body cryotherapy to assist recovery after injury.

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"MENTAL TOUGHNESS AND SELF CONFIDENCE AMONG VOLLEYBALL PLAYERS"

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Introduction :

Mental toughness is a collection of attributes that allow a person to persevere through difficult circumstances (such as difficult training or difficult competitive situations in games) and emerge without losing confidence. In recent decades, the term ahs been commonly used by coaches, sport psychologist, sport commentators, and business leaders.Self confidence is essential an attitude which allows us to have a positive and realistic perception of ourselves and our abilities. It is characterized by personal attributes such as assertiveness, optimism, enthusiasm, affection, pride, independence, trust, the ability to handle criticism and emotional maturity.

Methodology :

Statement of the problem:

The purpose of the study mental toughness and self confidence among volleyball players and non-volleyball players.

Delimitations :

- The study will be delimited to university volleyball player.
- The study will be further delimited to age ranging 25 years.
- The study will be further confined to psychological variables.

Limitations :

- No motivational technique will be adopted to motivate the subjects.
- Special motivation techniques and verbal encouragement is provided throughout study.

Objectives :

- To find out the mental toughness of the volleyball player and non volleyball players.
- To find self confidence of the volleyball player and non volleyball players.

Hypothesis :

It is rather difficult to hypothesize since this study is related to volleyball and non volleyball players in relation to mental toughness and self confidence.

Results :

Table – 1
Mental Toughness of Volleyball players and Non-Volleyball Players

	M	SD	t-value
Volleyball Players	127.20	15.55	6.54**
Non Volleyball Players	145.10	11.00	

The mean score of volleyball players is higher than the non volleyball players. It shows that the volleyball players have high mental toughness and non volleyball players have low mental toughness. Because volleyball players involves in sports and physical activity that may represent resources, that do not only contribute to an increased well being, but also to an improved self confidence as a congnitive representation of volleyball players mental toughness status. When t-value is 6.54, so it indicates the significant difference between these two groups, statistically significant at 0.05 level.

Table 2
Mental Toughness Level of Volley and Non-Volleyball Players on age factor

Sources	Age	Mean	SD	t-value
Volleyball Players	<25	130.20	16.70	1.61*
	>25	125.44	18.43	
Non volleyball Players	<25	145.23	10.55	0.53
	>25	144.12	9.88	

The mean score of below 25 age volleyball players is higher than the above 25 age volleyball players. It shows that the above 25 age. Volleyball players the better mental toughness than the below 25 age volleyball players. Because the above 25 age volleyball players are have more experiences, mentally matured in the game and also well settled in their life. When t-value was applied to know the significant difference it was found that obtained t-value is 1.61, so it indicates the significant difference between these two age groups of volleyball players. Statistically significant at 0.05 level.

Conclusions :

- The volleyball players have high mental toughness and non volleyball players have low mental toughness.
- The above 25 age volleyball players have better mental toughness than the below 25 age non volleyball players.

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SPORTS ORGANIZATION AND PROMOTION: SPORTS POLICIES EXAMPLES AND A PLAN FOR SPORTS

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INTRODUCTION:

A look at the Olympics medals table or at the achievements of top performers at world meets compulsively prompts the question how they didit knows on the field of sports and games are by no means plums sought and obtained the easy way. Much sweat and toil. As well as imagination and organized planning of years have invariably been the plinth and foundation of success of countries like the USA, USSR,UK, and others. While it would be neither feasible nor possible to graft wholesale the sports systems of other nations howsoever successful on ours, it would be appreciated that they do provide some clear guidelines for endeavour and success in the field of sports. Systems of sports promotion and organization in these countries which have advanced the farthest in sports vary a great deal depending on the pattern of society they live in. But the principle of catching “em young” is common to all. Neither it is necessary to tarry long on this universally accepted principle. Mass participation and a streamlined organization is the broad pattern of sports in socialist countries. Excellence in sports in achieved largely through the various sports Association and social groups in other where not only fun by fame and fortune supply the motive force for escalating success.

UNITED STATES OF AMERICA:

The apex organization in the country the governs all sports and games represented at the Olympiad is the Amateur Athletics Union of the United States. It is a union of 55 district associations with more than 3,500 members units and physical fitnessactivities for at least eight million citizens. About 10,000 members representing the AAU. Plan conducts the sports programmers at all levels of competition and in every section of the country. As an umbrella type organization, the AAU is the rallying groups for all amateurs taking part or interested in sports under it jurisdiction. It has the largest representation in the US Olympic Committee. The US Olympic Committee is in charge of all phases of US participation in the Olympic Games. All the important track and field competitions in the USA are on an amateur, non professional basis. These competitions are under the supervision of separate Sports Governing Bodies. Voluntary bodies like the YMCA. Have played a notable role in sports promotion in the USA.

The USSR. :

Compulsory physical training begins at the kinder garden stage and continues right through the schools, and higher educational institutions. The amateur sports movement covers all who join sports societies and engage themselves in the various sports at their place of work or study. It extends to physical culture groups or sports clubs organized at factories, construction sites, offices and the collective and the state farms. Any wage-earner has the right to join the sports club of the organization at which he works. There are over 2, 10,000 such sports groups and clubs in the Soviet Union. Besides separate sports societies for the towns and the countywide in each Republic of the Union, the USSR has 37 sports societies’ comprising 46 million sports enthusiasts. A Physical Colure and Sports committee functioning under the Union’s Council of Ministers manages sports activities in the country. It also coordinates the work of sports societies and federations. The Soviet Union has set very high standards for its sportsmen and women under different classifications. Soviet sportsmen and women winning the Olympic, world or European titles are awarded the honorary title or “Merited Master of sports of the USSR”. There are 23 stated institutes of Physical Culture or train coaches and Physical Training Instructors besides a number of physical training institutes and schools or physical culture located at

canters throughout the country.

The UK. :

An important feature of British sports and recreation is its amateur element. The government is not directly concerned with the organization of sport and recreation but there is a minister in the Department of the Environment who has responsibility for the coordination of policies in the field. The Government provides financial and other assistance for the promotion of sports through a number of bodies like the sports councils. The main responsibility for the general development of sports in Britain rests which the Sports Councils for each of the three regions. In addition to the British Olympic Association, there are a number of voluntary organizations whose activities are concerned with recreation. The sports council is lined with regional councils which in turn, work in the sphere of sports and recreation in liaison with local bodies.

THE GERMAN DEMOCRATIC REPUBLIC:

The spartakiad is a house hold world in the German Democratic Republic, where every third citizen takes part in one sport or the other. Almost all pupils are involved in these nation-wide competitions knows as the spartakiad children's and youth games. They are designed to arouse sports consciousness amongst the young and to pick the most talented for further training and specialization. In fact there is always a spartakiad in progress all the year round in one area of the GDR or the other. Millions of boys and girls pursue a sport of their choice after the school-level. This is apart from the compulsory physical education course they all have to undergo. Children attending the kindergarten from the age of their take part in all games and sports organized within their age groups. At the base of the Spartakiad movement competitions are held within a school in a number of events with the winners advancing to the next round. Winners at the school competitions graduate to the district level contests from where they qualify for the next stage covering competitions in all the counties.

A PLAN FOR SPORTS IN INDIA:

The All India Council of Sports has prepared a Draft National Sports Policy. The aim and objectives of the new sports policy are three-fold. The first is to inculcate sports and health consciousness amongst the masses for regular participation in games and sports. And top make the nation healthy and strong. The second is to improve the country's standards in sports and games so that the nation secures its rightful place in international competitions. And thirdly, it recognizes the need to provide all the necessary facilities and infrastructure essential for the promotion of better standards so performance in sports and games. The Idea underlying the new draft policy is the recognition of the right of every citizen to participate in the enjoy games, sports and recreational activities.

The salient points of the draft policy may be summarized as follows:

Sports and Physical Education must be made a compulsory subject in all schools and colleges. Sports must also become a compulsory feature of recreation in all factories and industries.

Rural Sports Canters:

The District sports councils should set up a net-work of rural sports canters. The Panchayati Raj department should help the District Councils in assessing the requirements of these centres.

Sports clubs:

The formation of large number of sports clubs should be encouraged. These will serve urban youth. Regular competitions should be arranged between such clubs within the same city and between the clubs in the various cities.

Sports Festivals:

Sports Festivals should be held at District headquarters once a year and in the state capital at regular intervals. These will help promote sports consciousness.

Indigenous and Traditional Sports:

Emphasis should be given to indigenous, traditional and rural sports like Kho-Kho, Kabaddi, Wrestling and the like. Yogic Exercises should also be propagated and widely practices and included in the schools syllabus as part of physical education.

National Physical Fitness Programme:

This programme which at present has an annual participation of about 25 lakh people must be re-oriented and implemented more meaningfully all over the country as a continuous programme. Audio-visual publicity and propagation through mass media would help in not only follow up and feedback but in its further popularization.

Role of Mass Media:

Mass media, like AIR, Print media and Electronic Media must be effectively involved in promoting sports and health consciousness and inculcating the habit of physical exercises as a way of life. They must also consider devoting more time to games and sports. TV and AIR may develop a policy for popularization of games and sports. The Firms Division can help in these programmers by developing films libraries and in promoting the distribution of films on physical education, sports and games.

Voluntary sports agencies:

A board base for sports can be established in the country by securing the assistance of private sports promoting agencies.

Sporting talent:

This should be the responsibility of the States Sports Councils, the District Sports Councils and the Schools' Games Federation. At the national level, NIS, Patiala, should work in collaboration with the National Sports Federations in coordinating the developing this programme. District and state sports councils should be set up wherever they do now exist. They should undertake functions like organizing sports festivals at all levels starting with villages, districts and the state level.

The All India Council of Sports should be vested with more powers to make its role much more effective as a coordinating and supervising body for the promotion of sports in the country.

National Games:

The Indian Olympic Association should hold national games once in every two year i.e. six months before the Olympics and six months before the Asian Games. The minimum facilities for the various sports and games should be provided at the village, and district, state and national levels. These should include laying tracks for athletics and playfields for Basketball, Football, Kho-Kho, Kabaddi, Wrestling or any other games popularly in the area the village and taluka levels. More facilities with large sized stadia must be set up both at the state and national levels.

Similar facilities must be made available at schools and colleges which should have separate Cricket, hockey and Football fields and courts for Basketball, Volleyball, and other games along with swimming pools and Gymnasia for multipurpose activities. These facilities must be enlarged at the university level.

Preparations for International Competitions:

The various agencies should devote more resources primarily on games and sports at which India has a reasonably good chance of doing well with emphasis on Hockey and Athletics. Adequate training must be imparted at the various coaching institutes and camps much in advance of the competitions.

Sports for Women:

The National Sports Festival of Women which should be preceded by state level and district level festivals for women to be arranged by the State Sports Councils and the District Sports Councils respectively, should continue to be held regularly and should include more and more games and sports.

Special programmes for Tribal Areas:

Disciplines which are more popular and in which the tribal belts have a long standing tradition like Hockey, Track and field events etc. may be assigned to tribal areas. Special programs for these areas should be planned by the concerned States' Sports Councils.

Separate Ministry/Department of Sports:

It is necessary to set up a separate Department of Sports and Physical Education, both at the central and the states.

Implementation of the policy:

The Central and the State Government must draws up Annual and Five Year Plans to implement in stage the suggestions made in the policy. They must also be asked to present the annual reports reviewing the implementation of the policy.

Review of National Policy:

The national policy on sports may be reviewed by the government after every five years in consolation with the all india council of sports.

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Emerging issues in Child & Importance of Exercise for Health of Children

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INTRODUCTION:

Physical activity in Children is important for a wide variety of reasons. it helps to reduce overweight and obesity, increase strength in muscles and bones and can even improve concentration at schools. Exercise is a vital component of any child's development-laying the foundations for a healthy life. India has emerged as the world capital for heart disease. It has been estimated that Indians are nearly four times more susceptible to heart attacks than white Americans. According to World Health Organization (WHO), 60 percent of the World's cardiac patients will be Indian by 2030. Nearly 50 percent of cardiovascular related deaths in Indian occur below the age of 70, compared with about 22 percent in the west. Additional the prevalence of diabetes, obesity and Arthritis are increased day by day. This is due to more intake of high calorie (less nutritive) Junk food, lack of exercise/physical activity, and mental stress. Because of sedentary life and stress bodies are finding it difficult to make a metabolic, U-tern resisting insulin intolerance with raised level of diabetes and obesity.Exercise and physical activity plays an important role in delaying or preventing the onset of lifestyle diseases. Such as diabetes, heart disease and obesity etc. It was observed from some researches people who are exercising regularly, less likely to experience diabetes, heart problems and obesity than those who are not exercises. Thus exercise and physical activity is more important factor which is must to maintain health and wellness of an individual. Exercise helps to maintain health and wellness by improving digestion and absorption of food, maintaining composition of blood component level, improving muscle contraction, relaxation and coordination, stimulating nervous, immune endocrine system. So, regular exercise is beneficial for improving health and wellness.

EXERCISE AND ITS EFFECTS ON PHYSICAL FITNESS EXERCISE AND WEIGHT MANAGEMENT:-

Exercise burns calories which will help to maintain a healthy weight, exercise also promotes fat loss and builds muscle. This increases basal metabolic rate o/s the body, which is the rate at which you burn calories, ever after you have finished exercising. Weight loss by reducing your calorie intake without exercise have opposite effect which causes break down of muscles, which ultimately lowers your metabolic rate and makes losing weight even harder. People who want to lose weight should go on dieting with exercise.

How many calories do you burn?

Sr. No.	Intensity of Activity	Calories/hour	Activities
1	2	3	4
1	Low intensity activities	150-240 kcal/h.	Cricket, Strolling 1 mile/hour cycling on a level surface, 5 mph. Gardening.playing minor games and indiginios games
2	Medium intensity activities	300-460 kcal/h.	Cycling 8k mph Tennis (doubles) Skating ,kabaddi and kho-kho.
3	High intensity of activities.	500 kcal/h.	Jogging 5 mph, Cycling 12 mph., Basketball, cross-country Boxing,wrestling,Football and skiing 4k. mph.

2. EXERCISE AND DIABETES:-

Body changes most of the food what we eat into glucose (a form of sugar). Insulin is a hormone produced by the pancreas that allows glucose to enter all the cells of our body and be used as energy. Diabetes is a disease that occurs when a person's body doesn't make enough insulin or can't use insulin properly. In diabetes, the sugar builds up in your blood instead of moving into the cells. Too much sugar in the blood can lead to serious health problems, including heart disease and damage to the nerves and kidneys. There are two types of diabetes. Type 1 diabetes occurs when the body does not produce any insulin. In type 2 diabetes, the body either does not produce enough insulin or the cells ignore the insulin. Nearly 95% of people who are diagnosed with diabetes type- 2

EFFECT OF EXERCISE ON GLUCOSE LEVEL:-

Due to exercise, the glucose is metabolized in the body and thus normal blood sugar level is maintained. Regular exercise increases the body respond to insulin. Thus B cell of Pancreases stimulates and starts to produce insulin. So more amount of glucose is forced out of the bloodstream and enters into the cells, where it is utilized for the production of energy. Hence, this reduces the level of glucose in the blood. Exercise also increases the demands of muscles for glucose to reach muscular energy need. If the muscles are exercising or in the working order then require more glucose the muscles those are not in working order. Hence, this condition also lowers the blood sugar level. Exercise can improve circulation, especially in the arms and legs, where people with diabetes can have problems. Exercise also provides relief from stress, which is the major contributing factor in raising blood sugar levels. Exercise can possibly reduce the amount of medication. We need to treat diabetes. the child can live a healthy life.

EXERCISE AND HEART DISEASE :-

Exercise plays a role in delaying and preventing the onset of large blood vessel and heart disease, which is the leading killer of people with diabetes. Fat deposits around the heart and within major arteries, which supply blood to the heart, which can lead to a heart attack. By exercising regularly 3-4 times a week, the development of these diseases can be solved or even prevented.

Exercise strengthens the heart muscles and improves its pumping action; burns fat deposited in coronary artery, improve elasticity of the anterior wall and blood supply increase HDL Level and decreased cholesterol, triglycerides and other lipo protein level in blood. Maintain blood pressure. High cholesterol and blood pressure leads to heart attack or stroke. All these effects translate into reduced risk for heart disease, heart attack and stroke on children.

EXERCISE AND BONE:-

Exercise can also offer other benefits, including strengthening of muscles, increases flexibility and stronger bones which can help ward off the bone thinning condition called osteoporosis. helps the children

EXERCISE AND MENTAL STRESS:-

Regular activity also promises mental health benefits, like relieving stress and anxiety. It can help you sleep better and renew your energy. If exercise could be bottled, it would be a bestselling portion at the local pharmacy. it is beneficial to children.

CONCLUSION:-

Thus it can be concluded that exercise play a vital role in improving health by delaying or preventing lifestyle diseases such as diabetes, heart problems, blood pressure, bone diseases, mental stress, etc. so we should spent 1 hour regularly for exercise. Walking, swimming, jogging, gardening, bicycle riding are the best exercises. Walking seems to be the most convenient, safe and beneficial exercise for the majority of the Children.

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The Quantitative Analysis Of Skills Performance In Kho-Kho Game

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ABSTRACT: The purpose of the presents study to make quantitative analysis of skills used in the game of Kho-kho, the objectives of the study were to make quantitative assessment of offensive and defensive skills used by players and teams in kho-kho and different skills used by team players in the total number of matches that were observed and analyzed. The subjects were participants in the All India inter university Kho-Kho championship has been organized by Calicut University, Calicut. The teams that participated in the tournaments were university players has a reasonably good standard of performance for the purpose of the study only qualified for quarter finals and final considered for analysis. To obtain a greater degree of consistency five matches were observed for analysis purpose. Statistical techniques used: For the purpose of the study, percentage analyses were carried out. Result: 1) Most preferable offensive skill during the match was giving kho. 2) Least preferable offensive skill during the match was kicking the pole and returning. 3) Most preferable defensive skill during the match was medium ring. 4) Least preferable defensive skill during the match was 1-2 3-6 up.
Keywords: Kho-Kho, All-India, University, Performance, Offensive Skill, Defensive Skill, Quantitative Analysis,

INTRODUCTION

'The game Kho Kho had its origin in Maharashtra state and slowly spread throughout the length and breadth of India and subsequently to the neighbouring countries, Nepal, Bangladesh, Srilanka and Pakistan. According to the characteristics of the game, the players with different qualities and abilities play in different position in the game.The game can be played on any surface that suits open field sports. As on today it is played on grounds prepared from mud or even turf. Needless to say that synthetic ground and playing indoor is on card'. According to the characteristics of the game, the players with different qualities and abilities play in different position in the game. These positions are based on their called chasers, Dodgers and all-rounder's (offensive and defensive) [1]Sports performance depends upon several factors or aspects influencing sport performance are physical physiological psychological, nutrition, body composition climate, evaluation. Evaluation is an important aspect of sports performance which helps an individual to reach higher goals. Evaluation is done in the field of sports to know/study the performance, skill executed by individual or a group of individuals. Evaluation is a vital tool which motivates helps an individual to perform better. There are a number of types methods, techniques used in evaluating the performance in sports, analyses is classified into different types like.[2]Performance rating in team sports is a very hazardous task. Several factors are to be taken into consideration before rating the players' performance subjectively. It is imperative that the assessment should not be biased and it must follow certain standard. Players should be given equal opportunities to show their talent. In a game or in a competition, a player integrates variety of skills, strategy, tactics and the outcome is the performance. A holistic approach of assessment based on certain criteria helps in judging the performance, which provides constructive feedback.

- **Video Motion analysis**

It is a technique used to get information about moving object in real time from video. The technique usually involves a digital movie camera and a computer that has software allowing frame by frame playback of the video. The object is to improve individual and team performance and analyse opposition

II. Qualitative and Quantitative analysis

- Russell R. Pate [3] and others says, Qualitative analysis concentrates on general aspects of skill performance based on visual observation descriptive in nature. It provides the coach to provide the athlete with continual flow of feedback regarding the qualitative aspects of performance.

- **III. Notational analysis**

It is an emerging technology which is used in professional sports for competitive advantage. Play is analysed by annoying matches and players for tactics and techniques using a technique called notational analysis. Notational analysis studies gross movements or movement patterns in team sports, is primarily concerned with strategy and tactics. Patterns of play which had and did not lead to scoring against opponents can be identified this information is than exploited on subsequent matches.[4]Shantharaju (2007)[5] the performance of these skills undoubtedly demands the players to have a wide range of physical, motor and Psychology (cognitive) qualities. Singh[6] defines performance in sports is a unit of execution and result of sports action or a complex sequence of sports action measured or evaluated according to agreed and socially determined norms.R. Kalidasan, (2004)[7] briefed that, "Sports competitions have definite purposes. One of the purposes was to declare the winner. Schollarnder (2003),[8] was of the view that it were not physical, physiological, environmental and economic factors alone that influence sports performance, psychological factors were also playing dominant rolePaul G.Vogel Vern, (1986),[9] explained "performance in a given sports is a complex combination of several factors some dominating and others supportive.

OBJECTIVES OF THE STUDY

- To investigate the performance ability of kho-kho players from the study.
- To investigate the study were to make quantitative assessment of offensive and defensive skills
- To investigate the no difference among the state of Karnataka, Tamil Nadu, Kerala, Andrapradesh and Pondicherry among kho kho players on their performance ability.

LIMITATIONS

- The standard of performance of different players and their playing systems was considered a limitation.
- Motivational factors of the players at the game situation were considered a limitation of the study.
- Environmental factors at was also considered as one of the limitation of the study.

DELIMITATION

- The study was delimited to analysis of Kho-kho All India Inter-University Competition held at Calicut University, Calicut , Kerala
- The study was delimited to only selected five matches considered for video analysis
- The study was delimited to only male Kho-Kho players selected for study.

HYPOTHESIS

For the purpose of the present investigation, it was hypnotized that the selected all offensive and defensive skills were executed equally during the match.

METHODOLOGY

The purpose of the presents study to make quantitative analysis of skills used in the game of Kho-kho, the objectives of the study were to make quantitative assessment of offensive and defensive skills used by players and teams in kho-kho and different skills used by team players in the total number of matches that were observed and analysed All India inter-university tournaments organized by Calicut University, Calicut, were considered for the purpose of analysis in the present study. The teams that participated in the tournaments were university players has a reasonably good standard of performance for the purpose of the study only qualified for quarter finals and final considered for analysis. To obtain a greater degree of consistency five matches were observed for analysis purpose.

COLLECTION OF DATA

The following main skills in kho-kho game were selected as key elements for the purposes of analysis. The skills were included both with offensive skills and defensive skills.The selected offensive skills were giving kho to side, moving on the cross line, pole turn, giving kho after faking, shoulder tap, judgment kho, ground dive, pole dive, heel taping, kicking pole and returning and the defensive skills were medium ring, face entry, double chain wide ring, chain ring combination back ring, 1-4 5-6 up, 3-4 5-6 up, short ring, ring at the post, single chain 1-2-3-6 up were selected for the present study.A quantitative analysis with the use of the objective and reliable recording method either a check list or computerized recording appears to provide the most useful record of performance, computerized recording behind the reach of the investigator and hence, the investigator decided upon a check list for the purpose of scoring recording and analysis of skills. The investigator in consultation with the guide and with the help of five

members as experts, framed a check list, the check list was very simple, it contained the names of skills on the left side it was made simple to that it could be effectively and easily who were employed for the purpose.
The different skills were observed and points of each team count during the each match, the experts would just put a right mark or tick mark against skill performed by respective players or even put a tally mark on the check list, given to him. The tallies would continue as per the frequency tally for occurrence and each skill would be completed for each set till end of the match (for the entire match), similar tallies were made for all five matches. This frequently tallies of occurrence and skills represented the data for the present study (the relative frequencies of skills) occurrence. The skill performance by player and team were qualified through frequency tallies based on the frequency occurrence of skills during each match and all five matches. These qualified score represented the data for the present study.

RESULT:

The purpose of the study was to evaluate the skill performance executed in the kho-kho matches between the two teams ie, offensive and defensive skills executed by the players during the kho-kho matches. To accomplish the purpose of the study, the author collected the video coverage of 5 matches and All India Inter University Kho-Kho tournaments held at Calicut University, Calicut, To collect the data, slow motion, frame by frame movement of the video coverage was adopted and the various skills executed were noted for offensive and defensive skills separately and cumulated all the five matches skill by skill executors in the match.The method of collection of data were explained in details in chapter III methodology.The offensive skills are ; 'Giving Kho to side', 'Moving on the cross line', 'Pole turn', 'Giving Kho after taking', 'shoulder lap', 'Judgment Kho', 'Ground dive', 'pole dive', 'Heel taping', 'Late Kho', and 'Kicking the pole' and 'returning'The defensive skills are; medium ring, face entry, double chain, wide ring, Chain and ring combination, Back ring, 1-4 5-6 up, 3-4 5-6 up, Short ring, Kicking at the post, Single chain, 1-2-3-6 up.The data were tabulated and statistical analysis was made accordingly. To accomplish the purpose of the study, the following hypothesis was tested.Hypothesis: All the skills were executed equally during the match.To test the above hypothesis the following table was formed and statistical analysis were made subsequently.

Offensive and Defensive Skills

Offensive Skills			Defensive Skills		
Skills	Frequency	% age	Skills	Frequency	% age
Giving Kho to side	2041	57.8	Medium ring	310	15.9
Moving the cross line	435	12.3	Face entry	237	12.1
Pole turn	367	10.4	Double chain	236	12.1
Giving kho after taking	204	5.8	Wild ring	218	11.2
Shoulder tap	138	3.9	Chain & Ring Combination	159	8.1
Judgment kho	94	2.7	Back ring	152	7.8
Ground dive	72	2.0	1-4 5-6 up	138	7.1
Pole dive	62	1.8	3-4 5-6 up	133	6.8
Heel taping	60	1.7	Short ring	123	6.3
Late kho	46	1.3	Ring out the port	89	4.6
Kicking the pole and returning	15	0.4	Single chain	86	4.4
			1-2 3-6 up	71	3.7
	3534			1952	

From the above table, infer the following.

- **Offensive Skill Execution**

  Offensive Skill execution of the 3534 times execution of 11 different offensive skills, 2041 times (57.81%) the 'giving Kho to side' was executed, 435 times (12.3%) the 'moving on the cross line' was executed, 367 times (10.4%), the 'pole turn' was executed, 204 times (5.8%) the 'giving Kho after faking' was executed, 138 times (3.9%) the 'shoulder tap' was executed, 94 times (2.7%) the 'judgment Kho' was executed, 72 times (2.0%) the 'ground dive' was executed, 62 times (1.8%) the 'pole dive was executed, 60 times (1.7%) the 'heel taping' was executed, 46 times (1.3%) the 'late kho' was executed, 15 times (0.4%) the 'kicking the pole' and 'returning' was executed. From the above, we observe that the most preferable offensive skill during the match was 'giving kho to side' and least preferable offensive skill was 'kicking the pole and returning'.

❖ **Defensive Skill Execution**

Defensive Skill Execution of the 1952 times executors of 12 different defensive skills, 310 times (15.9%) the 'medium ring' was executed, 237 times (12.1%) the 'face entry', was executed, 236 times (12.1%) the 'double chain' was executed, 218 times (11.2%) the 'wide ring' was executed, 159 times (8.1%), the 'chain and ring combination' was executed, 152 times (7.8%) the 'back ring' was executed, 138 times (7.1%) the '1-4 5-6 up' was executed, 133 times (6.8%) the '3-4 5-6 up' was executed, 123 times (6.3%) the 'short ring' was executed, 89 times (4.6%) the 'ring at the post' was executed, 86 times (4.4%) the 'single chain' was executed, 71 times (3.6%) the '1-2 3-6 up' was executed. From the above we observe that the most preferable defensive skill during the match was 'medium ring' and the least preferable defensive skill during the match was '1-2 3-6 up'.From the above statistical analysis, we found that all the skills were not executed equally, have we reject the hypothesis that all the skills were executed equally during the match, and the following conclusions were made.

SUMMARY

The research revealed that in the offensive skills "Giving Kho to side" was dominant. It may be remembered that Kho-Kho is a game of chase. The offensive side continually pursues the defenders till the expiry of the stipulated time. Since the defenders predominantly use the chain form of skills, the attackers move close to the center lane and drop the "Kho's" as and when the defenders crisscross the center lane, and hence giving Kho found favourable among the chasers more dominantly than the others. Kicking the pole and returning was the least used offensive skill as per the research finding. Kicking the pole and returning requires. Concentration spatial perception and ability to judge the position of defender and the self Any slight mistake on the part of the executioner will lead to injury besides invoking penalty is most likely. Therefore, this is executed by the players of standing and hence found to be used less.Among the defensive skills 'Medium Ring' was found to be used very frequently. The discernible agree that though chain games are adopted by defenders to a large extent, the defenders need to be adept at using medium ring on various occasions, for instance an advance kho is given the defender has two options i) Stick to chain by returning, ii) Move towards side line. The first option is likely to land the defending team in distress as defender has least time to negotiate the situation as he has to make a 180^0 turn where his speed gets fully nullified. On the other hand by moving towards side line, the defender convert the linear speed into angular speed and still maintain adequate speed and still maintain adequate distance from would be attacker.As a variation of single or double chain 1-2-3-6 up is used It is normally used in lower level of competitions, as well as in girls and women section competitions. Thus 1-2-3-6 up was not found favourable in All India Inter University Kho-Kho Tournaments.

CONCLUSION

- Most preferable offensive skill during the match is 'giving kho'.
- Least preferable offensive skill during the match is 'kicking the pole and returning'.
- Most preferable defensive skill during the match is 'medium ring'.
- Least preferable defensive skill during the match is '1-2 3-6 up'.

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Introduction:

The coming of sports law under the ambit of competition law, whereby the inherently monopolistic like regulators must factor in regulatory and competitive policies in decision making in the sports industry. Therefore no sports regulator would ignore the prevailing competition law when exercising decision – making powers over commercial transactions or whilst framing rules and regulations. The unique features of the sports realm distinguish it from other industries, where elimination of rivals is not the goal, but interdependence, which would sustain demand in this sector. The overriding factor of self-aggrandizing behavior in the sports industry due to little checks and balances, will be curbed due to the perceived intervention of the competition commission. The autocratic and autonomous method of governance of sporting bodies will reduce due to the emergence of the application of competition rules in the sports industry. Thus as soon as the legal mechanism comes into place to counter the growing anti-competitive behavior, it will also prove efficient in sustaining the investment into sports and the appropriate utilization of the resulting profits. The competition commission can help realize the objective of transparency, acco untability and good market practices in sports administration. This scenario only envisages the cricket industry and not the sports industry, but the upsurge in viewership can be seen from the diversification of sports investment into boxing, wrestling, badminton and other upcoming sports in relation to the Olympic movement.Thus, the sport of cricket can be understood as an example of what the league system and investment can do to this realm of the sporting sector, in comparison to other sports, which are treading a similar path of reaching out to the masses through competition and the media. The issues with regard to competition law lie in enforcement as well as its awareness and advocacy. But the emerging need for competition compliance will provide for the advent of good governance in the sports industry. This good governance will result out of the need or greed for domination in the market when the easier method of such dominance through anticompetitive activities is ruled out as an effective option. Thus the eventual result will be competition and efficiency, when rent-seeking behavior is removed as the next best alternative for the governing bodies. The competition act under Section 49 [53] adds an advocacy feature to the functioning of the commission, through which awareness and enforcement can result complementarily.As competitive markets need accompanying governance in order to prevent the self destruction of Competition, [54] the means to achieve efficiency is coherently linked with competition in the market. The sports industry will improve the functioning of its administration by the environment of competition, to outdo the rival sports association, not through the usage of its dominant position, but its sports management and administration. The effective enforcement of competition law will redefine the grounds of competition and reduce the scope for recurring malpractices that the Indian sports industry. The much needed capital boost to the sports industry is also the problem when governing bodies with political control, often deter private investment in the sports industry. In a way competition law would also protect the interests of the investors and facilitate good sports administration through a competitive environment. Thus the enforcement of competition law in the sports sector would result in the sports administration bodies opting for conforming to the rule of law, rather than approaching regulatory policies at their own whims and fancies. The National Sports Development Code of India, [55] has also laid down the best practices essential for good governance in the sports industry.The European Court of Justice in the Meca-Medina case, [56] clearly laid down that the sporting exception with regard to competition law would not apply, simply as a result of being concerned with organizing sports. [57] thus the established global practices of regulating the sports industry would benefit India and the larger stakeholders involved in this sector.

The professional team sports in the United States have created a revenue sharing mechanism between clubs, to transfer the benefits to all clubs while maintaining a reasonable degree of competition and uncertainty of outcome. [58] This scenario promotes competition rather than deter competition, as in the case of India, where monopolistic tendencies inadvertently act against the development of the sports sector in its entirety.

The major controversies that have erupted in the sports sector have resulted in the public opinion being garnered against the commercialization of sports through complete governmental regulation. Though commercialization has led to investment in various sports, but the negative effect can only be tackled by effectuating transparent governance mechanisms in comparison to the corporate sector under the Companies Act, 2013. [59] The National Sports Development Bill, [60] which failed to materialize, did provide remedy to the catena of anomalies present in the Sports sector, but its rejection adds to the idea of complete regulation of sports bodies rather than opting for regulation of their functioning. The move towards regulation of the sports sector does remain a political question rather than a question of transforming sports governance in India, considering the political control and vested interests that prevail in sports federations.

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Effects Of Varied Intensities And Frequencies Of Weight Training On Selected Motor Fitness And Performance Variables Among Athletes.

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ABSTRACT: The purpose of the study was to find out the effects of varied intensities and frequencies of weight training on selected motor fitness and performance variables among athletes.The study was formulated as a true random group design, consisting of a pre test and post test. The subjects (n=60) were randomly assigned to three equal groups of twenty athletes each. The groups were assigned as Experimental Groups I, II and control group respectively. Pre tests were conducted for all the subjects on selected motor fitness and performance variables such as muscular endurance, speed, selected weight training exercises were selected for the study and 1 RM (Repetition Maximum) of the weight training exercises were determined for experimental group subject. The experimental groups participated in their respective high intensity (80% of 1 RM) low frequency (2 days per week) weight training and low intensity (60% of 1 RM) and high frequency (3 days per week) weight training a period of twelve weeks.The post tests were conducted on the above said dependent variables after the experimental period of twelve weeks for all the three groups. The difference between the initial and final scores of the subjects on each variable was the effect of respective treatments. Statistical significance was tested through applying ANCOVA.

Keywords:- Weight training, Motor fitness variable, Performance variables ,athletes

INTRODUCTION

Sports in the present world has gotten very aggressive. It isn't the unimportant interest or practice that brings out triumph to a person. In this manner, sports life is influenced by different variables like physiology, biomechanics, sports preparing, sports prescription, humanism and brain science etcetera. Every one of the mentors, coaches, physical instructive personals and specialists are putting forth a valiant effort to improve the presentation of the players of their nation. Competitor players of the considerable number of nations are additionally making a decent attempt to bring trees, decorations for their nations in International rivalries.

SPORTS TRAINING

Preparing is a program of activity intended to improve the aptitudes and to expand the vitality limit of a competitor for a specific occasion, subsequently preparing is basic for the advancement of physical wellness parts (William and Sperryn, 1976) .Sports preparing is the procedure of sports security dependent on logical and instructive standards for better (Hardayal Singh, 1991).

EFFECTS OF TRAINING

The preparation procedure goes about as a methods for development of sports execution. So as to guarantee quick advancement in each individual the physical instruction educators, the mentors and the teachers must have an exhaustive information on the improvement part of sports preparing (Walter, 1969) .

INTENSITY OF TRAINING

Exercise intensity should be checked frequently during and beginning of exercise programme. This requires some practice in taking one's pulse usually in the radial or carotid artery locations, since it is rather difficult to calculate the pulse during exercise. The pulse should be taken for a period of ten seconds immediately after stopping, beginning the count with zero. If the rate is below the prescribed training range, the intensity should be increased and if the rate is above the range, the intensity should be reduced.

WEIGHT TRAINING

Better exhibitions can be the result of various variables. This item is fundamentally the result of effective procedure. The movement of speed and the developing aggressive frame of mind on a sound premise of general perseverance, all round quality and general versatility. The improvement of all round quality is best accomplished the high-intensity aerobics and afterward advancing this through weight preparing. through a dynamic weight preparing.

ATHLETICS

Games is the mother all things considered thus it has expected incredible significance lately. Games is an aggregate name for physical workout and game requiring aptitude and action. Athletic occasions are arranged into two specifically olympic style sports occasions. The track occasions incorporates short separation (run) long separation run, center separation run, transfers, leaping, strolling and steeple pursue. The field occasions incorporate bouncing occasions, (for example, long hop, triple hop, post vault and high hop) and tossing occasions, (for example, plate toss, hammer toss and putting the shot). Athletics is very important as a means of all round development of an individual. Athletic exercises and training have beneficial effects on the development of human organism. By practicing athletics, the basic form of motor activities of a man is consolidated and valuable skills are developed. They improve the coordination of organism, body activities of man and efficient solutions of physical task in every day life. Athletic exercise and training contribute further more, to the mental development of a man. Finally the practice of athletics is during training and competition, the means of strengthening will power and molding the character of the young boys and girls. (Davis, B. et.al. 2000)

MOTOR FITNESS

Engine Fitness alludes to the capacity of a competitor to perform effectively at their game. The segments of engine wellness are (Davis 2000) Agility, Balance, Co-appointment, Power (speed and quality) and Reaction Time

NEED OF THE STUDY

To study the ways and means by which the athletes can improve their performance and motor fitness are important principles of training methods. Sports consist of preparation and performance about 99% preparation and 1% performance. We need to make the most, effective use of our preparation time so that our athletes can achieve high level performance. For that the fitness and physiological systems should be taken care very much for the adaptation to their particular activities as because function decides structure. The system will change or adapt according to the nature of the activity. Therefore to know this fact among the players is very important for the improvement of performance. Because the level of fitness of physiological system may vary from players to player according to conditional status of the proper functioning of physiological system is needed to achieve in sports.

OBJECTIVES OF THE STUDY The objectives of this study are detailed as below:

1. To formulate suitable weight training with manipulation of varied intensities and frequencies for the benefit of athletes.
2. To experiment with varied intensities and frequencies of weight training on selected motor fitness variables, muscular endurance, of athletes.
3. To compare the mean differences due to effect of varied intensities and frequencies of weight training on selected motor fitness variables of athletes.

STATEMENT OF THE PROBLEM The purpose of the study was to find out the effects of varied intensities and frequencies of weight training on selected motor fitness and performance variables among athletes.

HYPOTHESES

In light of the preceding discussion and for the purpose of the present investigation, the following were hypothesized.

1. It was hypothesized that varied intensities and frequencies of weight training would significantly improve in selected motor fitness variables, muscular endurance, among athletes compared to control group.
2. It was hypothesized that varied intensities and frequencies of weight training would significantly improve selected performance variables, speed, among athletes compared to control group.
3. It was hypothesized that there would be no significant differences among treatment groups involved in varied intensities and frequencies of weight training on selected motor fitness and performance variables of athletes.

SIGNIFICANCE OF THE STUDY Better performances can be the product of a number of factors. This product is primarily the outcome of efficient technique, the progression of speed and the maturing competitive attitude on a sound basis of general endurance, all round strength and general mobility. The development of all round strength is best achieved through improving of motor fitness and performance variables by progressing through weight training. In the light of these theoretical foundations made by previous researches, the following are the significance of this research.

1. This study is significant in developing a weight training schedule with different intensities and frequencies for the benefit of athletes.
2. Through manipulation of weight training by varied intensities and frequencies, the study is unique in making the weight training exercises, which is anaerobic in nature into an aerobic one which is more beneficial for athletes.
3. The findings of this study would help the coaches, physical educationists and players to apply the training schedule suggested in this study for improving selected motor fitness and performance variables of athletes.
4. The findings would lay theoretical foundations on the importance of varied intensities and frequencies in weight training for the better development of athletes' motor fitness and performance variables.
5. The finding of the study may be helpful for the coaches and instructors to apply proper frequency for better performance.
6. Finding of the study may be helpful for the coaches and players to opt the intensity and frequency level for participation and coaching in future.
7. The result of the study may be helpful to physical education teacher, coach in designing the training programs to improve athletics performance according to the individual concerned.

DELIMITATION

The study was delimited in the following aspects and while interpreting the results. It should be taken into consideration.

1. The study was delimited to state level athletes who participated in interstate athletic events.
2. The athletes were randomly selected from the contingent participated at Vijayawada sports meets.
3. The athletes were in the age group of 18 to 25 years..
4. In this study, the following variables were selected for the study.

Dependent Variables

Motor Fitness Components:-Muscular Endurance
Performance Variables:-Speed

LIMITATIONS

1. The specialist couldn't control the way of life, mental pressure and factors that influence metabolic capacity.
2. Psychological and sociological parts of their everyday life communications to their condition couldn't be controlled.
3. The every day standard, climatic conditions, healthful entertainers, inspirational components and financial variables, were not mulled over.
4. The time of preparing and time of testing were the working days, in for the most part morning and night hours.

METHODOLOGY:

SELECTION OF SUBJECTS

The purpose of the study was to find out the effects of varied intensity and frequency of weight training on selected motor ability components and performance variables among athletes. To achieve the purpose of this study, sixty athletes who represented their college in Interstate Athletic meet organized in Vijayawada were randomly selected as subjects. The selected subjects' age group was ranging from eighteen to twenty five years. The subjects were randomly divided into three groups and each group consists of twenty subjects. Group one acted as experimental group I and Group two acted as experimental group II and group three acted as control group. Control group was not given any exposure. Experimental Group I underwent low intensity and high frequency of weight training and Experimental group II under went high intensity and low frequency of weight training for twelve weeks.

SELECTION OF VARIABLES

The research scholar reviewed various scientific literature pertaining to weight training exercises and manipulation of weight training with different intensities and frequencies motor fitness and performance variables of athletes from books, journals, periodicals, magazines and research papers. Taking into consideration of feasibility criteria, availability of instruments and the relevance of the variables of the present study, the following variables were selected.

Dependent Variables

Motor Ability Components:-Muscular Endurance
Performance Variables:-Speed
Independent Variables

1. High Intensity and low frequency Weight Training (80% of 1 RM Intensity for two days in a week) for twelve weeks.
2. Low Intensity and high frequency Weight Training (60% of 1 RM Intensity for three days in a week) for twelve weeks.

EXPERIMENTAL DESIGN

The study was formulated as a true random group design, consisting of a pre test and post test. The subjects (n=60) were randomly assigned to three equal groups of twenty athletes each. The groups were assigned as Experimental Groups I, II and control group respectively. Pre tests were conducted for all the subjects on selected motor fitness and performance variables such as muscular endurance, speed, selected weight training exercises were selected for the study and 1 RM (Repetition Maximum) of the weight training exercises were determined for experimental group subject. The experimental groups participated in their respective high intensity (80% of 1 RM) low frequency (2 days per week) weight training and low intensity (60% of 1 RM) and high frequency (3 days per week) weight training a period of twelve weeks.The post tests were conducted on the above said dependent variables after the experimental period of twelve weeks for all the three groups. The difference between the initial and final scores of the subjects on each variable was the effect of respective treatments. Statistical significance was tested through applying ANCOVA.

TEST ADMINISTRATION:

MOTOR ABILITY COMPONENTS;-MUSCULAR ENDURANCE

Purpose:-The test used to measure muscular endurance is the 1 Minute Sit up Test.
Equipments:-Stop Watch and mat.
Procedure:-The subject was to start by sitting serenely on the tangle. She should begin with his back straight on the tangle, knees bowed and feet on the tangle. The subject at that point put her hands on the two sides of her head with her elbows bringing up to the sides. At the point when the agent began the watch and said "GO", the subject would then be able to start playing out a sit up. From the beginning position she should raise her chest area of the tangle by straining her center and lifting herself up

towards her knees. Her hands stayed in favor of her head and her knees bowed with her feet put solidly on the ground.
Scoring:-The number of sit ups performed by the subject in one minute is the score of muscular endurance of the subject.

PERFORMANCE VARIABLES

SPEED (50 METERS)
Purpose:-To measure the speed
Materials used:-Two stop watches, measuring tape, clapper, track marking 50 meters
Instruction:-The subjects were advised to run in their own line from the starting to finish, with maximum speed. The command used for starting was 'on your mark', 'set'.'clap'
Procedure:-Two lines were marked 50 meters apart from the starting line and finish line. On the command, 'clapp', the subject ran as fast as possible across the finish line to cover 50 meters area.
Scoring:-The elapsed time was measured to the nearest one tenth of a second.
COLLECTION OF DATA:-The data was collected on the selected items as per the methods described above. The pre test was organized before the experimental period and after 6 weeks of experimental period post test was organized and data was collected for the study.

STATISTICAL TECHNIQUE:-To find out the effects of high and low intensities of weight training on motor components and performance variables, the pre test scores were analyzed by using ANCOVA statistical technique. When the F ratio was establish to be noteworthy, Scheffe's post hoc test was to find out the balancing mean significant difference. (Thirumalaisamy, 1998).

RESULTS AND DISCUSSIONS.

COMPUTATION OF ANALYSIS OF COVARIANCES AND POST HOC ANALYSIS RESULTS ON MUSCULAR ENDURANCE

The statistical analysis comparing the initial and final means of Muscular Endurance due to high intensity and low frequency (HILF) Weight training and low intensity and high frequency (LIHF) Weight training among athletes is presented in Table I

ANCOVA RESULTS ON EFFECT OF HIGH INTENSITY AND LOW FREQUENCY (HILF) WEIGHT TRAINING AND LOW INTENSITY AND HIGH FREQUENCY (LIHF) WEIGHT TRAINING COMPARED WITH CONTROLS ONMUSCULAR ENDURANCE

	HILF WEIGHT TRAINING	LIHF WEIGHT TRAINING	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED F
Pre Test Mean	39.20	38.50	38.70	Between	5.20	2	2.60	0.17
				Within	864.40	57	15.16	
Post Test Mean	42.00	42.60	38.85	Between	162.30	2	81.15	5.09*
				Within	909.35	57	15.95	
Adjusted Post Test Mean	41.63	42.88	38.94	Between	161.72	2	80.86	25.18*
				Within	179.83	56	3.21	
Mean Diff	2.80	4.10	0.15					

HILF: High Intensity and Low Frequency ; LIHF : Low intensity and High Frequency
Table F-ratio at 0.05 level of confidence for 2 and 57 (df) =3.16, 2 and 56 (df) =3.16.
*Significant As shown in Table I, the obtained pre test means on Muscular Endurance on HILF Weight training group was 39.20, LIHF Weight training group was 38.50 was and control group was 38.70. The obtained pre test F value was 0.17 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects. The obtained post test means on Muscular Endurance on HILF Weight training group was 42.00, LIHF Weight training group was 42.60 was and control group was 38.85. The obtained post test F value was 5.09 and the required table F value was 3.16, which proved that there was significant difference among post test scores of the subjects. Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 25.18 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups. Since significant differences were recorded, the results were subjected to post hoc analysis

using Scheffe's Confidence Interval test. The results were presented in Table II.

Multiple Comparisons of Paired*Adjusted Means and Scheffe's Confidence Interval Test*Results on Muscular*Endurance

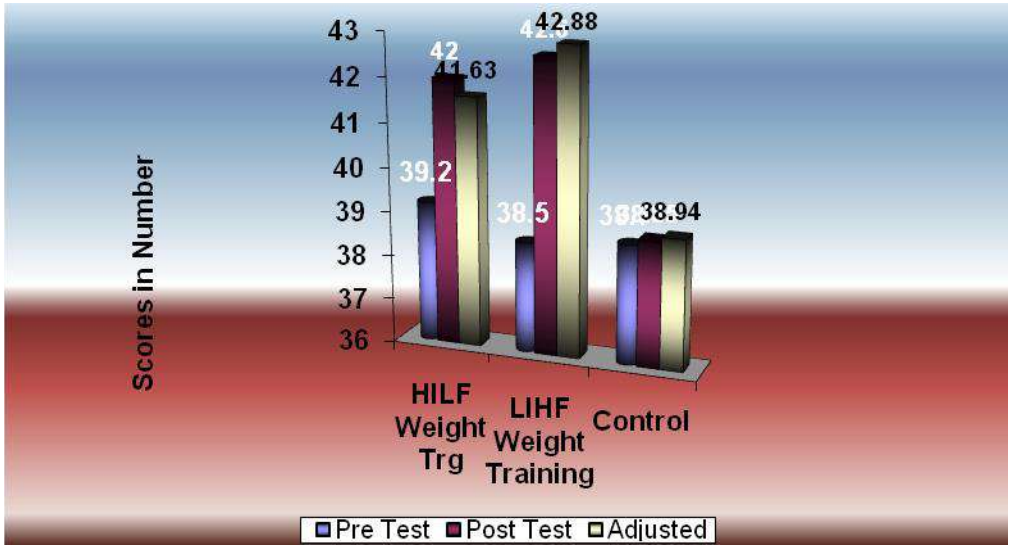
MEANS				Required . C I
HILF Weight training Group	LIHF Weight training Group	Control Group	Mean Difference	
41.63	42.88		-1.24	1.41
41.63		38.94	2.69*	1.41
	42.88	38.94	3.93*	1.41

HILF: High Intensity and Low Frequency ; LIHF : Low intensity and High Frequency***** Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between HILF Weight training group and control group (MD: 2.69). There was significant difference between LIHF Weight training group and control group (MD: 3.93). There was no significant difference between treatment groups, namely, HILF Weight training group and LIHF Weight training group. (MD: -1.24), as the attained mean difference was lesser than the necessary confidence interval level 1.41 to be noteworthy at 0.05 level.The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure I.

Figure I

BAR DIAGRAM SHOWING PRE TEST, POST TEST AND ORDERED ADJUSTED MEANS ON MUSCULAR ENDURANCE



HILF: High Intensity and Low Frequency; LIHF: Low intensity and High Frequency.

DISCUSSIONS ON FINDINGS ON MUSCULAR ENDURANCE

In order to find out the effect of varied intensities and varied frequencies of weight training the investigator selected high intensity and low frequency (HILF) Weight training and Low intensity and high frequency (LIHF) Weight training as independent variables. The results in table Ishows the effects of varied intensities and varied frequencies on Muscular Endurance. The obtained pre and post test means were subjected to ANCOVA and post hoc analysis through Scheffe's confidence interval test.The effect of HILF Weight training and LIHF Weight training on Muscular Endurance is presented in Table I. The analysis of covariance proved that there was significant difference between the experimental group and

control group as the obtained F value 25.18 was greater than the required table F value to be significant at 0.05 levels. Since significant F value was obtained, the results were further subjected to post hoc analysis and the results presented in Table II, proved that there was significant difference between HILF Weight training group and control group (MD: 2.69) and LIHF Weight training group and control group (MD: 3.93). Comparing between the treatments groups, it was found that there was no significant difference between HILF Weight training and LIHF Weight training group among athletes.Thus, it was found that HILF weight training and LIHF Weight training wereexpressively better than control cluster in improving Muscular Endurance of the athletes.

PERFORMANCE VARIABLES;- RESULTS ONSPEED

The statistical analysis associating the initial and final means of Speed due to high intensity and low frequency (HILF) Weight training and low intensity and high frequency (LIHF) Weight training among athletes is obtainable in Table III.

ANCOVA RESULTS ON EFFECT OF HIGH INTENSITY AND LOW FREQUENCY (HILF) WEIGHT TRAINING AND LOW INTENSITY AND HIGH FREQUENCY (LIHF) WEIGHT TRAINING COMPARED WITH CONTROLS ONSPEED.

	HILF WEIGHT TRAINING	**LIHF WEIGHT TRAINING**	**CONTROL GROUP**	**SOURCE OF VARIANCE**	**SUM OF SQUARES**	**df**	**MEAN SQUARES**	**OBTAINED F**
Pre Test Mean	7.09	7.12	7.09	Between	0.01	2	0.01	0.22
				Within	1.67	57	0.03	
Post Test Mean	6.99	7.01	7.10	Between	0.13	2	0.06	2.53
				Within	1.43	57	0.03	
Adjusted Post Test Mean	6.99	7.00	7.11	Between	0.16	2	0.08	14.93*
				Within	0.31	56	0.01	
Mean Diff	-0.10	-0.11	0.01					

HILF: High Intensity and Low Frequency; LIHF : Low intensity and High Frequency
Table F-ratio at 0.05 level of confidence for 2 and 57 (df) =3.16, 2 and 56 (df) =3.16.
*Significant

As shown in Table III, the obtained pre test means on Speed on HILF Weight training group was 7.09, LIHF Weight training group was 7.12 was and control group was 7.09. The obtained pre test F value was 0.22 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects.The obtained post test means on Speed on HILF Weight training group was 6.99, LIHF Weight training group was 7.01 was and control group was 7.10. The obtained post test F value was 2.53 and the required table F value was 3.16, which proved that there was no significant difference among post test scores of the subjects. Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 14.93 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table IV.

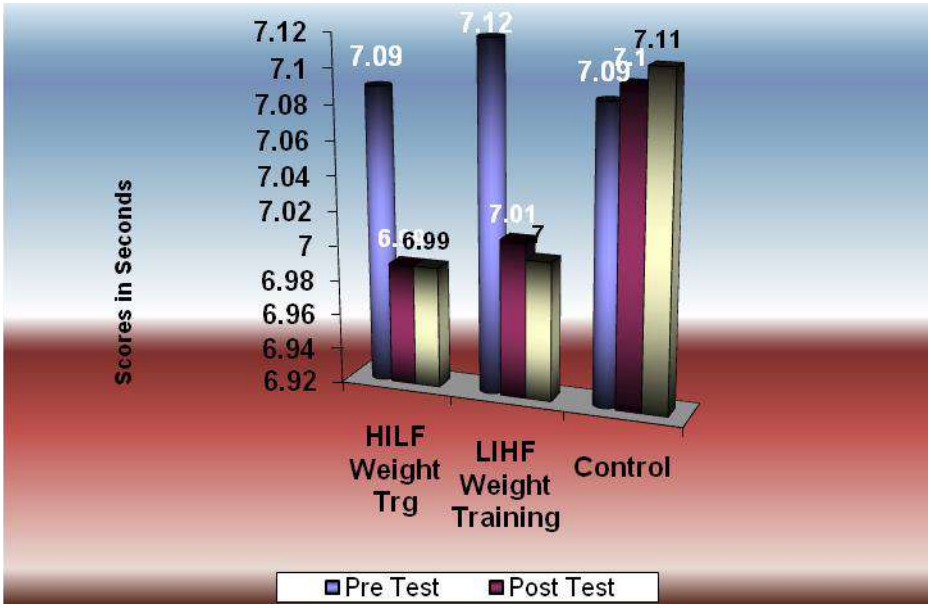
Multiple-Comparisons of Paired Adjusted-Means and Scheffe's Confidence Interval-Test-Results on Speed

MEANS				Required . C I
HILF Weight training Group	LIHF Weight training Group	Control Group	Mean Difference	
6.99	7.00		0.01	0.06
6.99		7.11	-0.12*	0.06
	7.00	7.11	-0.11*	0.06

HILF: High Intensity and Low Frequency; LIHF: Low intensity and High Frequency
***** Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between HILF Weight training group and control group (MD: -0.12). There was significant difference between LIHF Weight training group and control group (MD: -0.11). There was no significant difference between treatment groups, namely, HILF Weight training group and LIHF Weight training group. (MD: 0.01). The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure II.

BAR DIAGRAM SHOWING PRE TEST, POST TEST AND ORDERED ADJUSTED MEANS ON SPEED.



HILF: High Intensity and Low Frequency; LIHF: Low intensity and High Frequency

DISCUSSIONS ON FINDINGS ON SPEED.

In order to find out the effect of varied intensities and varied frequencies of weight training the investigator selected high intensity and low frequency (HILF) Weight training and Low intensity and high frequency (LIHF) Weight training as independent variables. The results in table III shows the effects of varied intensities and varied frequencies on Speed. The obtained pre and post test means were subjected to ANCOVA and post hoc analysis through Scheffe's confidence interval test. The effect of HILF Weight training and LIHF Weight training on Speed is presented in Table III. The analysis of covariance proved that there was significant difference between the experimental group and control group as the obtained F value 14.93 was greater than the required table F value to be significant at 0.05 level.Since significant F value was obtained, the results were further subjected to post hoc analysis and the results presented in Table IV proved that there was significant difference between HILF Weight training group and control group (MD: -0.12) and LIHF Weight training group and control group (MD: -0.11). Comparing between the treatments groups, it was found that there was no significant difference between HILF Weight training and LIHF Weight training group among athletes. Thus, it was found that HILF weight training and LIHF Weight training were significantly better than control group in improving Speed of the athletes. The intensity and length of the work interval should be based upon the primary energy system being used in the activity. Sprinters should have short high intensity intervals whereas marathons may run intervals of 3 miles at race pace or slower. There are several factors that affect the resulting heart rate besides exercise and training. Although the extent of variation differs with each individual body position has a definite effect upon the heart rate. The training effect of exercise depends upon the amount of stress imposed upon the relevant part of the body. There are variation in the resting heart rate response that is used in the exercise gives a better indication of intensity.The findings of this study that varied intensity and frequency of weight training would significantly improve speed of the athletes is in agreement with the findings of Powerman (2003) who found connective tissues are strengthened and increase speed and strength due to due to maximal and dynamic effect methods, heavy load training, light load training.

FINDINGS

The results presented proved varied intensities and frequencies of weight training, that is, high intensity low frequency (HILF) weight training and low intensity and high frequency (LIHF) weight training were contributed for improvement of motor fitness variables, muscular endurance, and performance variables, speed, of inter collegiate level athletes.

CONCLUSIONS

Within the limitations and delimitations of the study, the subsequent conclusions were made:

1. It was concluded that varied intensities and frequencies of weight training, namely, high intensity with low frequency (HILF) weight training and low intensity and high frequency (LIHF) weight training improved motor fitness variables, muscular endurance, compared to controls of intercollegiate level athletes.
2. It was concluded that varied intensities and frequencies of weight training, namely, high intensity with low frequency (HILF) weight training and low intensity and high frequency (LIHF) weight training improved performance variables, speed, compared to controls of intercollegiate level athletes. It was also found that varied intensities and frequencies of weight training failed to significantly alter stride frequency among intercollegiate athletes.
3. It was concluded that comparing between the treatment groups, it was found that there was no significant differences between treatment groups on speed, of athletes.

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Effect Of Yoga Nidra On Anxiety Among College Students

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Abstract

The purpose of the study was find out the effect of yoga nidra on anxiety among college students. To achieve the purpose of this study, 20 male college students were randomly selected as subjects from the sports students of Dr.YSR Horticulture University, Andhra Pradesh, India. Their age ranged from 18 to 23 years. The selected participants were randomly divided into two groups such as Group 'A' yoga nidra practices (n=10) and Group 'B' acted as control group (n=10). Group 'A' underwent yoga nidra practices for five days per week and each session lasted for an hour for six week. Control group was not exposed to any specific training but they were participated in regular activities. The dependent variables were anxiety; SCAT Questionnaire test was used to measure the level of anxiety. The pre and post tests data were collected on selected criterion variables prior to and immediately after the training programme. The pre and post tests scores were statistically examined by the dependent't' test and Analysis of co-variance (ANCOVA) for each and every selected variables separately. It was concluded that the yoga nidra practices group had shown significantly reduced on anxiety. However the control group had not shown any significant improvement on the anxiety.

Key words: Yoga Nidra Practices, Anxiety, College Students\

Introduction

Yoga is the science of exact living and as such is intended to be incorporated in daily life **(Vigneshwaran, 2016).**Yoga nidra is probably best-known technique to induce complete physical mental and emotional relaxation. Yoga nidra is a state of consciousness, which is, neither sleep nor awaken, neither is it concentration nor hypnotism **(Saraswati Swami Satyananda, 1963).**Yoga nidra improves heart rate variability, a measure of balance in the autonomic nervous system, whether or not it is preceded by a session of hatha yoga asanas **(Markil, 2012).**The regular practice of yoga relaxation has been found to reduce tension and anxiety. The autonomic symptoms of high anxiety such as headache, giddiness, chest pain, palpitations, sweating and abdominal pain respond well. It has been used to help soldiers from war cope with posttraumatic stress disorder (PTSD) **(Rivers, 2008).**Mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and makes a contribution to her or his community. WHO's comprehensive mental health action plan for 2013-2020 mentioned following four main objectives. The objectives focus on effective leadership and governance, comprehensive mental health for community, promotion, and prevention of mental health, use of IT systems and research on mental health **(WHO, 2018).**Anxiety is key components of many mental disorders. The current treatment for them includes evidence-based therapeutic and pharmacological interventions **(Smith, 2000).**Yoga nidra aims to focus the mind to achieve relaxation and increase wellness. The purpose of the study indicated that yoga nidra on anxiety among college students**.**

Purpose of the Study

The purpose of the study was to find out the effect of yoga nidra on anxiety among college students. To achieve the purpose of this study, 20 male sports students of Dr.YSR Horticulture University were randomly selected as subjects from inter collegiate Tournament foe the year 2019-20 at YSR Horticulture University, Andhra Pradesh India. Their age ranged from 18 to 23 years. The selected participants were randomly divided into two groups such as Group 'A' yoga nidra practices (n=10) and Group 'B' acted as control group (n=10). Group 'A' underwent yoga nidra practices for five days per

week and each session lasted for an hour for six week. Control group was not exposed to any specific training but they were participated in regular activities. The dependent variables were anxiety; SCAT Questionnaire test was used to measure the level of anxiety. The pre and post tests data were collected on selected criterion variables prior to and immediately after the training programme. The pre and post tests scores were statistically examined by the dependent't' test and Analysis of co-variance (ANCOVA) for each and every selected variables separately. It was concluded that the yoga nidra practices group had shown significantly reduced on anxiety. However the control group had not shown any significant improvement on the anxiety.

Analysis of Data

The results of analysis of covariance on the criterion measures were given the following tables. **Anxiety**

Table 1: Means and dependent 't'-test for the pre and post tests on anxiety of yoga nidra and control groups (Points)

Criterion variables	Test	YogaNidra Group Mean	Control Group Mean
Anxiety	Pre test	20.96	20.91
	Post test	18.90	20.87
	't' test	**9.77***	0.52

***Significant at .05 level. (Table value required for significance at .05 level for 't'-test with df 9 is2.26).

The table 1 show that the pre-test mean values of yoga nidra and control groups are 20.96 and 20.91 respectively and the post test means are 18.90 and

20.87 respectively. The obtained dependent t-ratio values between the pre and post tests mean of yoga nidra group and control group are 9.77 and 0.52 respectively. The table value required for significant difference with df 9 at 0.05 level is 2.26. Since, the obtained 't' ratio value of yoga nidra group was greater than the table value, it is understood that yoga nidra group had significantly improved on anxiety. The pre, post and adjusted mean values of anxiety of yoga nidra and control groups are graphically represented in the table 2.

Computation of Analysis of Covariance

The descriptive measures and the results of analysis of covariance on the criterion measures were given in the following tables.

Table 2

Computation of mean and analysis of covariance on anxiety of yoga nidra and control groups

Anxiety	Yoga Nidra Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
	18.94	20.85	BG	95.14	1	95.14	**14.75***
			WG	109.65	17	6.45	

* Significant at 0.05 level. Table value for df 1, 17 was 4.45.

The above table 2 indicates the adjusted mean value on anxiety of yoga nidra and control groups were 18.94 & 20.85 respectively. The obtained F-ratio of 14.75 for adjusted post mean was greater than the table value 4.45 for the degrees of freedom 1 and 17 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among yoga nidra and control groups onanxiety.

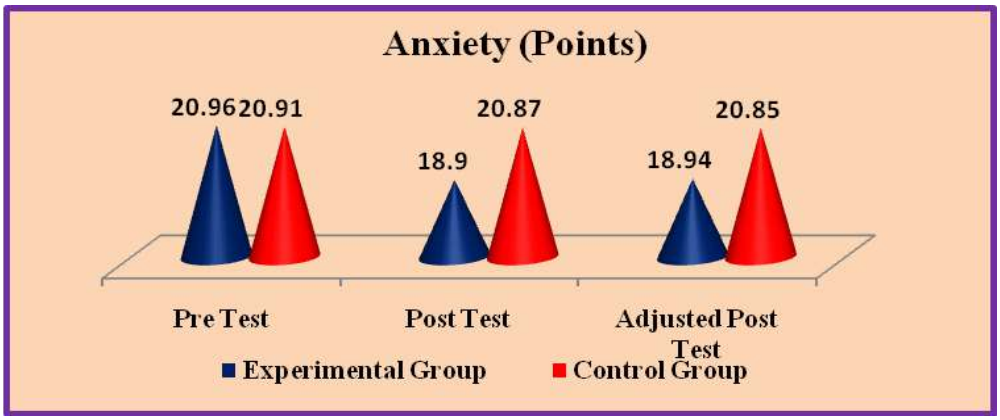

Figure I: Pre Test, Post Test and Adjusted Post Test Mean Values of Experimental Group and Control Group on anxiety

Discussion on Findings

Yoga nidra it is commonly known is an immensely powerful meditation technique, and one of the easiest yoga practices to develop and maintain. The present studies found statistically significantly reduced the level of anxiety, which showed that positive training effect on yoga nidra practices on anxiety among college students. The findings of the study were also agreed with the findings of Eppley, K. R., Abrams, A. I., & Shear, J. (1989), Storch, E. A., Storch, J. B., Killiany, E. M., & Roberti, J. W. (2005), Proctor, S. L., & Boan-Lenzo, C. (2010) and Armstrong, S., & Oomen-Early, J. (2009), Suriya, P., & Arumugam, S. (2018).

Conclusions

1. The study revealed significant improvement in anxiety scores after six weeks of Yoga Nidra practices in comparison to control group among college students
2. However the control group had not shown any significant difference on any of the selected variables.

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Motivation Towards Athletics And Academics In Relation To Sports Participation And Academic Performance Among MSU - Marawi Senior High School Athletes

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ABSTRACT

This study aimed to find out the athletic motivation and academic motivation in relation to the sports participation and academic performance of the basketball and volleyball athletes of the Mindanao State University – Marawi Senior High School (MSU-MSHS) officially enrolled during the first semester, A.Y. 2019 – 2020. On another note, the relationship between sports participation and academic performance was also examined.The study was conducted among 68 players – 23 Volleyball (boys), 28 Basketball (boys) and 17 Volleyball (girls). The respondents' age, sex, ethnicity, track, grade level, extracurricular activities, level of competition, and playing experience were taken as the moderating variables of the study. To assess their athletic motivation and academic motivation, the modified Student-Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ), developed by Gaston-Gayles (2005), was used. The sports participation was taken in terms of frequency of training, duration of training, and frequency of tournaments attended, while the academic performance was taken in terms of the general weighted average grades during the first semester, A.Y. 2019 – 2020.Descriptive statistics was used in the form of frequency and percentage distribution while for the relationship between variables, Pearson r was employed.It was revealed that majority of the respondents were 17 – 18 years old; majority were male; only 1 respondent was non-Muslim while the rest were Muslim; majority were enrolled under the Academic tracks; majority were Grade 12; majority had no other extracurricular activities besides athletics; most had played in the invitational meets; and most were engaged in their sport for 1 – 2 years only.In terms of frequency of training, majority of the respondents trained for 3 – 4 times per week; for duration of training, majority practiced for 2 hours per day; while majority joined in tournaments for 1 – 2 times for the past year. With regards to the academic performance, it was found out that majority were rated as "very satisfactory" or having incurred averages of 85.00 – 89.99. For the correlation of the variables, the level of competition had a significant relationship with frequency of tournaments attended; sex, track, and extracurricular activities significantly correlated with academic performance; and, there was a significant correlation between academic motivation and academic performance. It was also found out that sports participation in terms of frequency of training, duration of training, and frequency of tournaments attended showed no significant relationship with academic performance.

Keywords: athletic motivation, academic motivation, sports participation, academic performance

Introduction

Republic Act No. 10533 or the Enhanced Basic Education Act of 2013 states that "the State shall create a functional basic education system that will develop productive and responsible citizens equipped with the essential competencies, skills, and values for both life-long learning and employment." These essential competencies, skills, and values need not be developed only in the four corners of the classroom or within the vicinities of the school campus, thus, various clubs and other extracurricular activities are created by schools for their students to engage in. One of the many relevant activities and after-school clubs initiated by the Mindanao State University – Marawi Senior High School (MSU-MSHS) is the Sports Club with the different sports teams created for competition and school representation. This is in line with the national goal of the government as provided for under Section 19, Article XIV of the 1987 Philippine Constitution which states that "the state shall promote Physical Education and encourage sports programs, league competitions, and amateur sports, including training for international

competitions, to foster self-discipline, teamwork and excellence for the development of a healthy and alert citizenry. All educational institutions shall undertake regular sports activities throughout the country in cooperation with athletic clubs and other sectors." The MSU-MSHS teachers believe that they always have a part in the realization of the objective to encourage potential student-athletes. Galias (n.d.) even believes that these student-athletes deserve special assistance and other incentives in many forms, no matter if they win or lose, since they are representatives of the school, district, or division.As members of the MSU-MSHS Basketball and Volleyball teams, most student-athletes are highly motivated to succeed in the athletic domain, having been selected to participate in competitions because of their sports skills and their desire to succeed. The demand of their sports is very intense. These student-athletes are required to devote several hours per week in team practices. There would be increased number of hours when competitions or sports leagues are near. Sometimes, they would miss some classes for school-sanctioned athletic contests, and deal with fatigue and injuries as a result of their participation. Other than that, negative stereotypes about athletes' lack of academic ability only add to the difficulties. Although athletics and academics, when done together, can get so very tiresome and hectic, believing that one can surpass them can prove to be very helpful. A person must believe that he/she is in control and that acts he/she performed were performed intentionally. "If a person believes he/she is in control and that he/she has the power to produce specific results, he/she will be motivated to try to make things happen," Cox (2002) explains.Other than this, according to Montecalbo-Ignacio, Ignacio, and Buot (2017), when one participates in sports and physical activities, it can lead to developed mental and physical awareness. Mentally and physically alert students always improve their performances, accomplished more, and likely to continue attending classes in school. According to Rees and Sabia (2010), sports participation increases student-athletes motivation and teaches teamwork and self-discipline, resulting in positive academic spill over.Alison (2015) shares Jed Diamante's story as an accomplished athlete and as an academic achiever. Diamante was a former member of the Little Azkals (Philippine national football team) and an ambassador for football for a popular energy drink (Milo), other than graduating as high school class valedictorian from a prominent school. He says time management is the key in balancing athletics and academics. "I set my priority. If there is a tournament I focus on training, if there is an exam, I focus on studying." Papa (2015), in an article in The Manila Times, shares the story of Ashley Marie Rances, an accomplished competitive swimmer who believes in prioritizing things. Defying difficulties, balancing her time between her sports activities and academic activities is indeed a priority. "Achieving success in both is not an ordinary feat. It requires discipline and a good balancing act on my part."Ganglani (2016) adds the athletic and academic journey of Kathy Bersola, who defied the odds of being a student-athlete by graduating summa cum laude in college. "It is very much breaking the barriers. Everyone thinks athletes just slack off in school, just train and not go to classes, but in UP, we put a prime on education. That's the best thing given to us for being scholars. Quality education."Park, Hong, and Lee (2015), however, argue that student-athletes who devoted highly in their sport might show a low academic achievement because athletes who put priority to their sports usually have high motives for their athletic success rather than academic achievement and subsequently less effort is given to their academic career. Hudd et al as cited by Singleton (2016) further state that students involved in athletics are required to balance both athletic and academic demands, and may therefore be at risk for problems associated with a lack of sleep, fatigue, anxiety, and other negative health habits.

With these pros and cons that sports participation brings to academic performance, this research sought to identify the motivation of the MSU- MSHS student-athletes towards athletics and academics. The research further sought to answer the relationship of motivation to sports participation and academic performance, as well as the relationship between sports participation and academic performance.

Research Design

The research method used in this study is descriptive-correlational in nature which aimed to find out the relationship between athletic motivation and academic motivation as independent variables to the dependent variables of sports participation (in terms of frequency of training, duration of training, and frequency of tournaments attended) and academic performance. The moderating variables of age, sex, ethnicity, track, grade level, extracurricular activities, level of competition, and playing experience were also taken to find out their relationships to the main variables. The relationship between sports participation and academic performance was also investigated.

Scope of Research

This was a survey research to find out the relationship between athletic motivation and academic motivation as independent variables to the dependent variables of sports participation (in terms of frequency of training, duration of training, and frequency of tournaments attended) and academic performance. The relationship between sports participation and academic performance was also investigated. This was conducted starting from September 2019 until January 2020, during the firstssemester, A.Y. 2019 – 2020, among the MSU-MSHS athletes.

Research Respondents

In this study, there were sixty-eight (68) respondents: 23 from Volleyball (boys), 28 from Basketball (boys), and 17 from Volleyball (girls). These respondents were athletes of the MSU-MSHS who represented the school in various athletic meets and tournaments during their stay.

Research Instruments

There were two parts of the research questionnaire used in this study. Part 1 was the demographic profile and background survey and was used to collect demographic information and background information on all the respondents. This collected information on the respondents' age (number of years), sex (male or female), ethnicity (Muslim or non-Muslim), track (Academic, Sports, or TVL), grade level (Grade 11 or Grade 12), extra-curricular activities (the number of other activities the respondents were involved with besides being an athlete), level of competition (Intramurals, Invitational, Local, Regional, or National), and playing experience (the number of years that the respondents had been involved with their sport), the sports participation in terms of frequency of training (the number of times per week), duration of training (the number of hours), and frequency of tournaments attended (the number of tournaments joined in for the past 12 months), and the academic performance (the general weighted average grade) during the first semester, A.Y. 2019 – 2020. Part 2 was the modified Student-Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ), which was developed by Gaston-Gayles (2005) based on Achievement Motivation Theories (Atkinson, 1974), Expectancy Value Theory, and Self-Efficacy Theory (Bandura, 1977) to examine student-athletes' motivation toward sports and academic achievement. In this study, the questionnaire was modified containing 25 items on a 6-point Likert scale, ranging from very strongly agree to very strongly disagree and had two subscales: the Student-Athletic Motivation (SAM) and Academic Motivation (AM). Gaston-Gayles (2005) reported that the SAMSAQ has high internal consistency coefficients for the two subscales (SAM: $\alpha = .86$; AM: $\alpha = .79$).

Data Collection

The researcher collected the data in the following order:

1. Request-letters were sent to the coaches of the different teams of the MSU-MSHS;
2. Upon approval, the respondents were distributed with the questionnaires with attached request-letters and consent form, and were asked to affix their signatures. With the help of the coaches, retrieval of questionnaires followed;
3. The grades of the respondents were taken from the official master sheets from the Office of the Registrar of the school at the end of the semester;
4. Data analysis followed after scoring and tallying the responses of the respondents.

Statistics Used in Data Analysis

The data were analyzed by frequency and percentage distribution, while for the relationship between variables, Pearson Product Moment of Correlation or Pearson r was employed.

Research Results and Research Discussions

A. The Moderating Variables

Age. There were 50 respondents or majority (73.5%) who were 17 – 18 years old. Only 6 respondents (8.8%) were 15 – 16 years old, while 12 respondents (17.6%) were 19 – 20 years old.Sex. Majority(75.00%) or 51 of the respondents were boys while only 17 athletes (25.00%) were girls.Ethnicity. The MSU-MSHS was predominant with Muslim athletes (67 out of 68 or 98.5%). Only 1 respondent (1.5%) was a non-Muslim.Track. Majority (73.5%) or 50 of the respondents were enrolled in the Academic Track (HUMSS or Humanities and Social Sciences, STEM or Science, Technology, and Engineering, and ABM or Accountancy, Business, and Management). There were 14 respondents (20.6%) who were in Sports Track, while only 4 respondents (5.9%) were in the Technical, Vocational, and Livelihood Track, specifically, in ICT or Information and Communications Technology and AFA or Agricultural-Fishery Arts.Grade Level. Majority (58.8%) or 40 respondents were Grade 12 students while 28 respondents (41.2%) were Grade 11 students.Extracurricular Activities. Majority (58.8%) or 40 respondents did not have any other involvement with other school clubs or activities, besides being an athlete. There were 25 respondents (36.8%) who were involved with 1 other extracurricular activity, while 3 respondents (4.4%) were engaged with 2 other extracurricular activities. These other activities included Arts Club, Music Club, Debate Team, Quizzers Varsity, the Supreme Student Government, and the Organization for Genuine Outreach Program (OGOP) Club (a club created to respond to some needs of the community after the Marawi Siege in 2018).Level of Competition. Most (44.1%) or 30 respondents had only reached the Invitational level of competition (i.e. MSU-MSHS playing against other schools within Marawi City). There were 22 respondents (32.4%) who played in the Local level (Marawi City Division Schools Athletic Meet), while 15 respondents (22.1%) competed in the Regional level (Palarong

Bangsamoro Autonomous Region in Muslim Mindanao Athletic Association, Rebisco Volleyball League). There was 1 respondent (1.5%) who only reached the Intramurals level of competition.Playing Experience. Most (44.1%) or 30 respondents only had 1 – 2 years of playing experience, followed closely by 29 respondents (42.6%) who had 3 – 4 years of playing experience. There were 8 respondents (11.8%) who had been involved with their sport for 5 – 6 years, while only 1 respondent (1.5%) had experiences playing for more than 6 years.

B. The Independent Variables

Table 1.1 Frequency and Percentage Distribution in terms of Athletic Motivation (N=68)

Athletic Motivation Score Range	Qualitative Description	Frequency (f)	Percentage (%)
58 – 69	Very High	2	2.9
46 – 57	High	41	60.3
34 – 45	Moderate	25	36.8
22 – 33	Low	0	0
10 – 21	Very Low	0	0
Total		68	100.00

Table 1.1 showed that majority (60.3%) of the respondents had “High” athletic motivation.

The result revealed that majority of the athletes of the MSU-MSHS believed that achieving a high level of performance in their sport was an important goal, thus, they gave importance to learning the skills and strategies as taught by their coaches as well as putting in the much needed time to be outstanding in sport. They also claimed that the time they spent in their sport was proven enjoyable. Other than this, they also believed that they would be able to use the skills and strategies they learned in sports in other areas of their lives outside of sports.

Table 1.2 Frequency and Percentage Distribution in terms of Academic Motivation (N=68)

Academic Motivation Score Range	Qualitative Description	Frequency (f)	Percentage (%)
73 – 87	Very High	4	5.9
58 – 72	High	36	52.9
43 – 57	Moderate	28	41.2
28 – 42	Low	0	0
13 – 27	Very Low	0	0
Total		68	100.00

Table 1.2 showed that majority (52.9%) of the respondents had “High” academic motivation.

The result revealed that majority of the athletes of the MSU-MSHS strongly believed that the most important reason why they are in school is to earn a degree in the future. They found interest in the contents of most of their subjects, putting in the time to earn excellent grades. Besides, they also believed they would be able to use what is taught in their subjects in different aspects of their lives outside of school.

Dependent Variables

Table 2.1 Frequency and Percentage Distribution in terms of Frequency of Training (N=68)

Frequency of Training	Frequency (f)	Percentage (%)
1 to 2 times	8	11.8
3 to 4 times	41	60.3
5 to 6 times	16	23.5
7 to 8 times	3	4.4
Total	68	100.0

Table 2.1 showed that majority (60.3%) of the respondents trained for 3 – 4 times per week.

The result revealed that majority of the athletes of the MSU-MSHS had just the right frequency of training, 3 – 4 times per week; with academics still the top priority of the school administration and its faculty members, and just enough not to take for granted the development and enhancement of athletic skills and teamwork. However, there were those who also took extra effort in training, i.e., 16 respondents (23.5%) trained 5 – 6 times per week while 3 respondents (4.4%) trained 7 – 8 times per week. On the other hand, 8 respondents (11.8%) reported to practice sessions 1 – 2 times per week

only.

Table 2.2 Frequency and Percentage Distribution in terms of Duration of Training (N=68)

Duration of Training	Frequency (f)	Percentage (%)
1 hour	7	10.3
2 hours	34	50.0
3 hours	23	33.8
4 hours	4	5.9
Total	68	100.0

Table 2.2 showed that half (50.0%) of the respondents trained for 2 hours per day.

In Table 2.2, it is shown that half of the respondents reported to training for 2 hours per day, usually done from 4:00 – 6:00 in the afternoon after their classes, or from 6:00 – 8:00 in the morning every Friday and Saturday, when classes were off. Juico (2013), in an article found in the Philippine Star, stresses the call of London (which hosted the 2012 Summer Olympics) Mayor Boris Johnson urging two hours of Physical Education a day. The mayor further said that school children should be made to do two hours of sport a day because of a lot of benefits it brings to them.

However, there were those who also spent extra time in training, i.e., 23 respondents (33.8%) trained 3 hours per day while 4 respondents (5.9%) trained 4 hours per day. On the other hand, there were 7 respondents (10.3%) who went to training for 1 hour per day only.

Table 2.3 Frequency and Percentage Distribution in terms of Frequency of Tournaments Attended (N=68)

Frequency of Tournaments Attended	Frequency (f)	Percentage (%)
1 to 2	38	55.9
3 to 4	25	36.8
5 to 6	5	7.4
Total	68	100.0

Table 2.3 showed that majority (55.9%) of the respondents joined in just 1 – 2 tournaments for the past 12 months.

In Table 2.3, it is shown that majority of the respondents joined in just 1 – 2 tournaments for the past 12 months. This result may be due to the fact that basketball and volleyball leagues in the Marawi City area were scarce or catered only to college players. However, with the heightened support of the MSU-MSHS administration to its club and school sports, there were already 25 respondents (36.8%) who took part in 3 – 4 sporting events, while 5 respondents (7.4%) played in 5 – 6 tournaments.

Table 2.4 Frequency and Percentage Distribution in terms of Academic Performance (N=68)

Grade Range	Qualitative Description	Frequency (f)	Percentage (%)
Below 75.00	Did Not Meet Expectations	0	0
75.00 – 79.99	Fairly Satisfactory	0	0
80.00 – 84.99	Satisfactory	9	13.2
85.00 – 89.99	Very Satisfactory	39	57.4
90.00 – 100.00	Outstanding	20	29.4
Total		68	100.00

Table 2.4 revealed that majority (57.4%) of the respondents' academic performance was "Very Satisfactory."

(Reference of above grade range and description is the Department of Education Order # 8, Series of 2015 or the Policy Guidelines on Classroom Assessment for the K to 12 Basic Education Program)

It is revealed in Table 2.4 that majority of the respondents incurred 85.00 – 89.99 weighted grade point averages, which meant "Very Satisfactory." There were 20 respondents (29.4%) who got 90.00 – 100.00 or "Outstanding." There were 9 respondents (13.2%) who were rated as "Satisfactory" with grade ranges of 80.00 – 84.99. This manifested that the respondents gave ample importance in their studies, even while doing sports activities like trainings and tournaments.During the 7th Recognition Day of the MSU-MSHS for the 1st Semester, A.Y. 2019 – 2020, there were 21 respondents (30.9%) who were awarded with medals of "With Honors" or those with average grades of 90.00 – 94.99. There was 1 respondent (1.5%) who received a medal of "With High Honors" with average grade of 95.00 – 97.99.

C. The Correlation Between Variables

Table 3 The Relationship between Moderating Variables and Independent Variables

Moderating Variables	Independent Variables			
	Athletic Motivation		Academic Motivation	
	r- value	p-value	r-value	p-value
Age	.033	.787	-.020	.872
Sex	-.016	.899	-.178	.145
Ethnicity	.131	.286	.083	.503
Track	-.087	.480	.129	.295
Grade Level	-.010	.937	-.007	.957
Extracurricular Activities	-.064	.604	.131	.288
Level of Competition	.190	.121	-.090	.465
Playing Experience	.033	.788	-.188	.124

As displayed in Table 3, there is no significant relationship between the variables of age, sex, ethnicity, track, grade level, extracurricular activities, level of competition, and playing experience to athletic motivation and academic motivation. The findings revealed that the above-mentioned variables do not impact the respondents' motivation in athletics and academics.

Table 4 The Relationship between Moderating Variables and Dependent Variables

Moderating Variables	Dependent Variables							
	Sports Participation						Academic Performance	
	Frequency of Training		Duration of Training		Frequency of Tournaments Attended			
	r-value	p-value	r-value	p-value	r-value	p-value	r-value	p-value
Age	.045	.714	-.099	.421	-.017	.892	.050	.684
Sex	.122	.323	.046	.711	-.067	.585	-.322	.007
Ethnicity	.036	.770	-.106	.388	.100	.418	-.087	.480
Track	-.162	.186	.128	.296	.013	.916	.247	.042
Grade Level	-.010	.935	-.085	.490	.209	.087	.204	.096
Extracurricular Activities	-.087	.483	-.066	.591	.002	.989	.285	.018
Level of Competition	.169	.169	.024	.843	.367	.002	-.038	.757
Playing Experience	.177	.149	.056	.651	.234	.055	-.109	.375

In Table 4, it is shown that sex has a significant relationship with academic performance with p-value of .007 (r = -.322). It is revealed that female student-athletes performed better than male student-athletes in terms of academics. Furthermore, track and extracurricular activities displayed a significant relationship with academic performance with p = .042 (r = .247) and p = .018 (r = .285), respectively. Those enrolled under the academic tracks such as HUMSS, STEM, and ABM got higher grades compared to those student-athletes enrolled under the TVL and Sports tracks. On the other hand, student-athletes who engaged in more extracurricular activities performed better in academics, which meant that they knew how to manage their time.A student-athlete, according to Papa (2015), strongly believes that academics are more important than athletics but both should be given time in order to succeed.

Table 5 The Relationship between Independent Variables and Dependent Variables

Independent Variables	Dependent Variables							
	Sports Participation						Academic Performance	
	Frequency of Training		Duration of Training		Frequency of Tournaments Attended			
	r-value	p-value	r-value	p-value	r-value	p-value	r-value	p-value
Athletic Motivation	.164	.183	.154	.210	.226	.064	.146	.234
Academic Motivation	-.185	.132	.235	.054	-.148	.227	.470	.000

As shown in Table 5, there is no significant relationship between athletic motivation and sports participation. This may be due to the fact that in the MSU-MSHS, the Sports Club and its different teams are just newly organized and developed, that is, just less than two years of existence, thus, the rules and

regulations of training and practice sessions are still not appropriately fixed and properly set. As displayed in Table 1.1, a large number of the MSU-MSHS student-athletes exhibited “moderate” to “very high” athletic motivation, yet, there might not be enough avenues for them to channel their motivation. On the other hand, there is a significant relationship between academic motivation and academic performance as shown by p = .000 (r = .470). Clearly, when individuals exhibited “high’ academic motivation, their performances in their classes also tend to be at high level. Vansteenskiste et al as cited by Kusurkar et al (2013) support by saying that “motivation has been shown to positively influence study strategy, academic performance, adjustment, and well-being in students in domains of education.” According to Sukor et al (2017), the student’s motivation has been widely accepted to influence the rate and success of learning. In fact, motivation is an important component for students to achieve success in any learning environment.

Table 6 The Relationship between Sports Participation and Academic Performance

Sports Participation		Academic Performance
Frequency of Training	r- value	-.153
	p-value	.212
Duration of Training	r- value	.119
	p-value	.334
Frequency of Tournaments Attended	r- value	-.096
	p-value	.435

In this study, it is clearly shown that sports participation in terms of frequency of training, duration of training, and frequency of tournaments attended had no significant relationship with academic performance, as shown by the p-values of .212, .334, and .435, respectively. This negates the findings of several researchers (Sitkowski, 2008; Gorman, 2010) that say significant relationship existed between academic performance and athletic participation.However, according to Gadzic (2009), his findings indicated that sport participation did not affect academic achievement, but better academic achievement of sport participating students is caused by some other factors.Thus, further studies could be done to validate this result.

Research Recommendations

The following are the recommendations of this research:

1. The team coaches should have a fixed schedule of training sessions and should set the duration so that the benefits of training, to the team and to the individual players, will be enjoyed by all. Also, the tournaments to be attended by the teams should be properly planned and programmed so as not to interfere with the student-athletes’ academic activities. Moreover, educators and school administrators should be constantly informed of the positive effects that sports and sports participation can have on the students. Athletic participation should be encouraged, not discouraged, because it provides experiences that are not obtainable through academics.
2. Further studies can be conducted with a larger sample size of Senior High School student-athletes in Marawi City and Lanao del Sur to see if the results change. This would enable future researchers to make accurate generalizations regarding the impact of athletic motivation and academic motivation to sports participation and academic performance; as well as the impact of athletic participation on academic performance.
3. Further studies could examine the roles of parental involvement and socioeconomic status in the sports participation and academic performance of Senior High School students and student-athletes. Parental involvement and socioeconomic status may be critical factors in the athletic motivation and academic motivation of these students.
4. Further studies could examine the impact of sports participation on the academic performance of student-athletes both in private and public school settings. Results may differ depending on the school environment.
5. Further research could address the relationship between sports participation and academic performance in different age settings.

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Effect of Weight Training on Muscular Strength and Muscular Endurance of High School Kabaddi Players

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INTRODUCTION

Sports in the present world has become extremely competitive. It is not the mere participation or practice that brings out victory to an individual. Therefore, sports life is affected by various factors like physiology, biomechanics, sports training, sports medicine, sociology and psychology etcetera. All the coaches, trainers, physical educational personals and doctors are doing their best to improve the performance of the players of their country. Athlete players of all the countries are also trying hard to bring laurels, medals for their countries in International competitions.

WEIGHT TRAINING

Weight training is a common type of strength training for developing the strength and size of the skeletal muscle. It uses the force of gravity in the form of weighted bars, dumbbells or weight sticks to oppose the force the force generated by muscle through concentric or eccentric muscles contraction. Weight training uses a variety of specialized equipment to target specific muscle groups and types of movements.

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the Effect of Weight Training on Muscular Strength and Muscular Endurance of High School Boys Kabaddi Players.

HYPOTHESES

In light of the preceding discussion and for the purpose of the present investigation, the following were hypothesized.

1. It was hypothesized that weight training would significantly improve muscular strength of High School Boys Kabaddi players.
2. It was hypothesized that weight training would significantly improve muscular endurance of High School Boys Kabaddi players.

DELIMITATIONS

The study was delimited in the following aspects and while interpreting the results. It should be taken into consideration.

1. The study was delimited to 60 Boys Kabaddi players of Z.P. High School, Polakala, Irala Mandal, Chittoor District (A.P.).
2. The age of the subjects ranged from 13 to 15 years as per the school records.
3. In this study, the following variables were selected for the study.
    1. Muscular Strength
    2. Muscular Endurance

SELECTION OF SUBJECTS

The purpose of the study was to find out the effect of weight training on selected motor ability components, muscular strength and muscular endurance among school level Kabaddi players. To achieve the purpose of this study, 60 school Kabaddi players of Z.P. High School, Polakala, Irala Mandal, Chittoor District (A.P.), were randomly selected. The age of the subjects ranged from 13 to 15 years as per the school records. The randomly selected subjects were divided into three groups,

namely, experimental group I (Low frequency – three days per week), experimental group II (Medium frequency – four days per week) and control group. Thus, in each group 20 school level Kabaddi players were selected.

STATISTICAL TECHNIQUE

To find out the effects of low frequency and medium frequency weight training on muscular strength and muscular endurance the pre and post test scores were analysed by using ANCOVA statistical technique. When the F ratio was found to be significant, Scheffe's post hoc test was to find out the paired mean significant difference.

Table I

ANCOVA RESULTS ON EFFECT OF LOW FREQUENCY WEIGHT TRAINING AND MEDIUM FREQUENCY WEIGHT TRAINING COMPARED WITH CONTROLS ON MUSCULAR STRENGTH

	Low Frequency Weight Training	Medium Frequency Weight Training	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	6.85	6.75	6.85	Between	0.13	2	0.07	0.06
				Within	58.85	57	1.03	
Post Test Mean	8.00	8.55	6.80	Between	32.03	2	16.02	32.43*
				Within	28.15	57	0.49	
Adjusted Post Test Mean	7.98	8.58	6.78	Between	33.60	2	16.80	74.05*
				Within	12.70	56	0.23	
Mean Diff	1.15	1.80	-0.05					

Table F-ratio at 0.05 level of confidence for 2 and 57 (df) =3.16, 2 and 56 (df) =3.16.
*Significant.

As shown in Table II, the obtained pre test means on Muscular Strength on Low frequency weight training group was 6.85, Medium frequency weight training group was 6.75 was and control group was 6.85. The obtained pre test F value was 0.06 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects.The obtained post test means on Muscular Strength on Low frequency weight training group was 8.00, Medium frequency weight training group was 8.55 was and control group was 6.80. The obtained post test F value was 32.43 and the required table F value was 3.16, which proved that there was significant difference among post test scores of the subjects. Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 74.05 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table II.

Table II

Multiple Comparisons of Paired Adjusted Means and Scheffe's Confidence Interval Test Results on Muscular Strength

MEANS				Required C.I.
Low frequency weight training Group	Medium frequency weight training Group	Control Group	Mean Difference	
7.98	8.58		-0.60*	0.38
7.98		6.78	1.20*	0.38
	8.58	6.78	1.80*	0.38

* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Low frequency weight training group and control group (MD: 1.20). There was significant difference between Medium frequency weight training group and control group (MD: 1.80). There was significant difference between treatment groups, namely, Low frequency weight training group and Medium frequency weight training group. (MD: -0.60).

Table III

ANCOVA RESULTS ON EFFECT OF LOW FREQUENCY WEIGHT TRAINING AND MEDIUM FREQUENCY WEIGHT TRAINING COMPARED WITH CONTROLS ON MUSCULAR ENDURANCE

	Low Frequency Weight Training	Medium Frequency Weight Training	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	33.20	34.00	33.10	Between	9.73	2	4.87	0.17
				Within	1675.00	57	29.39	
Post Test Mean	35.90	37.45	33.45	Between	162.70	2	81.35	4.47
				Within	1037.70	57	18.21	

Adjusted Post Test Mean	36.05	37.07	33.67	Between	121.61	2	60.81	11.25
				Within	302.78	56	5.41	
Mean Diff	2.70	3.45	0.35					

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

*Significant

As shown in Table IV, the obtained pre test means on Muscular Endurance on Low frequency weight training group was 33.20, Medium frequency weight training group was 34.00 was and control group was 33.10. The obtained pre test F value was 0.17 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects.The obtained post test means on Muscular Endurance on Low frequency weight training group was 35.90, Medium frequency weight training group was 37.45 was and control group was 33.45. The obtained post test F value was 4.47 and the required table F value was 3.16, which proved that there was significant difference among post test scores of the subjects.Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 11.25 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table IV.

Table IV Multiple Comparisons of Paired Adjusted Means and Scheffe's Confidence Interval Test Results on Muscular Endurance

MEANS				Required
Low frequency weight training Group	Medium frequency weight training Group	Control Group	Mean Difference	. C I
36.05	37.07		1.02	1.85
36.05		33.67	2.38*	1.85
	37.07	33.67	3.40*	1.85

* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Low frequency weight training group and control group (MD: 2.38). There was significant difference between Medium frequency weight training group and control group (MD: 3.40). There was insignificant difference between treatment groups, namely, Low frequency weight training group and Medium frequency weight training group. (MD: -1.02).

CONCLUSIONS

Within the limitations and delimitations of the study, the following conclusions were drawn.

1. It was concluded that 12 weeks low frequency weight training and 12 weeks medium frequency weight training significantly improved muscular strength of the school Kabaddi Boys players compared to control group.
2. It was concluded that comparing between low frequency weight training and medium frequency weigh training, medium frequency weight training was significantly better than low frequency weight training in imp[roving muscular strength of school level Kabaddi Boys players.
3. It was concluded that 12 weeks low frequency weight training and 12 weeks medium frequency weight training significantly improved muscular endurance of the school Kabaddi Boys players compared to control group.
4. It was concluded that comparing between low frequency weight training and medium frequency weigh training, there was insignificant difference in improving muscular endurance of school level Kabaddi Boys players.

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Effect of Pranayama on Vital Capacity, Inspiratory Reserve Volume and Expiratory Reserve Volume of High School Girls"

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PRANAYAMA

Pranayama means control and regulation of breath. "Prana" is Sanskrit word which means 'vital force', "Ayana", means the control of the Prana so Pranayama means the control of vital force (Prana) by concentration and regulated breathing. Prana is the vital power or force which is motivating every element on the earth and is the origin of the force of thought. there is a deep affinity between prana and mental force, between mental force and intellect, between intellect to soul, and between soul and God. The control of Prana through Pranayama that each part of the body can be filled with Prana.

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effects of pranayama on vital capacity, inspiratory reserve volume and expiratory reserve volume among High School girls.

HYPOTHESIS

1. It was hypothesized that the pranayama would significantly influence selected physiological variable, vital capacity of high school girls compared to control group.
2. It was hypothesized that the pranayama would significantly influence selected physiological variable, inspiratory reserve volume of high school girls compared to control group.
3. It was hypothesized that the pranayama would significantly influence selected physiological variable, expiratory reserve volume of high school girls compared to control group.

DELIMITATIONS

To achieve the objectives of the study, the investigator delimited the research for the following factors.

i. This study was conducted only on randomly selected thirty high school level girls in Andhra Pradesh.
ii. The age group of the subjects was between 13 to 15 years.
iii. The Pranayama programme was restricted to period of 12 weeks.
iv. The study was restricted to the following variables.
    1. Vital capacity
    2. Inspiratory Reserve Volume
    3. Expiratory Reserve Volume

SELECTION OFSUBJECTS

To facilitate the study, randomly selected thirty health high school level girls were selected as subjects and their age ranged between 13-15 years they were further divided into two groups namely Pranayamas Group and control group on random basis, each group consisting of 15 subjects. Before the commencement of the training, purpose of the study and method of performing pranayama practices were explained to the subjects for their cooperation.

STATISTICAL TECHNIQUE

Design is the key for controlling the outcomes from experimental research. The independent variables are manipulated in an attempt to judge their effects on the dependent variable. The experimental design used in this study was pre test, post test random group design. Here, the groups were randomly formed but the groups were taken a pre test as well as post test. The major purpose of this type of design was to determine the amount of change produced by the treatment, that is, does the experimental group change more than the control group.

Table I

COMPUTATION OF ANALYSIS OF COVARIANCE ON VITAL CAPACITY

	EXPERIMENTAL GROUP	CONTROL	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED F- ratio
Pre Test Mean	3350	3216.67	Between	133333.33	1	133333.33	0.63
			Within	5936933.33	28	212033.33	
Post Test Mean	3728.00	3238.00	Between	1800750.00	1	1800750.00	9.45*
			Within	5337680.00	28	190631.43	
Adjusted Post Test Mean	3665.75	3300.25	Between	979920.95	1	979920.95	163.97*
			Within	161354.24	27	5976.08	
Mean Diff	378.00	21.33					

Table F-ratio at 0.05 level of confidence for 1 and 28 (df) =4.19, 1 and 27(df) =4.21.
* Significant

The pre test mean on experimental group was 3350, and control group was 3216.67 and the obtained F value was 0.63, which was less than the required F value of 4.19 to be significant. Hence, it was not significant and the groups were equal at initial stage.The comparison of post test means, experimental group 3728.00 and control group 3238.00 proved to be significant at 0.05 level as the obtained F value 9.45 was greater than the required table F value of 4.19 to be significant at 0.05 level.Taking into consideration the initial and final mean values adjusted post test means were calculated and the obtained F value of 163.97 was greater than the required F value to be significant 4.21 and hence, there was significant difference.Thus, it was proved that experimental group gained mean difference on physiological variable, Vital capacity 378.00 was due to pranayama given to high school girls was found to be significant at 0.05 level.

Table II

COMPUTATION OF ANALYSIS OF COVARIANCE ON INSPIRATORY RESERVE VOLUME

	EXPERIMENTAL GROUP	CONTROL	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED F - ratio
Pre Test Mean	198.8	2016.67	Between	6163.33	1	6163.33	0.35
			Within	488423.33	28	17443.69	
Post Test Mean	2149.33	2045.00	Between	81640.83	1	81640.83	7.18*
			Within	318493.33	28	11374.76	

Adjusted Post Test Mean	2150.82	2043.51	Between	85295.44	1	85295.44	7.35*
			Within	313213.88	27	11600.51	
Mean Diff	161.33	28.33					

Table F-ratio at 0.05 level of confidence for 1 and 28 (df) =4.19, 1 and 27(df) =4.21 .

* Significant

The pre test mean on experimental group was 1988, and control group was 2016.67 and the obtained F value was 0.35, which was less than the required F value of 4.19 to be significant. Hence, it was not significant and the groups were equal at initial stage.The comparison of post test means, experimental group 2149.33 and control group 2045.00 proved to be significant at 0.05 level as the obtained F value 7.18 was greater than the required table F value of 4.19 to be significant at 0.05 level.Taking into consideration the initial and final mean values adjusted post test means were calculated and the obtained F value of 7.35 was greater than the required F value to be significant 4.21 and hence, there was significant difference.Thus, it was proved that experimental group gained mean difference on physiological variable, Inspiratory Reserve Volume 161.33 was due to pranayama given to high school girls was found to be significant at 0.05 level.

Table III

COMPUTATIONOFANALYSISOFCOVARIANCEONEXPIRATORY RESERVEVOLUME

	EXPERIMENTAL GROUP	CONTROL	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED F- ratio
Pre Test Mean	1138	1166.67	Between	6163.33	1	6163.33	0.37
			Within	461423.33	28	16479.40	
Post Test Mean	1292.67	1158.33	Between	135340.83	1	135340.83	13.70*
			Within	276526.67	28	9875.95	
Adjusted Post Test Mean	1298.00	1153.00	Between	155616.23	1	155616.23	19.76*
			Within	212600.73	27	7874.10	
Mean Diff	154.67	-8.33					

Table F-ratio at 0.05 level of confidence for 1 and 28 (df) =4.19, 1 and 27(df) =4.21 .

* Significant

The pre test mean on experimental group was 1138, and control group was 1166.67 and the obtained F value was 0.37, which was less than the required F value of 4.19 to be significant. Hence, it was not significant and the groups were equal at initial stage.The comparison of post test means, experimental group 1292.67 and control group 1158.33 proved to be significant at 0.05 level as the obtained F value 13.70 was greater than the required table F value of 4.19 to be significant at 0.05 level.Taking into consideration the initial and final mean values adjusted post test means were calculated and the obtained F value of 19.76 was greater than the required F value to be significant 4.21 and hence, there was significant difference.Thus, it was proved that experimental group gained mean difference on physiological variable, Expiratory Reserve Volume 154.67 was due to pranayama given to stress software executives was found to be significant at 0.05 levels.

CONCLUSIONS

With in the limitations and delimitations of this study, the following conclusions were drawn.

1. It was concluded that 12 weeks pranayama for High School girls significantly influenced their vital capacity compared to control group.
2. It was concluded that 12 weeks pranayama for High School girls significantly influenced their inspiratory reserve volume compared to control group.
3. It was concluded that 12 weeks pranayama for High School girls significantly influenced their expiratory reserve volume compared to control group.

RECOMMENDATIONS

The findings of this study proved that pranayama significantly influenced selected physiological variables hence, educational authorities may consider for introduction of yogasanas and pranayama in school and college curriculum for the all round development of the students.

1. It was recommended that fitness centers can introduce yogasanas and pranayama in their fitness programmes for the benefit of people approaches them.
2. It was recommended that physical educationists and coaches to include yogasanas and pranayama in their training schedule wherever, players shows deficiency in selected biochemical and physiological fitness.

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Comparison of Explosive Power among Sprinters and Long Jumpers of S.K. University

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Introduction:

Sprinting is running over a short distance in a limited period of time. It is used in many sports that incorporate running, typically as a way of quickly reaching a target or goal, or avoiding or catching an opponent. Human physiology dictates that a runner's near-top speed cannot be maintained for more than 30–35 seconds due to the depletion of phosphocreatine stores in muscles, and perhaps secondarily to excessive metabolic acidosis as a result of anaerobic glycolysis.In athletics and track and field, **sprints** are races over short distances. They are among the oldest running competitions, being recorded at the Ancient Olympic Games. Three sprints are currently held at the modern Summer Olympics and outdoor World Championships: the 100 metres, 200 metres, and 400 metres. The Long Jump is a track and field event in which athletes combine speed, strength and agility in an attempt to leap as far as possible from a take off point. This event has a history in the Ancient Olympic Games and has been a modern Olympic event for men since the first Olympics in 1896 and for women since 1948.

Purpose of the Study:

The Purpose of the study is to find out the Explosive Power among Sprinters and Long Jumpers of S.K. University, Ananthapur

Previous Studies:

A.Naresh and Babaih (2013) Published in the International Journal of Health, Physical Education and Computer Science in Sports conducted the Study on Agility among Sepak Takraw and Basket Ball Players. It was found in the Study Sepak Takraw Players are having better agility compare to basket ball Players

Dr.KaukabAzeem (2013) Published in the Asian Journal of Physical Education and computer Science in Sports conducted the study A Comparative study of agility among Sepak Takraw and Netball Players of Hyderabad District

Dr.K.Deepla (2014) Published in the Asian Journal of Physical Education and computer Science in Sports A Study Of Aerobic Endurance Among Foot Ball Players And Sepak Takraw Players Of Hyderabad .

Methodology:

The Sample for the Study consists of 20 Sprinters and 20 Long Jumpers of S.K. University, Ananthapur To assess assess the Explosive Power the Standing Broad Jump Test is conducted by the Technical Officials.

Standing Broad Jump:
The Standing long jump, also called the Broad Jump, is a common and easy to administer test of explosive leg power.
purpose: to measure the explosive power of the legs

Result and Discussion:

Table I showing the Mean values and Independent Samples Test of Standing Broad Jump between Sprinters and Long Jumpers

Variables	Group	Mean ± SD	t	P - Value
Standing Broad Jump	Long Jumpers	2.32 ± 0.157	3.55	0.001
	Sprinters	2.28 ± 0.159		

*Significant at 0.05 level
In Table –I the Mean Values of Long Jumpers in Standing Broad Jump is 2.32 and Sprinters is 2.28. Hence the Long jumpers are having good Explosive Power compare to Sprinters.

Conclusions:
The results of the study shows that the Long Jumpers are having good Explosive Power compare to sprinters.Long Jumpers must strengthen and work on several different muscles in their training. Strength training for Long Jumpers and Sprinters generally focuses on exercises for the hip flexors, calves and lower back.

Recommendations:
Similar Studies can be conducted among females and in other Sports and games. This study is useful to the Coaches to prepare the conditioning program to improve the motor qualities in Sprints and Long Jumpers

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Effect of Plyometric Training for development of Speed among Women Volley Ball Players of S.K.University, Ananthapur

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Abstract:
The purpose of the present study to find out the effect of Plyometric Training for the development of speed among Volley Ball Women Players of S.K. University University . The sample for the present study consists of 20 female Volley ball Women Players of S.K. University out of which 10 are experimental group and 10 are controlled group. Plyometric Training were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for six weeks. Pre Test and Post Test were conducted in 30 M Run to measure the speed among experimental group and controlled group. This study shows that due to the circuit training there is a improvement of experimental group in Speed and controlled group is decreased in performance of speed. In order to run faster the Plyometric training helps in improving the Stride length, Leg Power which helps in improving the speed among the Volley Ball Players
Key Words: Plyometric training, Volley Ball Players, speed, Stride length etc.

Introduction: :
Plyometric strength training uses burst techniques to help tone the fast-twitch response muscles, allowing for stronger and more frequent bursts of physical motion during competition. The boxing Plyometrics website recommends practicing the forward fall to help increase the quickness and burst strength of your quadriceps and calves. Begin the forward fall by standing with your feet shoulder-width apart and your hands resting on your hips so that your elbows point out to your sides. Let your body fall forward and catch yourself by extending your right leg and bending your right knee so that you land in a wide lunge stance. Push yourself off the floor as quickly as you can while remaining stable and repeat until both legs have been pushed 10 times

Previous Studies

Markovic G (2007) published in the British Journal of Sports Medicine has justify the application of Plyometric Training for the purpose of development of vertical jump performance in healthy individuals.
S.Jayaraman (2011) Asian Journal of Physical Education and Computer Science in sports- Vol.5- Effect of Weight Training and Fartlek Training on Selected Physiological Variables among College Men Students:His Studies there is a significant improvement of Physiological variables due to Weight Training.
Al Moslim Hasan (2014) Journal of Physical Education and Sport- Effect of combined Plyometric and Weight Training on speed of male students with different body fat Combined Plyometric and Resistance Training has positive effects on fitness variables such as speed (Ronnestad et al 2008, Rahimi et al 2006, De Villareal et al 2011 etc

Method:.

The sample for the present study consists of 20 female Volley ball Women Players of S.K. University out of which 10 are experimental group and 10 are controlled group. Plyometric Training were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for six weeks. Pre Test and Post Test were conducted in 30 M Run to measure the speed among experimental group and controlled group

Result:
This results of the study shows that due to the Plyometric training there is a improvement of experimental group in the Speed and controlled group is decreased in performance in speed due to the general training.

Table I:**Mean values of 30 M run test between experimental and control groups of Women Volley Ball Players of S.K. University**

Variables	Group	Pre Test Mean	Post Test Mean	t	P - Value
30 M Run Test	Experimental	4.75	4.33	2.56	0.000
	Control	4.78	4.73		

The Experimental Group of 30 M Run Men is 4.75 in Pre Test and Controlled Group mean is 4.78 in Pre Test there is a difference of 0.03 in Pre Test. The Experimental Group Mean is 4.33 in Post Test and Controlled Group mean is 4.73, the Experimental Group mean in Post Test in 30 M Run is decreased from 4.65 to 4.33 there is a improvement of 0.32 from Pre Test to Post and Control Group Mean is post test is 4.73 there is a increase of 4.68 to 4.73 from Pre Test to Post, the performance is come down to 0.05 in the controlled group. Due to Plyometric Training the Experimental group has improved a lot.

Conclusion:
The aim is to build some strength, both in your limbs and also your trunk, which will allow for the maintenance of speed when you are tired and also the power for running at the high pace often involved in races. A large part of the strength required can be attained from plyometric training. A range of press ups, abdominal curls, tricep dips, back arches etc will provide a good base of strength and strength endurance. Building good core stability and strength is very important as it helps you keep your posture correct and your stride length long when you get tired.

Recommendations:
Similar Studies can be conducted on other sports and Games.The plyometric training programme is useful for developing the motor quality of the sports persons.

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Effects Of Varied Intensities And Frequencies Of Weight Training On Selected Motor Fitness And Performance Variables Among Athletes.

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Abstract
The purpose of the study was to find out the effects of varied intensities and frequencies of weight training on selected motor fitness and performance variables among athletes. The study was formulated as a true random group design, consisting of a pre test and post test. The subjects (n=60) were randomly assigned to three equal groups of twenty athletes each. The groups were assigned as Experimental Groups I, II and control group respectively. Pre tests were conducted for all the subjects on selected motor fitness and performance variables such as explosive power, stride length,. Two selected weight training exercises were selected for the study and 1 RM (Repetition Maximum) of the weight training exercises were determined for experimental group subject. The experimental groups participated in their respective high intensity (80% of 1 RM) low frequency (2 days per week) weight training and low intensity (60% of 1 RM) and high frequency (3 days per week) weight training a period of twelve weeks. The post tests were conducted on the above said dependent variables after the experimental period of twelve weeks for all the three groups. The difference between the initial and final scores of the subjects on each variable was the effect of respective treatments. Statistical significance was tested through applying ANCOVA. KeyWords:- Weight training, Motor fitness , performance variables among athletes.

INTRODUCTION.

Sports in the present world has gotten very aggressive. It isn't the unimportant interest or practice that brings out triumph to a person. In this manner, sports life is influenced by different variables like physiology, biomechanics, sports preparing, sports prescription, humanism and brain science etcetera. Every one of the mentors, coaches, physical instructive personals and specialists are putting forth a valiant effort to improve the presentation of the players of their nation. Competitor players of the considerable number of nations are additionally making a decent attempt to bring trees, decorations for their nations in International rivalries.

SPORTS TRAINING

Preparing is a program of activity intended to improve the aptitudes and to expand the vitality limit of a competitor for a specific occasion, subsequently preparing is basic for the advancement of physical wellness parts (William and Sperryn, 1976) .Sports preparing is the procedure of sports security dependent on logical and instructive standards for better (Hardayal Singh, 1991).

EFFECTS OF TRAINING

The preparation procedure goes about as a methods for development of sports execution. So as to guarantee quick advancement in each individual the physical instruction educators, the mentors and the teachers must have an exhaustive information on the improvement part of sports preparing (Walter, 1969) .

INTENSITY OF TRAINING

Exercise intensity should be checked frequently during and beginning of exercise programme. This requires some practice in taking one’s pulse usually in the radial or carotid artery locations, since it is rather difficult to calculate the pulse during exercise. The pulse should be taken for a period of ten

seconds immediately after stopping, beginning the count with zero. If the rate is below the prescribed training range, the intensity should be increased and if the rate is above the range, the intensity should be reduced.

WEIGHT TRAINING

Better exhibitions can be the result of various variables. This item is fundamentally the result of effective procedure. The movement of speed and the developing aggressive frame of mind on a sound premise of general perseverance, all round quality and general versatility. The improvement of all round quality is best accomplished the high-intensity aerobics and afterward advancing this through weight preparing.
through a dynamic weight preparing.

MOTOR FITNESS

Engine Fitness alludes to the capacity of a competitor to perform effectively at their game. The segments of engine wellness are (Davis 2000) Agility, Balance, Co-appointment, Power (speed and quality) and Reaction Time

Stride Length

Take a youthful Costa Rican sprinter and state, "Run with long walks for mentors." She would most likely misrepresent her steps to satisfy the direction of the mentor. She would build her real walk length from the toe of the correct foot at departure to the toe of the left foot at touchdown. This is the oversimplified idea numerous competitors have of walk length. Be that as it may, walk length is better comprehended in connection to the competitor's Center of Gravity (COG), and the separation the Center of Gravity makes a trip from bring off to contact down is utilized to calculate the real walk length.

NEED OF THE STUDY

To study the ways and means by which the athletes can improve their performance and motor fitness are important principles of training methods. Sports consist of preparation and performance about 99% preparation and 1% performance. We need to make the most, effective use of our preparation time so that our athletes can achieve high level performance. For that the fitness and physiological systems should be taken care very much for the adaptation to their particular activities as because function decides structure. The system will change or adapt according to the nature of the activity. Therefore to know this fact among the players is very important for the improvement of performance. Because the level of fitness of physiological system may vary from players to player according to conditional status of the proper functioning of physiological system is needed to achieve in sports.

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effects of varied intensities and frequencies of weight training on selected motor fitness and performance variables among athletes

OBJECTIVES OF THE STUDY

The objectives of this study are detailed as below:

To formulate suitable weight training with manipulation of varied intensities and frequencies for the benefit of athletes.

To experiment with varied intensities and frequencies of weight training on selected motor fitness variables, explosive power, performance variables stride length, of athletes.

To compare the mean differences due to effect of varied intensities and frequencies of weight training on selected motor fitness and performance variables of athletes.

HYPOTHESES

In light of the preceding discussion and for the purpose of the present investigation, the following were hypothesized.

It was hypothesized that varied intensities and frequencies of weight training would significantly improve in selected motor fitness variables, explosive power, among athletes compared to control group.

It was hypothesized that varied intensities and frequencies of weight training would significantly improve selected performance variables, stride length,
among athletes compared to control group.

It was hypothesized that there would be no significant differences among treatment groups involved in varied intensities and frequencies of weight training on selected motor fitness and performance variables of athletes.

SIGNIFICANCE OF THE STUDY

Better performances can be the product of a number of factors. This product is primarily the outcome of efficient technique, the progression of speed and the maturing competitive attitude on a sound basis of general endurance, all round strength and general mobility. The development of all round strength is best achieved through improving of motor fitness and performance variables by progressing through weight training. In the light of these theoretical foundations made by previous researches, the following are the significance of this research.

This study is significant in developing a weight training schedule with different intensities and frequencies for the benefit of athletes.

Through manipulation of weight training by varied intensities and frequencies, the study is unique in making the weight training exercises, which is anaerobic in nature into an aerobic one which is more beneficial for athletes.

The findings of this study would help the coaches, physical educationists and players to apply the training schedule suggested in this study for improving selected motor fitness and performance variables of athletes.

The findings would lay theoretical foundations on the importance of varied intensities and frequencies in weight training for the better development of athletes' motor fitness and performance variables.

The finding of the study may be helpful for the coaches and instructors to apply proper frequency for better performance.

Finding of the study may be helpful for the coaches and players to opt the intensity and frequency level for participation and coaching in future.

The result of the study may be helpful to physical education teacher, coach in designing the training programs to improve athletics performance according to the individual concerned.

DELIMITATION

The study was delimited in the following aspects and while interpreting the results. It should be taken into consideration.

The study was delimited to state level athletes who participated in interstate athletic events.

The athletes were randomly selected from the contingent participated at Vijayawada sports meets.

The athletes were in the age group of 18 to 25 years..

In this study, the following variables were selected for the study.

Dependent Variables;-Motor Fitness Components

Explosive power, Performance Variables,Stride Length

LIMITATIONS

The specialist couldn't control the way of life, mental pressure and factors that influence metabolic capacity. Psychological and sociological parts of their everyday life communications to their condition couldn't be controlled. The every day standard, climatic conditions, healthful entertainers, inspirational components and financial variables, were not mulled over. The time of preparing and time of testing were the working days, in for the most part morning and night hours.

Methodology

SELECTION OF SUBJECTS

The purpose of the study was to find out the effects of varied intensity and frequency of weight training on selected motor ability components and performance variables among athletes.

To achieve the purpose of this study, sixty athletes who represented their college in Interstate Athletic meet organized in Vijayawada were randomly selected as subjects. The selected subjects' age group was ranging from eighteen to twenty five years. The subjects were randomly divided into three groups and each group consists of twenty subjects. Group one acted as experimental group I and Group two acted as experimental group II and group three acted as control group. Control group was not given any exposure. Experimental Group I underwent low intensity and high frequency of weight training and Experimental group II under went high intensity and low frequency of weight training for twelve weeks.

SELECTION OF VARIABLES

The research scholar reviewed various scientific literature pertaining to weight training exercises and manipulation of weight training with different intensities and frequencies motor fitness and performance variables of athletes from books, journals, periodicals, magazines and research papers. Taking into consideration of feasibility criteria, availability of instruments and the relevance of the variables of the present study, the following variables were selected.

Dependent Variables:-Motor Ability Components

Explosive Power, Performance Variables, Stride Length

Independent Variables: High Intensity and low frequency Weight Training (80% of 1 RM Intensity for two days in a week) for twelve weeks.

Low Intensity and high frequency Weight Training (60% of 1 RM Intensity for three days in a week) for twelve weeks.

Experimental Design

The study was formulated as a true random group design, consisting of a pre test and post test. The subjects (n=60) were randomly assigned to three equal groups of twenty athletes each. The groups were assigned as Experimental Groups I, II and control group respectively. Pre tests were conducted for all the subjects on selected motor fitness and performance variables such as explosive power, stride length,. Two

selected weight training exercises were selected for the study and 1 RM (Repetition Maximum) of the weight training exercises were determined for experimental group subject. The experimental groups participated in their respective high intensity (80% of 1 RM) low frequency (2 days per week) weight training and low intensity (60% of 1 RM) and high frequency (3 days per week) weight training a period of twelve weeks.The post tests were conducted on the above said dependent variables after the experimental period of twelve weeks for all the three groups. The difference between the initial and final scores of the subjects on each variable was the effect of respective treatments. Statistical significance was tested through applying ANCOVA.

Test Administration.

EXPLOSIVE POWER

Purpose:-To measure leg explosive power

Procedure:-The subject was asked to stand behind the take off line. The subject had to flex his knees and the extended arms taken behind. The arms were swing back and forth and subject, taking off with toes, fully extending the knees was to leap forward into the broad jump pit as far as possible. Three trials were given and the best jump was recorded in centimeters.

PERFRMANCE VARIABLES:-STRIDE LENGTH

Purpose:-To measure the stride length of the subjects while performing 50 meters run.

Equipments:-Stop watch, Clapper, Saw Dust

Procedure:- While the subjects were allowed to run fast in 50 metres run to measure speed, the estimation of the length of walk was taken in the test course, which comprises of a quickening zone of 20 meters and the test zone of 30 meters (between twentieth to 50th meter). The competitor utilizes the increasing speed zone to increase most extreme speed through the 30 meters test course. A light covering of sawdust was spread over the test zone that featured the impressions. Walk length was the good ways from the tip of the back toe to the tip of the front toe was recorded to the closest centimeter. To maintain a strategic distance from the respective inconsistencies two progressive steps are estimated to the closest centimeter. (Seagrave, L., 1996).

Scoring:-The average of two consecutive strides of the subject was recorded in centimeter as the individual score.

STRIDE LENGTH

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Scoring-The average of two consecutive strides of the subject was recorded in centimeter as the individual score.

STATISTICAL TECHNIQUE

To find out the effects of high and low intensities of weight training on motor components and performance variables, the pre test scores were analyzed by using ANCOVA statistical technique. When the F ratio was establish to be noteworthy, Scheffe's post hoc test was to find out the balancing mean significant difference. (Thirumalaisamy, 1998).

RESULTS AND DISCUSSION:

RESULTS ON EXPLOSIVE POWER

The statistical analysis associating the initial and final means of Explosive power due to high intensity and low frequency (HILF) Weight training and low intensity and high frequency (LIHF) Weight training among athletes is presented in Table I

Table I:ANCOVA RESULTS ON EFFECT OF HIGH INTENSITY AND LOW FREQUENCY (HILF) WEIGHT TRAINING AND LOW INTENSITY AND HIGH FREQUENCY (LIHF) WEIGHT TRAINING COMPARED WITH CONTROLS ONEXPLOSIVE POWER

	HILF WEIGHT TRAINING	LIHF WEIGHT TRAINING	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED F
Pre Test Mean	2.29	2.31	2.40	Between	0.13	2	0.06	2.53
				Within	1.43	57	0.03	
Post Test Mean	2.39	2.42	2.39	Between	0.01	2	0.01	0.22
				Within	1.67	57	0.03	
Adjusted Post Test Mean	2.43	2.44	2.32	Between	0.15	2	0.07	11.73*
				Within	0.36	56	0.01	
Mean Diff	0.10	0.11	-0.01					

HILF: High Intensity and Low Frequency ; LIHF : Low intensity and High Frequency

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

*Significant

As shown in Table I, the obtained pre test means on Explosive power on HILF Weight training group was 2.29, LIHF Weight training group was 2.31 was and control group was 2.40. The obtained pre test F value was 2.53 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects.

The obtained post test means on Explosive power on HILF Weight training group was 2.39, LIHF Weight training group was 2.42 was and control group was 2.39. The obtained post test F value was 0.22 and the required table F value was 3.16, which proved that there was no significant difference among post test scores of the subjects.

Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 11.73 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table II.

Table II: Multiple Comparisons of Paired AdjustedMeans and Scheffe's Confidence Interval Test Results on Explosive power

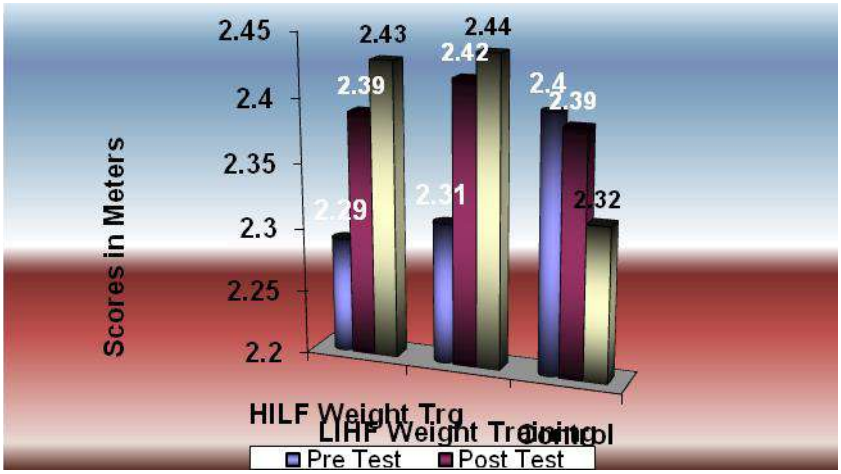
MEANS				Required . C I
HILF Weight training Group	LIHF Weight training Group	Control Group	Mean Difference	
2.43	2.44		0.01	0.06
2.43		2.32	0.11*	0.06
	2.44	2.32	0.12*	0.06

HILF: High Intensity and Low Frequency ; LIHF : Low intensity and High Frequency* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between HILF Weight training group and control group (MD: 0.11). There was significant difference between LIHF Weight training group and control group (MD: 0.12). There was no significant difference between treatment groups, namely, HILF Weight training group and LIHF Weight training group. (MD: 0.01).

The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure I.

Figure I:BAR DIAGRAM SHOWING PRE TEST, POST TEST AND ORDERED ADJUSTED MEANS ON EXPLOSIVE POWER



HILF: High Intensity and Low Frequency; LIHF: Low intensity and High Frequency

DISCUSSIONS ON FINDINGS ON EXPLOSIVE POWER

In order to find out the effect of varied intensities and varied frequencies of weight training the investigator selected high intensity and low frequency (HILF) Weight training and Low intensity and high frequency (LIHF) Weight training as independent variables. The results in table Ishows the effects of varied intensities and varied frequencies on Explosive power. The obtained pre and post test means were subjected to ANCOVA and post hoc analysis through Scheffe's confidence interval test.

The effect of HILF Weight training and LIHF Weight training on Explosive power is presented in Table I. The analysis of covariance proved that there was significant difference between the experimental group and control group as the obtained F value 11.73 was greater than the required table F value to be significant at 0.05 levels.

Since significant F value was obtained, the results were further subjected to post hoc analysis and the results presented in Table II proved that there was significant difference between HILF Weight training group and control group (MD: 0.11) and LIHF Weight training group and control group (MD: 0.12). Comparing between the treatment groups, it was found that there was no significant difference between

HILF Weight training and LIHF Weight training group among athletes.

Thus, it was found that HILF weight training and LIHF Weight trainingwereexpressively better than control cluster in improving Explosive power of the athletes.

Motor fitness variable explosive power contributes for better performance of an athlete. The belongings of varied passions and frequencies of weight training were experimented in this study. The findings of this study that varied intensity and frequency weight training significantly improve motor fitness variable explosive power is in covenant with the findings of Rhea MR, et.al. (2009) who assessed the effect of heavy/slow actions and variable resistance training on peak power and strength development and found Variable resistance training with elastic bands appears to provide greater performance benefits with regard to peak force and peak power and speed which resulted in improved explosive power.

Results On Stride Length

The statistical analysis associating the initial and final means of Stride length due to high intensity and low frequency (HILF) Weight training and low intensity and high frequency (LIHF) Weight training among athletes is obtainable in Table III

Table III: ANCOVA RESULTS ON EFFECT OF HIGH INTENSITY AND LOW FREQUENCY (HILF) WEIGHT TRAINING AND LOW INTENSITY AND HIGH FREQUENCY (LIHF) WEIGHT TRAINING COMPARED WITH CONTROLS ONSTRIDE LENGTH

	HILF WEIGHT TRAINING	LIHF WEIGHT TRAINING	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED F
Pre Test Mean	1.94	1.95	1.95	Between	0.00	2	0.00	0.20
				Within	0.28	57	0.00	
Post Test Mean	1.96	1.96	1.95	Between	0.00	2	0.00	0.35
				Within	0.27	57	0.00	
Adjusted Post Test Mean	1.97	1.97	1.94	Between	0.01	2	0.00	7.55*
				Within	0.04	56	0.00	
Mean Diff	0.02	0.02	-0.01					

HILF: High Intensity and Low Frequency; LIHF: Low intensity and High Frequency
Table F-ratio at 0.05 level of confidence for 2 and 57 (df) =3.16, 2 and 56 (df) =3.16.
*Significant

As shown in Table III, the obtained pre test means on Stride length on HILF Weight training group was 1.94, LIHF Weight training group was 1.95 was and control group was 1.95. The obtained pre test F value was 0.20 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects.

The obtained post test means on Stride length on HILF Weight training group was 1.96, LIHF Weight training group was 1.96 was and control group was 1.95. The obtained post test F value was 0.35 and the required table F value was 3.16, which proved that there was no significant difference among post test scores of the subjects.

Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 7.55 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table IV.

Multiple Comparisons of Paired Adjusted Means and Scheffe's Confidence Interval Test Results on Stride length.

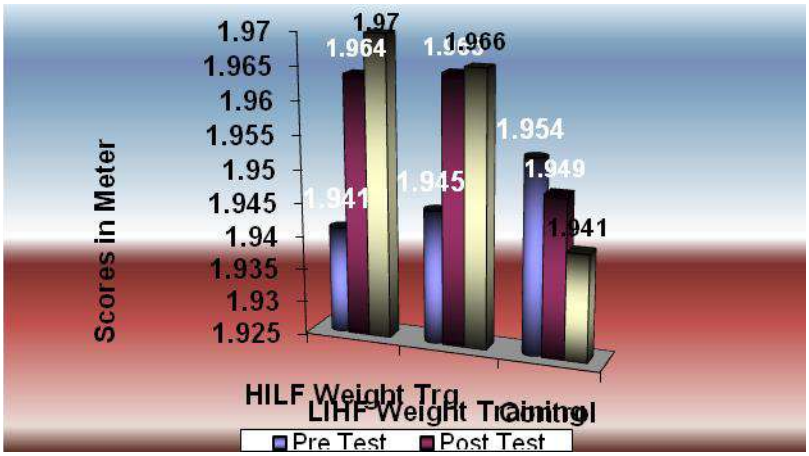
MEANS				Required . C I
HILF Weight training Group	LIHF Weight training Group	Control Group	Mean Difference	
1.970	1.966		0.003	0.020
1.970		1.941	0.028*	0.020
	1.966	1.941	0.025*	0.020

HILF: High Intensity and Low Frequency; LIHF: Low intensity and High Frequency
* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between HILF Weight training group and control group (MD: 0.028). There was significant difference between LIHF Weight training group and control group (MD: 0.025). There was no significant difference between treatment groups, namely, HILF Weight training group and LIHF Weight training group. (MD: 0.003).

The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure II.

BAR DIAGRAM SHOWING PRE TEST, POST TEST AND ORDERED ADJUSTED MEANS ON STRIDE LENGTH



HILF: High Intensity and Low Frequency; LIHF: Low intensity and High Frequency

DISCUSSIONS ON FINDINGS ON STRIDE LENGTH

In order to find out the effect of varied intensities and varied frequencies of weight training the investigator selected high intensity and low frequency (HILF) Weight training and Low intensity and high frequency (LIHF) Weight training as independent variables. The results in table III shows the effects of varied intensities and varied frequencies on Stride length. The obtained pre and post test means were subjected to ANCOVA and post hoc analysis through Scheffe's confidence interval test.

The effect of HILF Weight training and LIHF Weight training on Stride length is presented in Table III. The analysis of covariance proved that there was significant difference between the experimental group and control group as the obtained F value 7.55 was greater than the required table F value to be significant at 0.05 level.

Since significant F value was obtained, the results were further subjected to post hoc analysis and the results presented in Table IV proved that there was significant difference between HILF Weight training group and control group (MD: 0.028) and LIHF Weight training group and control group (MD: 0.025). Comparing between the treatment groups, it was found that there was no significant difference between HILF Weight training and LIHF Weight training group among athletes.

Thus, it was found that HILF weight training and LIHF Weight trainingweresuggestively better than control cluster in improving Stride length of the athletes.

The intensity and length of the work interval should be based upon the primary energy system being used in the activity. Sprinters should have short high intensity intervals whereas marathons may run intervals of 3 miles at race pace or slower. There are several factors that affect the resulting heart rate besides exercise and training. Although the extent of variation differs with each individual body position has a definite effect upon the heart rate. The training effect of exercise depends upon the amount of stress imposed upon the relevant part of the body. There are variation in the resting heart rate response that is used in the exercise gives a better indication of intensity.

The findings of this study that varied intensity and frequency of weight training would significantly improve speed of the athletes is in agreement with the findings of Powerman (2003) who found connective tissues are strengthened and increase speed and strength due to due to maximal and dynamic effect methods, heavy load training, light load training. This would resulted in enhanced stride length of the athletes. And the findings of this study were in agreement with the findings of Powerman (2003) that varied intensities and frequencies of weight training would improve speed of athlete.

DISCUSSIONS ON HYPOTHESIS

For the purpose of the study the following were hypothes

It was hypothesized that varied intensities and frequencies of weight training would significantly improve in selected motor fitness variables, explosive power, among athletes compared to control group.

It was hypothesized that varied intensities and frequencies of weight training would significantly improve selected performance variables, stride length, among athletes compared to control group.

It was hypothesized that there would be no significant differences among treatment groups involved in varied intensities and frequencies of weight training on selected motor fitness and performance variables of athletes.

The results presented in Tables I to II deals with analysis of covariance on motor fitness variables, explosive power, Since significant F values was obtained on adjusted mean comparisons, post hoc analysis was made and results presented. The results proved that varied intensities and frequencies of weight training, namely, high intensity low frequency (HLF) weight training and low intensity and high frequency (LIHF) weight training were significantly better than control group on , explosive power, and the formulated hypothesis No. 1 was accepted.

The results presented in Tables III to IV deals with analysis of covariance on performance variables such as stride length of the athletes. Since significant F values were obtained on adjusted mean comparisons, post hoc analysis was made and results presented. The results proved that varied intensities and frequencies wweight training, namely high intensity low frequency and low intensity and high frequency weight training were significantly improved stride length of athletes and the formulated hypothesis No. 2 was accepted except for stride frequency. As for stride frequency varied intensities and frequencies weight training failed to significantly improve and to this extent the hypothesis was rejected at 0.05 level.

The formulated hypothesis No. 3 stated that there would be no significant differences among treatment groups involved in varied intensities and frequencies of weight training on selected motor fitness and performance variables of athletes. The post hoc analysis proved that there was no significant differences between HILF weight training and LIHF weight training on explosive power, stride length and the formulated hypothesis was accepted at 0.05 level except for arm length in which LIHF weight training was significantly better than HILF weight training group.

FINDINGS

The results presented proved varied intensities and frequencies of weight training, that is, high intensity low frequency (HILF) weight training and low intensity and high frequency (LIHF) weight training were contributed for improvement of motor fitness variables, explosive power, and performance variables, stride length of inter collegiate level athletes.

CONCLUSIONS

Within the limitations and delimitations of the study, the subsequent conclusions were made:

It was concluded that varied intensities and frequencies of weight training, namely, high intensity with low frequency (HILF) weight training and low intensity and high frequency (LIHF) weight training improved motor fitness variables, explosive power, compared to controls of intercollegiate level athletes.

It was concluded that associatingamong the treatment groups, it was found that low intensity high frequency (LIHF) weight training was significantly better than high intensity low frequency (HILF) weight training in improving arm strength. There was no significant differences between treatment groups on muscular endurance, explosive power and leg strength.

It was concluded that varied intensities and frequencies of weight training, namely, high intensity with low frequency (HILF) weight training and low intensity and high frequency (LIHF) weight training improved performance variables, stride length compared to controls of intercollegiate level athletes.

It was concluded that comparing between the treatment groups, it was found that there was no significant differences between treatment groups on stride length of athletes.

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