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Editorial …….

The Sucharitha: A Journal of Philosophy and Religion. The rave reviews we received were heartening. Your support and encouragement facilitated us to come out with the next issue on time without compromising on the standard style. The journal has and the quality of the articles.

In the present issue, we have taken up in detail the philosophical and religious issues discussed in academic circles. There are well written articles covering a wide range of issues that are thought provoking as well as significant in the contemporary world.

My thanks to the Members of the Editorial Board, to the readers, and in particular I sincerely recognize the efforts of the subscribers of articles. The journal thus receives its recognition from the rich contribution of assorted research papers presented by the experienced scholars and the implied commitment is generating the vision envisaged and that is spreading knowledge. I am happy to note that the readers are benefited.

My personal thanks to one and all.

(Dr. Victor Babu Koppula)
Communication among nations has become so thorough and the nations of the world have come so closer that it appears that the world has shrunk into a Global Village. This proximity between nations is a welcome development in the ongoing history of the world. This development has paved a way for the nations to have greater exchange and sharing, not only in terms of business, commerce, and merchandise, but also in arts, cultures, customs, traditions, ideas, principles, ethics, ideologies, and what not. Good in any form, if crosses borders, enriches and illuminates other parts. It is quite heartening that this good crossing borders is an on-going process.

Knowledge is not any nation’s patent. Every nation – nation means race or people – has its own rich heritage and culture. Every nation has its own canon of rich traditions and customs manifested in various forms. The rich heritage and legacy of one nation can be learnt by other peoples; and by learning, they may be enriched, enlightened or illuminated.

Books contain knowledge. Knowledge should not be confined or restricted to the linguistic barriers within which it is written. Other national groups or linguistic groups could be allowed to suck the nectar of knowledge of a national group. This kind of exchange or sharing leads to mutual enrichment. For example, the Western ideologies and Democratic principles like “liberty” “equality” and “fraternity” which played such a big role in French Revolution, illuminated the Western thought. These ideologies or principles have had their telling influence
on Indian psyche too, and it is no exaggeration to say that they played an important role in our freedom struggle too. Thus literature - “applied literature” or “pure literature” - as a weapon that brings about change, can cross borders and influence alien lands. How can this take place? It is through translation or through comparative study or both. Translation or comparative study are not totally different; they are mutually complementary.

Comparative literature is the branch of literature that deals with literary relationships, similarities, and distinctions among different countries. Similarities between works of literature may be based on similarities in the social and cultural development of the respective countries of origin or on cultural and literary contacts between the countries. Consequently, there are two areas of comparative literary studies: typological literary analogies and literary relationships and influences. Although these areas interact with one another, they should not be confused. Comparative literature is an academic field dealing with the study of literature and cultural expression across linguistic, national, and disciplinary boundaries. Comparative literature "performs a role similar to that of the study of international relations, but works with languages and artistic traditions, so as to understand cultures 'from the inside'". While most frequently practiced with works of different languages, comparative literature may also be performed on works of the same language if the works originate from different nations or cultures among which that language is spoken. It is also defined as the study of the interrelationship of the literatures of two or more national cultures usually of differing languages and especially of the influences of one upon the other.

The characteristically intercultural and transnational field of comparative literature concerns itself with the relation between
literature, broadly defined, and other spheres of human activity, including history, politics, philosophy, art, and science. Unlike other forms of literary study, comparative literature places its emphasis on the interdisciplinary analysis of social and cultural production within the "economy, political dynamics, cultural movements, historical shifts, religious differences, the urban environment, international relations, public policy, and the sciences".

Thus literature of one language or any art, for that matter, inspires other language group(s), when it is studied through comparison. One art form may inspire other art forms too. Velasquez’s “Two Dwarf’s” has been the inspiration behind Picasso’s painting on the same theme. A skylark inspired Shelley’s poem, and Shelley’s skylark inspired Hardy’s poem. Some uncommon artists raised the Pallava citadel at Mahabalipuram in Tamil Nadu, but today its magnificent ocean-swept ruins become the subjects of poems by James Merrill, John Press, and Louis MacNeice. The fall of Adam and Eve has been described by Milton in “Paradise Lost”, book IX, and also by Blake in his paintings. Sometimes there is also a translation from one artistic medium into another. Literature, since it has to handle the symbolic medium of language is not only the most elusive of arts, but also the most inclusive. Literature is a collection of books, and there can be no exclusion in respect of the country of origin, the time of composition, or the language medium. It is a global heritage, and every year adds to its opulence. A concern with man’s inner life- his passions, his feelings, his thoughts- is the disgusting character of literature. This concern is allied to a sense of moral truth, a feeling of universality, and an instinct for beautiful form.

Comparative literature postulates a unity in man’s social and historical development. Since similar social relations have existed among different peoples, historical and typological analogies may be
observed in the development of different literatures during a single historical epoch. Comparative literature may therefore study single literary works, literary genres and styles, the work of individual writers, or literary trends. Thus, during the middle Ages, the folk heroic epics of different peoples of the east and west reveal similarities. During the period feudalism, similarities existed among the chivalric lyrics of Provincial troubadours and German minnesingers, early classical Arabic love poetry, the versified chivalric romance in the west, and the romantic epic in eastern literatures.

An orderly succession of literary trends may be observed in the bourgeois literatures of different European countries: Renaissance literature, the baroque, classicism, romanticism, critical realism and naturalism, symbolism, modernism, and new forms of realism.

Although similar literary developments take place among different peoples, mutual contacts and influences are also common and generally accompany such developments. However, a prerequisite for a literary influence is an inner need for such a cultural “import” and an analogous social and literary course of development. A. N. Veselovskii wrote of “crosscurrents” in borrowed literature. According to his theory, every borrowed work becomes partially transformed, or adapted, to correspond with the national development and literary traditions of the country adopting the work. The adaptation is also influenced by the ideology and literary approach of the writer making use of the borrowed work. For comparative, such differences between works are as important as similarities.

Mutual literary influences among countries are not limited to contemporary literature. The literary heritage of great writers of the past countries to influence the present. An example is the influence of ancient Greek and Roman literature during the renaissance and the
period of 17th and 18th century classicism. An associated subject of study is that of the influence of various writer indifferent epochs and countries. Examples are the influence of Shakespeare and Goethe in France, Great Britain, and Russia and that of Tolstoy, Dostoevsky, Chekhov, and Gorky in world literature. This field of study also involves the history of translations as well as of literary criticism, which reflects the development of social and literary thought in a given country.

Creativity, like knowledge, is not any nation’s patent. Shakespeare is a creative genius. So also Kalidasa and Sri Arabindo. So also Homer, Virgil, Eurepedes, Goethe, Dante, Chekov, Tolsty, Dstovsky, Tagore, Mulk Raj Anand, Raja Rao, R.K. Narayana etc. the list is by no means exhaustive, if we peep into the world of literature and world literature. Goethe first used the term “World literature”. This concept of “world literature” is the precursor of globalization. It is also the impetus for comparative literary studies in the world. This urge to be universal is the one which gives impetus for comparative literature.

Comparative literature began in ancient times, but institutionalized in the 19th century, opening the perspective of a vast, unexplored area where “the harvest is plenteous, but the laborers are yet few.” Comparison is inherent in criticism and literature is intrinsically comparative.

Literary relationships and influences between countries differ in intensity and form under different historical conditions. These relationships and influences became particularly marked and wide ranging beginning in the 19th century. From 1827 through the 1830’s, Goethe propagated the slogan “an universal world literature”, which
referred to a literature that would include the most important works created by all peoples at every stage of historical development.

The October revolution of 1917 gave rise to a multinational soviet literature unified by the method of socialist realism. Towards the mid 20th century, the literatures of people that were formerly little-known owing to their remoteness from Europe or to their social backwardness became increasingly drawn into the sphere of the comparative literary studies. This phenomenon is related to the question of literary “interrelationships between East and West.

After World War I (1914-18), increased attention was devoted in the West to literary relationships among different countries. The study of such relationships became a special field of literary history called comparative literature. This field of study was founded in France by F. Baldensperger and P. Van Tieghem, who published articles in the journal Revue de literature compare (founded in 1921) and a series of monographs that were published as supplements to the journal.

In the years after World War II (1939-45), major scholarly centres for comparative literature studies were established in the USA by W. Friederich, R. Wellek, and other scholars. The journals Comparative Literature and Comparative Literature Studies were founded in 1949 and 1963, respectively. Somewhat later, comparative literature centers were established in the Federal Republic of Germany by K. Weiss and other scholars, the journal Arcadia was founded in 1966. Other such centers were founded in Canada. In 1954 the International Comparative Literature Association (ICLA) was founded, its central office is located in Paris and its official journal, Neohelicon, is published in Budapest. The association convoques international congresses and has published International Comparative Literature Association: Proceedings of the Congress (vols. 1-6, 1955-70).
In Russia, comparative literature studies attained extensive development earlier than in other European countries. By the 1880’s, chairs of universal literature existed in most Russian universities. At the university of St. Petersburg, A. V. Veselovskii, the founder of Russian comparative literature studies, assumed the chair of comparative literature in 1870. Veselovskii’s works included Historical Poetics(1870-1906: separate edition, 1940).

Interest in comparative literature was revived in Soviet scholarship in the mid-1950’s. in 1960 a discussion was held in the USSR on inter relationships among national literatures.

In the other Socialist countries, research on comparative literature is being conducted in Hungary by I. scoter, T.Klaniczai, and G. Vajda and in Czechoslovakia and the German Democratic Republic.

When literature crosses borders of its linguistic or cultural groups, it is comparative literature. Comparative literature is based on making contact with other literatures- of world literature, which Geo the dreamt of.

Comparative literature has achieved a rank of distinction in so many quarters that the multitude of publications and texts groups under the generic denomination of ‘comparative literature’ has definitely reached a point where it cannot be ignored.

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COMMON INJURIES AND PREVENTIONS IN VOLLEY BALL

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Abstract

Every Sport has injury problems. Some of them are "overuse", types of injuries such as those seen in joggers' ankles, lower legs, and knees, while others are actuate injuries. In volleyball, finger injuries have gone down over the years due to more passing with the forearms, but ankle sprains have increased because people are jumping higher and more often in spiking and blocking. Passing, digging, and setting are quite safe, but blocking and spiking increase the risk of hand, shoulder, knee, and ankle problems. Scientific studies of injuries do not report a consistent incidence of problems. Generally speaking, volleyball is a very safe game, but as spiking, blocking, and diving for digs have become more commonplace, injury rates have risen over the years due to this more aggressive play.

Key Words: Injuries, Preventions, Volleyball.

Introduction

Every Sport has injury problems. Some of them are "overuse", types of injuries such as those seen in joggers' ankles, lower legs, and knees, while others are actuate injuries such as when a basketball player sprains an ankle. In volleyball, finger injuries have gone down over the years due to more passing with the forearms, but ankle sprains have increased because people are jumping higher and more often in spiking and blocking. And allowing the jumpers to land on or over the center line has increased these injuries even more.
Passing, digging, and setting are quite safe, but blocking and spiking increase the risk of hand, shoulder, knee, and ankle problems. Over 55 percent of all injuries are due to jumping or landing. As you would expect, playing on a soft surface such as sand greatly reduces the number of injuries. In fact, there are 75 percent fewer injuries on sand than on a hard court.

We are finding more overuse injuries: Jumper’s knee, cruciate ligament tears inside the knee, inflamed tendons, the thigh and leg bones, shoulder problems, the stretching of muscles, the rotator cuff muscles. The most common types of acute injuries are sprained ankles or wrists, jammed fingers, or twisted knees. Hand injuries, sprained ankles, injuries to the ankles and knees, the lower extremities.

When players are older; older women have more overuse injuries, while older men have more acute injuries. Elite players have twice the injury rate of less, accomplished players. The highest level of injury risk is for young players during their growth spurt. If the Player has had injuries earlier from volleyball or another sport, there is a risk of re-injury. Poor hitting or jumping and landing technique results in an increased risk of injury. Injuries can occur if there is an imbalance of muscle strength.

**When Injures occur:**

Scientific studies of injuries do not report a consistent incidence of problems because some studies are done with elite players in tournaments, while others are done in physical education classes. But we can surmise from the studies that there are more injuries at the beginning of a season than later - due to poor condition and poor skills; and that there are more injuries as the intensity of the game increases, such as in tournaments. There is a higher rate of injuries during game increases, such as in tournaments. There is a higher rate of injuries during games than during practice time. Generally
speaking, volley ball is a very safe game, but as spiking, blocking, and diving for digs have become more commonplace, injury rates have risen over the years due to this more aggressive play.

**Types of Volley ball Injuries:-**

With advanced and elite volleyball players, we are finding more overuse injuries. The continual jumping and landing of hitters / stickers and blockers can result in "jumper's knee" (an inflammation of the tendon that holds the kneecap), as well as cruciate ligament tears inside the knee and inflamed tendons where the muscles used in jumping are attached to the thigh and leg bones. About 45 percent of elite players have complained of knee injuries from overuse.

Stickers / Hitters are more likely to develop shoulder problems both from the stretching of muscles in the upper back (the infraspinouts muscle) and from the force developed in the rotator cuff muscles in the spike and the serve. For most players, acute injuries are more common. The most common types of acute injuries are sprained ankles or wrists, jammed fingers, or twisted knees. Hand injuries account for about half of the reported injuries in school classes. Sprained ankles are second, with an incidence of about 25 percent. At the higher levels of play, injuries to the ankles and knees are more likely, with half of all injuries being to the lower extremities. Some studies show that the ankles are more often injured, while others show that knees are more often the problem.

Head and upper-body problems are not a major type of volleyball injury. However, a broken nose or extreme twists of the neck (cervical vertebrae) or lower back (Lumbar vertebrae) do occur, less than 15 percent of all volleyball injuries are to the trunk and head. Arm, shoulder and hand injuries make up about 35 percent of volleyball injuries.
As mentioned, the overhand actions of serving and hitting can cause some problems to the tendons and muscles of the shoulder joint. Elbows don't seem to be a problem, but a few cases of forearm problems have been reported. The wrist and hand are often problems, however, there are eight bones in the wrist with five hand bones attaching to them, as well as two thumb bones and three in each finger giving, a large number of places where a fracture or a sprain (overstretching / rupturing of the ligaments that hold one bone to another) can occur. About 25 percent of injuries are to the fingers, with another 25 percent to the thumbs. Blocking is the major cause of finger and thumb injuries.

Research in Italy at all levels of play has indicated that the floater serve and spike both stretch nerves that may eventually become painful. A major problem in both Techniques is a weakness in the muscles that rotate the upper arm in the shoulder. These muscles can be strengthened by doing the rotator cuff exercises. Leg, ankle, and foot injuries are common in any sport involving running and jumping. Basketball and Volleyball players as well as high and long jumpers are prone to the same types of knee, lower leg, and ankle overuse injuries.

However, acute injuries in volleyball can also occur in these areas when the knee is twisted or hit from the side or the ankle is twisted during landing. As you might accept, blocking and spiking are the activities during which most lower-leg acute injuries occur.

Risk of Injuries:-

There are gender differences in the occurrence of injuries. Male players are more likely to acquire "jumper's knee" (an injury to the patellar tendon) and shoulder injuries, while female players are more at risk for fractures and keen ligament injuries. Even though beach volleyball is generally safer than indoor play, sand players are more susceptible to Achilles tendon problems.
Prevention and Safety Measures to reduce injuries:

Wear pads to protect your knees or elbows, wear ankle braces to prevent ankle sprains. Do rotator cuff exercises to reduce shoulder problems from serving and hitting. Do leg exercises to condition the leg muscles for the maximum efforts. Consider the use of orthotics and / or cushioned heel cups if you have foot problems. Use ankle stabilizers to reduce ankle sprains. Play on dry wooden floors. Injuries can often be prevented by using proper techniques and by effective strengthening of the muscles. Protective pads, orthotics and braces, ankle stabilizers, can greatly reduce the risk of injury.

The risk of injuries in volley ball is increased in the following conditions:

- When players are older; older women have more overuse injuries, while older men have more acute injuries.
- Elite players have twice the injury rate of less, accomplished players.
- The highest level of injury risk is for young players during their growth spurt.
- If the Player has had injuries earlier from volley ball or another sport, there is a risk of re-injury.
- Poor hitting or jumping and landing technique results in an increased risk of injury.
- Injuries can occur if there is an imbalance of muscle strength; for example, if the muscles in the front of the thigh (quadriceps) are much stronger than those in the back of the thighs (hamstrings).
- If the level of competition is higher; the pressure can result in injuries.
It is more dangerous to play on concrete than on wood or linoleum floors.

Playing on different surfaces (such as concrete or wood) increase the injury risk over playing on just one surface regularly.

Prevention and Safety Measures to reduce injuries:

- Wear pads to protect your knees or elbows if they are in danger of injuries from the position you play.
- Wear ankle braces to prevent ankle sprains.
- Do rotator cuff exercises to reduce shoulder problems from serving and hitting.
- Do leg exercises to condition the leg muscles for the maximum efforts they must accomplish during practices and games.
- Consider the use of orthotics and / or cushioned heel cups if you have foot problems.
- Use ankle stabilizers to reduce ankle sprains.
- Use knee pads to reduce knee injuries from hitting the floor.
- Play on dry wooden floors, (High - Friction or non - skid surfaces such as concrete increase risk as do low - friction or slippery or wet surfaces).
- Strengthen the muscles of the legs and shoulders through the use of resistance exercises.
- Injuries can often be prevented by using proper techniques and by effective strengthening of the muscles.
- Protective pads, orthotics and braces, particularly ankle stabilizers, can greatly reduce the risk of injury.
- General strength programme for fitness and specific programme for volley ball exercise.
Religion plays a very important role in India and a person with supposed occult powers is venerated here. Adoration for such saints or sadhus is implanted in the minds of the Indians and they enjoy acceptability and popularity even in this era of technology. It is this phenomenon that R.K.Narayan portrays in his novel The Guide.

Reverence for a saint or sadhu with powers can be traced back to the primitive days. People depend on water and without it crops fail hence they looked towards the miracle-man to bring rains. James Frazer points out that “water is an essential of life, and in most countries the supply of it depends on showers. Without rain vegetation withers, animals and men languish and die. Hence in savage communities the rain maker is a very important personage” (60). This necessity in the ancient man made him dependent on the miracle-man.

The admiration for sadhu or swamiji is felt at the beginning of the novel when Raju is found in the precincts of the temple by Velan “The man stood gazing reverentially on his face. Raju felt amused and embarrassed” (5). The novelist here portrays how an ordinary man, a criminal is made a god-man. After some conversation “the villager resumed the study of his face with intense respect. And Raju stroked his chin thoughtfully to make sure that an apostolic beard had not suddenly grown there” (6). Raju felt a feeling of importance and decided to play the role of a saint. In accordance with his role he started telling Velan the story of a woman who approached Buddha with a dead baby in her hands. His intention in narrating this story is to drive the point
that problems are universal and none can escape them. But the innocent villager, Velan expects a miracle in the story. It is this awe for miracles on the part of Velan that seals the fate of Raju later in the novel.

Raju for his own reasons of survival reluctantly allowed the innocent villagers build an impression of mahatma around him. He acted the role of the saint with his usual deftness. He says, "I have to play the part expected of me, there is no escape"(45). By the time he becomes a full-fledged saint, with a beard down his chest, his popularity has grown beyond his wildest dreams. Everything was quite well until there came a day when there were no rains. The problem that man dreaded from times immemorial has surfaced to the ill luck of Raju.

People were desperate and they looked towards the miracle-man for help. Raju tries to comfort them but it is momentary. All the scenes associated with drought occur. The climax comes with a clash among the villagers. Velan’s brother, a fool, reports the matter to Raju, the saint. Raju picked the wrong person to convey his message that he won’t touch food until they stopped fighting. The fool for fear of his elders, for reporting the matter to the mahatma, declares that the saint would not eat food until it rained. In the ancient days men used to wait curiously for the miracle-man to conjure up a miracle to bring down rains. All the villagers touch the feet of Raju for taking up the penance. Even before Raju could take the matter into his hands, Velan gave a clear account of what the savior is expected to do... “stand in knee deep water, look at the skies, and utter the prayer lines for two weeks, completely fasting during the period-and lo, the rains would come down, provided the man who performed it was a pure soul, was a great soul”(95). As a last resort, Raju narrates his life story to Velan to escape from this enforced sacrifice.
Raju expects disgust from Velan for deceiving them all these days. But to his shock Velan still addresses him as swami. The reason for this kind of adoration lies in the primitive instinct of Velan. He is not bothered about the past of Raju. He thinks that Raju is capable of bringing down rains. Further Velan thinks that it is indeed great on the part of Raju to reveal his past to a humble servant like him. There is no escape for Raju. He resigns himself to his fate and says,” this man will finish me before I know where I am”(209).

A newspaper reporter gets this information and it becomes the headlines “Holy man’s penance to end the draught”(209). The news catches fire and people from all parts of the country throng to see the ‘Holy man’. The novelist says,” never had this part of country seen such a crowd”(215). Special buses and trains are arranged. Shops spring up around the temple. It is a scene one usually encounters in rural India at fairs. People touch the water at Raju’s feet and sprinkled it on their heads. Velan stands guard near Raju like a head priest near the altar. He regulates the movement of the public. Narayan humorously presents the blissful ignorance of the masses. For example, when the health department shows a huge close up of a mosquito as the cause of malaria, a peasant innocently comments,”sch huge mosquitoes! No wonder the people get malaria in those countries. Our own mosquitoes are so tiny that they are harmless...”(215). Such are the Indian masses. Science is another miracle for them.

Then comes the ambiguous end of the novel-“Raju opened his eyes, looked about, and said,Velan, it is raining in the hills. I can feel it coming up under my feet, up my legs-and with that he sagged down”(221). We do not know whether Raju’s fasting brought down the rains or not. Whatever be the conclusion of the novel, one can understand that reverence towards sadhus or saints is due to the inner craving for miracles in the minds of the people. It is this craving for miracles that makes Velan adore Raju as Swami in spite of knowing
Raju’s past. It is also responsible for making Raju a scapegoat willingly or unwillingly. It is apt to conclude with Max Weber’s comment on the practice of religion in India that “religious behavior is not worship of God, but rather coercion of God, and invocation is not prayer but rather the exercise of magical formulae” (2).

Works cited

The purpose of this study is two fold. one is to examine translation from the historical point of view as a means of social awakening; The second one is the necessity of translations in the changed scenario, especially in Dalit Literature.

There are many issues related to Translation, its theory and practice. A great critic I.A.Richards in his article “Towards a theory of Translating” observed that “Translation may probably be the most complex type of event yet produced in the evolution of the cosmos” It may sound very exaggerative. But one cannot totally disagree with I.A.Richards. By now, lot of study had taken place regarding the role of translator, his problems in translation, source text, adhering to literary translation, cultural problems in translation etc. with the advanced transport facilities, change in the commercial relations among nations technological development etc, world has emerged as a multilingual society. Now, we cannot expect the people of one race, one nation, one culture and one language in a given society. People are living together and the world has become a global village. Translation has become an indispensable link which connects them with all its drawbacks and advantages.

We have seen great many incidents in the human history how translation helped in further in the relations among different nations, races and civilizations. Karl Marks considered “The translator” along with the thief and the seller as the instrument of 19th century colonialism “This translator” what Karl marks referred had a different purpose. He could influence the thought process and culture
of great many people. Here we may consider it as a politically motivated act. If we take the example of Indian context, it is this translation which connected the people of different parts of India and helped in rising against the British authority. Here we should mention the great writer, lord Basaveshwar (1134 – 1196 ) born in Ingaleswar, Bijapur district of Karnataka. He was a great saint, visionary revolutionary, sought universal religion to mankind, fundamental rights to everyone.

Sir Thomas Campbell says “ The present day social reforms in India are all but speaking the language and seeking to enforce the mind of Basaveshwar “. “ vachana literature ” Of 12th century was a unique genre. It is an inspiration for Dalit literature and many social movements in the 20th century. This vachana literature, which is addressed to “ Lord of Kudala Sangama “ reached every nook and corner through translations. The global problems such as terrorism, fundamentalism, economic crisis, stress can be addressed through the vachanas of Basavanna.

Translation is not only a welcoming act but also an indispensable one. One cannot learn at least a few Major languages and enjoy their literature in one’s life time. So, translation is the only way to reach those literatures and enjoy them (If all the scientific advancement in various languages is reaching all of us, we can’t deny the role of translation). Post – modern world is transformed by the translation. It acted like a bridge between India and Europe this translation helps in preserving ancient literary and cultural heritage. Lot of ancient Indian literature was in Sanskrit, prakrit and Apbhramsa etc. If it has to be preserved, it should be translated into modern Indian languages. Translation can be used to modernize or westernize the Indian society. At the same it helps the European people to understand the Indian spiritual and intellectual worthiness. It is the translation of Tagore’s Gitanjali that brought Nobel prize to an Asian for the first time. Translation of the Bible brought Renaissance and enlightenment in
Europe. This translation makes India a modern society and spreads awareness among Indians. In the multilingual country like India, translation is a necessity, otherwise it breeds prejudices among People of different languages and cultures.

In the modern period Indian scholars tried their best to correct western perception of Indian texts. The main reason behind this distortion was, they did not know the nuances of Indian languages and culture. Now with the growth of translation, many scholars and authors are attempting to correct the misconception about Indian society.

In the Indian context, translations have roused the voices of progressive forces. Another important purpose that translation served was awakening of Dalits. ‘Annihilation of caste’ written by Dr. B.R. Ambedkar, became the Bible of the downtrodden sections of this country irrespective of their language and religion. It has been translated into almost all the major languages of India. Marxist ideology has crept in to Indian soil. Sangam literature of Tamils has been translated in to various languages. We came to know that it is more secular than any other literature in India. The Dalit movement demanded the reprinting and translations of Mulkraj Anand’s ‘untouchable’, Bama’s Karukku translated by Lakshmi Holmstrom appeared in 2004 and was read in the context of the Durban conference against racism that gave visibility to the Dalit question at the international level. Lot of Dalit literature is put to narrow interpretations. But we should see it as literature and should interpret the text taking into consideration of the period in which it is set. Translation of regional literatures into English is a very important trend in the 21st century, which is revealing the local, social and political issues and is expressed on the global platform. For example, almost the entire works of Premchand or Rabindra Nath Tagore or Subramania Bharathi or Vijay Tendulkar or Vasudev Nair are available in English not only
for the English people but also for the people of the world who have some knowledge of English as a second or foreign language. Takazhi Sivasankara Pillai’s ‘Chemmeen’, Kesava Reddy’s ‘He conquered the Jungle’, Sundara Ramasamy’s ‘Tale of Tamarind Tree’, U.R. Ananthamurthy’s ‘Samsara’ and so on are great contributions to literature in English translation.

On these translated texts, we have a unique trend of women writers emerging on the national scene. A case in point is Mahaswetha Devi of West Bengal. She is an activist writer who has championed the cause of the marginalized tribal people in West Bengal in such work as ‘Draupati’. Girish Karnad wrote and translated his works into English himself. Large scale transformation occurred in 1960’s through translation.

American literature has had a vibrant, ever changing history. Ethnic minorities used personal injustices and history to show that the white man was not always justified in his actions. Women writers were a controversy in themselves and used their gender as a tool to empower other women. In the nineteenth and twentieth century there were several influential literary movements: realign naturalism, regionalism, modernism, The Harlem Renaissance, feminism and postmodernist. All these movements have a great influence throughout the world through translation. Previously some ethnic group never had literary acceptance. But in 1970’s literary acceptance arrived to AFRICAN America, Latin American and American Indian writers. American literature is integrating the works of other nationalities such as East Indian Americans, Asian Americans and those of middle eastern descent. American literary values are being forced to change as these cultures and other movements are gradually being accepted by more and more people through translation. ‘Social Justice’ has become a major theme in the current literature. The people who are suffering are the subjects of this type of writing. People from different parts of the
world are identifying themselves with those characters through translation. They are rising against local oppressions.

When we think of our youth, translations have motivated them a lot. Many self help books have appeared in the markets which were written by western authors. In fact some of our spiritual leaders like Swami Vivekananda have had writings that appealed to our youth. At the same time great books with mass appeal come from western authors, such as Dr. Norman Vincent Peale and others. Since self help books are doing well in English and Hindi there is no reason why we shouldn’t translate them into regional languages. We have a huge population in India that speaks neither Hindi nor English. So translation is the only way out to reach a greater community. These translations can show the path to positive living and successful life. Ujuta Diwekar’s don’t lose your mind, lose your weight (Ebury press, Random House) sold over four lakh copies in five languages, which Rashmi Bansal’s stay hungry, stay foolish (Westland) sold over 3,00,000 copies and was translated into eight languages. “Who moved my cheese” and how to win friends and influence people are the best books that influenced the youth of our country. The stories written by ‘Pudumaipithan’ a recent Tamil prose writer were removed from the syllabus on the ground that the reading of the text would cause embarrassment to Dalit students. Actually, in the story “Thunbakkeni” the subject matter is sense of loss and despair and not that of exploitation (or) Caste hegemony. It is the translations which bring about the actual situation in different communities and make the outside world realize what is going on in different corners. Dalit intellectuals, in whatever part of the country they are they should oppose the narrow interpretations.

Translators are transcreating and are succeeding in bringing forth the soul of the work and the sensuous quality of source text’s poetic
visuals. ‘ Premanand Gajvee ’ was a famous Marathi playwright. He wrote about the inequalities that continue to prevail within The Hindu religion and Indian society. Gajvee’s works gained lot of recognition through Suanta Gokhale and M.D.Hatkanangalakar’s Translation entitled “ The strength of our writers ” in English. This powerful translation has brought out the social concerns and caste preoccupations and introduced to the world. The value of translation cannot be undermined. It has made literatures written in diverse languages accessible. In practical matters like diplomatic and commercial relations one cannot deny the role of translation.

Translation has been practiced for a long time. But only recently it has come to be accepted as a profession. As an independent discipline, it has proved to be a bridge between different peoples and as a unifying medium and medium of social awakening in different parts of the world.

References

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EFFECT OF VARIED INTENSITIES OF PLYOMETRIC TRAINING ON RESTING HEARTRATE AND SPIKING AMONG VOLLEYBALL PLAYERS

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Sathavahana College, Vijayawada

Abstract

The Aim of the study was to find out the effect of varied intensities of plyometric training on resting heartrate and spiking among volleyball players. Randomly selected long distance runners \( N=60 \) were divided into four groups consisting of 15 in each group. Experimental Group I underwent low intensity plyometric training, experimental group II underwent medium intensity plyometric training, and experimental group III underwent high intensity plyometric training. Group four was control group which did not participate in any special training. The control group did not participate in any special exercises except of their routine. Pre test scores were obtained using standard tests on resting heart rate, and spiking before the experimental period and the post test scores were obtained immediately after the twelve weeks experimental period. The difference between the pre test and post test means were subjected to statistical treatment using ANCOVA, which was the effect of varied intensities of plyometric training. In all cases 0.05 level was fixed to test the hypothesis of the study.

Keywords: Resting Heart rate And Spiking

INTRODUCTION

The physical education programme provides each student with an opportunity to assess his fitness and to develop skill and understanding that will enable him to enjoy a productive stay in school, college and a more meaningful existence after school and college.

STATEMENT OF THE PROBLEM

The purpose of this study was to find out the effect of varied intensities of plyometric training on resting heartrate and spiking among volleyball players.

DELIMITATIONS
The study delimited to the following aspect

1. Only sixty men volleyball players from different colleges in Andhra Pradesh, who represented their college at intercollegiate level tournaments were randomly selected as subjects for the study.

2. This experimental study was administered to only four groups of fifteen (15) men volleyball players each.

3. The age of the subjects ranged from 19-24 years only

4. In the study, only low, medium and high intensities of plyometric training where considered as varied intensities of plyometric training.

LIMITATIONS

The research study was limited to the following factors, and these limitations would be taken in to consideration while analyzing the data and interpreting the results.

1. While conducting the study the external factors like atmosphere conditions, cultural influence, and socio-economic condition and also the body structure of the subjects were not taken in to consideration.

2. No attempt was made to control the subjects participating in other extra curricular activities.

3. Though the subjects were motivated verbally, no attempt was made to differentiate their motivation level during testing and training.

4. The investigator did not consider the geographical location at the time of conducting the experiment.

5. The exercises were classified in to low, medium and high intensity based the classification of experts like Donald A. Chu (1992)

DEFINITION OF TERMS

PLYOMETRIC

Plyometric refers to exercise that enable a muscle to reach maximum true is the short us possible time.
INTENSITY

It represents the degree of effort made by the sports while performing exercise.

TRAINING

It is a program exercise designed to improve the skills and increase the energy capacity of an athlete to particular event. (Fox 1984)

Resting Heart Rate

Resting pulse rate is defined as the time from the end of one contraction to the end of the next contraction is a complete heart beat or pulse or cardiac cycle. The complete cardiac cycle takes less than one second (about 0.08 sec) in a normal adult at rest and it shortened by exercise. The scores of the resting pulse rate is recorded in number of pulse rates per minute.

Spike

The spike (or attack) is usually the third contact a team makes with the ball. The object of spiking is to handle the ball so that it lands on the opponent’s court and cannot be defended.

METHODOLOGY

In this chapter selection of the subjects, selection of variables, experimental design, pilot study, criterion measures, reliability of data, reliability of instruments, tester’s reliability, subject reliability, plyometric training programme, training schedule, test administration, collection of data and the statistical techniques used have been explained.

SELECTION OF SUBJECTS

The purpose of the study was to find out the effects of varied intensity of Plyometric training on selected physiological and performance variables among volleyball players. To achieve the purpose of this study, sixty men volleyball players were selected from different colleges of Andhra Pradesh who represented their colleges in intercollegiate level volleyball tournaments. The selected subjects were of age group ranging from 19 to 24 years with standard deviation of $\pm$ 2.1. The subjects were randomly divided into four
groups and each group contained fifteen subjects. Group I acted as experimental group I and Group II acted as experimental group II group III acted as experimental group III and the fourth group was considered as control group.

**SELECTION OF VARIABLES**

**Dependent Variables**

1. Resting Heart Rate
2. Spiking

**Independent Variables**

1. 12 Weeks Low Intensity Plyometric Exercises
2. 12 Weeks Medium Intensity Plyometric Exercises
3. 12 Weeks High Intensity Plyometric Exercises

**EXPERIMENTAL DESIGN**

For the purpose of the study, random group design was employed. Randomly selected long distance runners (N=60) were divided into four groups consisting of 15 in each group. Experimental Group I underwent low intensity plyometric training, experimental group II underwent medium intensity plyometric training and experimental group III underwent high intensity plyometric training group four was control group which did not participated in any special training. The control group did not participate in any special exercises except of their routine. Pre test scores were obtained using standard tests on Resting heart rate, and spiking before the experimental period and the post test scores were obtained immediately after the twelve weeks experimental period. The difference between the pre test and post test means were subjected to statistical treatment using ANCOVA, which was the effect of varied intensities of plyometric training. In all cases 0.05 level was fixed to test the hypothesis of the study.

**CRITERION MEASURES**

The following criterion measures were adopted to measure the test.

1. To find out the resting heart rate, through the radial artery
   beats and counted in numbers per minute.
2. spiking were measured based on Volleyball Skill tests.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Variables</th>
<th>Tests</th>
<th>Obtained ‘r’</th>
</tr>
</thead>
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<tr>
<td>1</td>
<td>Resting Heart Rate</td>
<td>Palpation method</td>
<td>0.88*</td>
</tr>
<tr>
<td>2</td>
<td>Spiking</td>
<td>Volleyball Skill Test.</td>
<td>0.80*</td>
</tr>
</tbody>
</table>

* Significant at 0.01 level
Required table value (2,8) = 0.765

**TRAINING SCHEDULE**

The following independent variables were taken for analysis Control Group, Experimental Group I and Experimental Group II and Experimental Group III. Varied intensities of Plyometric training, low, medium and high intensity, was given to the experimental groups. After the experimental period of 12 weeks post test measurements on the selected variables were taken for all the subjects.

**PLYOMETRIC TRAINING PROGRAMME**

It was most essential to warm up before every session. The methods of doing varied intensities of plyometric training exercise were explained to the experimental groups before starting the training. The researcher himself demonstrated the weight training and plyometric exercises to the subjects.

Plyometric exercises are included box jumping, bounding over the hurdles, two legs hop or banny hope, chest pass – medicine ball. These exercises are used to improve speed, strength, agility, explosive power abilities.

**VARIED INTENSITIES OF PLYOMETRIC TRAINING**

Varied intensities low intensity, medium intensity and high intensity of Plyometric training were provided to experimental group I, II and III respectively. Tables II, III and IV show the repetitions and sets for low intensity, medium intensity and high intensity Plyometric training.
### Table II
**SCHEDULE FOR LOW INTENSITY PLYOMETRIC TRAINING**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of Exercise</th>
<th>Low Intensity</th>
<th></th>
<th></th>
</tr>
</thead>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Repetitions</td>
<td>Sets</td>
</tr>
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<td>1</td>
<td>Bounds</td>
<td>8 boxes</td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td>Hoping over Low Height Hurdles</td>
<td>10 Hurdles</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Two legged Hops</td>
<td>10 Jumps</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Medicine Ball Chest push with partner</td>
<td>10</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Medicine Ball Drop with partner</td>
<td>10</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Medicine ball Chest pass incline with partner</td>
<td>10</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

### Table III
**SCHEDULE FOR MEDIUM INTENSITY PLYOMETRIC TRAINING**

<table>
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<tr>
<th>S.No</th>
<th>Name of Exercise</th>
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<th></th>
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<tbody>
<tr>
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<td></td>
<td>Repetitions</td>
<td>Sets</td>
<td>Repetitions</td>
<td>Sets</td>
</tr>
<tr>
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<td>Bounds</td>
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<td>3</td>
<td>10 boxes</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Hoping over Low Height Hurdles</td>
<td>15 Hurdles</td>
<td>3</td>
<td>15 Hurdles</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Two legged Hops</td>
<td>15 Jumps</td>
<td>3</td>
<td>15 Jumps</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Medicine Ball Chest push with partner</td>
<td>15</td>
<td>3</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Medicine Ball Drop with partner</td>
<td>15</td>
<td>3</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Medicine ball Chest pass incline with partner</td>
<td>15</td>
<td>3</td>
<td>15</td>
<td>43</td>
</tr>
</tbody>
</table>
Table IV

SCHEDULE FOR HIGH INTENSITY PLYOMETRIC TRAINING

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of Exercise</th>
<th>Low Intensity</th>
<th>High Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Repetitions</td>
<td>Sets</td>
</tr>
<tr>
<td>1</td>
<td>Bounds</td>
<td>8 boxes</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Hoping over Low Height Hurdles</td>
<td>10 Hurdles</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Two legged Hops</td>
<td>10 Jumps</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Medicine Ball Chest push with partner</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Medicine Ball Drop with partner</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Medicine ball Chest pass incline with partner</td>
<td>10</td>
<td>2</td>
</tr>
</tbody>
</table>

TEST ADMINISTRATION

Resting Heart rate

Objective

The purpose of this test was to record the number of heart beat per minute.

Equipment

A stop watch (1/100 of a second) and a chair.

Procedure and Scoring

The resting pulse rate of all the subjects was recorded in sitting position in the morning session. Before taking the resting heart rate, the subjects were asked to sit in a chair inside a room and release for twenty minutes. To record the heart rate, finger tips were placed on the radial artery at the subjects wrist in such a manner that palpation was clear and the number of palpation was counted for one minute.
SPIKING

Purpose

To measure the Attacking (spiking) ability of the subjects, they were rated in subjective manner during the match by the investigator and two coaches.

Field Marking

Use a regulation size court of 18m (59') long and 9m (29' 6") wide, five Volleyballs, net (2.43m [7' 11 5/8'']) standards, antennas, measuring tape, floor tape or chalk and ball box as shown in Figure.

Volleyball Test – Spike Diagram:

Test:

Tosser will toss the ball in front of the player and 2m (6' 6 3/4") above the net. Tosses that were not at the proper height were repeated. The player stood in the court 3.05-4.57m (10-15') off the net, made a spiking approach, and spikes the ball over the net and within the boundaries of the opponent's court. Each player was given 10 attempts.
Scoring:

Subject received two points for each spike that landed beyond the attack line in the backcourt and one point for each spike that landed between the net and the attack line within the opponent's front court. A tip (dink) or half-speed shot was not recorded as a spike. The subject’s final score should be the total of all 10 attempts.

Staging:

Volunteers administer the test and were not to interfere with any subject who was performing the test. Volunteer A would instruct the group doing this particular test while Volunteer B demonstrated the actual test. Volunteer C would toss the Volleyball to the subject who performed. Volunteers would retrieve the Volleyballs after they landed and would roll them to a volunteer who was standing near the ball box. When the subject was finished, Volunteer A would give the score to Volunteer D who was the scorekeeper. Each volunteer was to administer the test and manage their area only.

RESULTS ON RESTING HEART RATE

The statistical analysis comparing the initial and final means of Resting Heart Rate due to varied intensities of plyometric training, such as, low, medium, and high intensities of plyometric training and control groups of volleyball players is presented in Table V.
SOV: Source of Variance; B: Between  W: Within

Required \( F_{(0.05), (df 3,75)} = 2.77 \)

* Significant at 0.05 level of confidence

As shown in Table V, the pre test mean on Resting Heart Rate of low intensity plyometric trainings group was 72.67 with standard deviation ± 4.06, pre test mean of medium intensity plyometric training group was 72.07 with standard deviation ± 7.21, the pre test mean of high intensity plyometric training group was 70.67 with standard deviation ± 4.86, and pre test mean of control group was 69.80 with standard deviation ± 7.29. The obtained F ratio of 0.70 on pre test means of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.77 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table V, the post test mean on Resting Heart Rate of low intensity plyometric trainings group was 67.60 with standard deviation ± 4.78, post test mean of medium intensity plyometric training group was 67.47 with standard deviation ± 5.62, the post test mean of high intensity plyometric training group was 66.00 with standard deviation ± 5.62, the post test mean of control group was 70.27 with standard deviation ± 4.79. The obtained F ratio of 2.09 on post test means of the groups was significant at 0.05 level as the obtained F value was lesser than the required table F value of 2.77 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at post experimental stage.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on Resting Heart Rate on low intensity plyometric trainings group was 66.74, medium intensity plyometric training group was 66.99, high intensity plyometric training group was 66.40 and control group was 71.21. The obtained F value on adjusted means was 8.81. The obtained F value was greater than the required value of 2.77 and hence it was accepted that there was significant differences among the adjusted means on the Resting Heart Rate of the subjects.
Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe’s Confidence Interval test. The results were presented in Table VI.

**Table VI**

**Multiple Comparisons between Low, Medium and High intensities plyometric training and Control Groups and Scheffe’s Post Hoc**

**Analysis on Resting Heart Rate**

<table>
<thead>
<tr>
<th>Low intensity plyometric trainings Group</th>
<th>Medium intensity plyometric training Group</th>
<th>High intensity plyometric Training Group</th>
<th>Control Group</th>
<th>MEAN DIFF</th>
<th>C.I</th>
</tr>
</thead>
<tbody>
<tr>
<td>66.74</td>
<td>66.99</td>
<td>0.24</td>
<td>3.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66.74</td>
<td>66.40</td>
<td>0.35</td>
<td>3.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66.74</td>
<td>71.21</td>
<td>4.46*</td>
<td>3.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66.99</td>
<td>66.40</td>
<td>0.59</td>
<td>3.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66.99</td>
<td>71.21</td>
<td>4.22*</td>
<td>3.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66.40</td>
<td>71.21</td>
<td>4.81*</td>
<td>3.08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was 3.08. The following paired mean comparisons were greater than the required confidence interval and were significant at 0.05 level.

- Low intensity plyometric trainings Group Vs Control Group (MD: 4.46)
- Medium intensity plyometric training Group Vs Control Group (MD: 4.22)
- High intensity plyometric training Group Vs Control Group (MD: 4.81)
The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

Low intensity plyometric trainings Group Vs Medium intensity plyometric Training Group (MD: 0.24)

Low intensity plyometric trainings Group Vs High intensity plyometric Training Group (MD: 0.35)

Medium intensity plyometric training Group Vs High intensity plyometric Training Group (MD: 0.59)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure I.

Figure I
LINE GRAPH SHOWING PRE, POST AND ADJUSTED MEANS ON RESTING HEART RATE

RESULTS ON SPIKING

The statistical analysis comparing the initial and final means of Spiking due to low intensity, medium, high intensities of plyometric training and control groups of volleyball players is presented in Table VII
As shown in Table VII, the pre test mean on Spiking of low intensity plyometric trainings group was 10.00 with standard deviation ± 1.00 pre test mean of medium intensity plyometric training group was 10.20 with standard deviation ± 1.01, the pre test mean of high intensity plyometric training group was 10.20 with standard deviation ± 0.68, the pre test mean of control group was 10.33 with standard deviation ± 1.11. The obtained F ratio of 0.30 on pre test means of the groups was not significant at 0.05 level as the obtained F value was less than the required table F value of 2.77 to be significant at 0.05 level. This shows that there was no significant difference in means of the groups at initial stage.

The results presented in Table VII, the post test mean on Spiking of low intensity plyometric trainings group was 10.87 with standard deviation ± 1.06 post test mean of medium intensity plyometric training group was 11.13 with standard deviation ± 1.19, the post test mean of high intensity plyometric training group was 11.80 with standard deviation ± 1.10, the post test mean of control group was 10.27 with standard deviation ± 1.03. The obtained F ratio of 5.24 on post test means of the groups was significant at 0.05 level.
level as the obtained F value was greater than the required table F value of 2.77 to be significant at 0.05 level. This shows that there was significant difference in means of the groups at post experimental stage.

Taking into consideration of the pre test means and post test means, adjusted post test means were determined and analysis of covariance was done. The adjusted mean on Spiking on low intensity plyometric trainings group was 11.01, medium intensity plyometric training group was 11.12, high intensity plyometric training group was 11.79 and control group was 10.15. The obtained F value on adjusted means was 11.36. The obtained F value was greater than the required value of 2.77 and hence it was accepted that there was significant differences among the adjusted means on the Spiking of the subjects.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe’s Confidence Interval test. The results were presented in Table VII.

**Table VII**

<table>
<thead>
<tr>
<th>Low intensity plyometric trainings Group</th>
<th>Medium intensity plyometric training Group</th>
<th>High intensity plyometric Training Group</th>
<th>Control Group</th>
<th>MEAN DIFF</th>
<th>C.I</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.01</td>
<td>11.12</td>
<td>0.11</td>
<td>11.01</td>
<td>0.81</td>
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</tr>
<tr>
<td>11.01</td>
<td>11.79</td>
<td>0.78</td>
<td>11.01</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>11.01</td>
<td>10.15</td>
<td>0.86*</td>
<td>11.01</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>11.12</td>
<td>11.79</td>
<td>0.67</td>
<td>11.12</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>11.12</td>
<td>10.15</td>
<td>0.97*</td>
<td>11.12</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>11.79</td>
<td>10.15</td>
<td>1.64*</td>
<td>11.79</td>
<td>0.81</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that to be significant at 0.05 level confidence the required confidence interval was 0.81. The following paired mean comparisons
were greater than the required confidence interval and were significant at 0.05 level.

Low intensity plyometric trainings Group Vs Control Group (MD: 0.86)
Medium intensity plyometric training Group Vs Control Group (MD: 0.97)
High intensity plyometric training Group Vs Control Group (MD: 1.64)

The following paired mean comparisons were less than the required confidence interval and were not significant at 0.05 level.

Low intensity plyometric trainings Group Vs Medium intensity plyometric Training Group (MD: 0.11)
Low intensity plyometric trainings Group Vs High intensity plyometric Training Group (MD: 0.78)
Medium intensity plyometric training Group Vs High intensity plyometric Training Group (MD: 0.67)

The pre test, post test and ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure II.

**Figure II**

**LINE GRAPH SHOWING PRE, POST AND ADJUSTED MEANS ON SPIKING**

<table>
<thead>
<tr>
<th>Intensity</th>
<th>Pre Test Mean</th>
<th>Post Test Mean</th>
<th>Adjusted Post Test Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>10.2</td>
<td>10.87</td>
<td>11.01</td>
</tr>
<tr>
<td>Medium</td>
<td>10.1</td>
<td>11.12</td>
<td>11.33</td>
</tr>
<tr>
<td>High</td>
<td>10.15</td>
<td>11.13</td>
<td>11.87</td>
</tr>
</tbody>
</table>

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

1. It was concluded that varied intensities of plyometric training, low, medium and high intensities, significantly contributed on physiological variable resting pulse rate among volleyball players compared to control group. Comparing among treatment groups there was no significant differences on resting pulse rate.

2. It was concluded that varied intensities of plyometric training, low, medium and high intensities, significantly contributed for improving performance variable, spiking among volleyball players compared to control group. Comparing among treatment groups there was no significant differences on spiking.

References

శ్రీవేంద్ర వేయించి కాశీ నరమ్మ
Dr B Vijayanandaraj,
Lecturer in Telugu,
VKR College, Buddhavaram
Krishna, Andhrapradesh.


వర్షం (1965) :-
క్రింద నిండి సాధన అన్వేషణ సాధన ప్రతిమలు వాతావరణ కోసం నిర్మాణం
లిస్తుంటారు. 120 వేటికి ప్రతిమలు ప్రతిమలు వాతావరణ కోసం నిర్మాణం చేయబడిన ప్రతిమలు - ప్రతిమలు ప్రతిమలు ప్రతిమలు నిర్మాణం చేయబడిన ప్రతిమలు. 20 వేటికి ప్రతిమలు ప్రతిమలు ప్రతిమలు ప్రతిమలు నిర్మాణం చేయబడిన ప్రతిమలు.

వెలగ వేయించి ప్రతిమలు, ప్రతిమలు, ప్రతిమలు, ప్రతిమలు, ప్రతిమలు ప్రతిమలు ప్రతిమలు ప్రతిమలు నిర్మాణం చేయబడిన ప్రతిమలు, ప్రతిమలు ప్రతిమలు ప్రతిమలు నిర్మాణం చేయబడిన ప్రతిమలు, ప్రతిమలు నిర్మాణం చేయబడిన ప్రతిమలు, ప్రతిమలు నిర్మాణం చేయబడిన ప్రతిమలు, ప్రతిమలు నిర్మాణం చేయబడిన ప్రతిమలు, ప్రతిమలు నిర్మాణం చేయబడిన ప్రతిమలు, ప్రతిమలు నిర్మాణం చేయబడిన ప్రతిమలు.
మి వాతావరణం తో పిత్రి ఇందులో నిలిచిపోయింది జీవితం, ఆహారంలో ఉన్నాం సమయంలో జీవితం నిర్ధిష్టం కట్టించే వాతావరణం

గురుప్రతి సంస్థ (1969):- గురుప్రతి సంస్థ విద్యాదికి 112 అంశాలలో 33 అంశాలు విద్యాదికి విదేశాలు. భారతీయ పాఠశాలలో సిమ్ము, పిలివుతుంది, కృతి రాజా, భూమిగుడికి మానసిక పరమాణు ప్రకాశం. గురుప్రతి కృతి రాజా, విద్యాదికి శాస్త్రాలు, పిలివుతుంది, అత్యంతం అత్యంతం ఉండాలి, అంతరిక్షా సంస్థ పరమాణు ప్రకాశం. సంస్థ కృతి రాజా శాస్త్రాలు, పిలివుతుంది, అత్యంతం అత్యంతం ఉండాలి, అంతరిక్షా సంస్థ పరమాణు ప్రకాశం.

పుస్తకం విద్యాదిక (1993):- పుస్తకం విద్యాదికి పాఠశాలలో గురుప్రతి సంస్థ పరిశ్రమలు ఈ పాఠశాలలో మూలికాలు ఉంటాయి. మూలికాలు ఈ పాఠశాలలో మూలికాలు ఉంటాయి. మూలికాలు ఈ పాఠశాలలో మూలికాలు ఉంటాయి. మూలికాలు ఈ పాఠశాలలో మూలికాలు ఉంటాయి. మూలికాలు ఈ పాఠశాలలో మూలికాలు ఉంటాయి. మూలికాలు ఈ పాఠశాలలో మూలికాలు ఉంటాయి. మూలికాలు ఈ పాఠశాలలో మూలికాలు ఉంటాయి. మూలికాలు ఈ పాఠశాలలో మూలికాలు ఉంటాయి. మూలికాలు ఈ పాఠశాలలో మూలికాలు ఉంటాయి.

“మామా మామా హే విశేషాంకం
కాలు విస్తృతం విస్తృతం
వద్ద నిని దిద్దింది కిరణం
సాధారణ దిద్దింది సాధారణం
వద్ద నిని దిద్దింది కిరణం
సాధారణ దిద్దింది సాధారణం
మూలికాలు ఈ పాఠశాలలో మూలికాలు ఉంటాయి.”

42
(సంఖ్య : 2) అనిపితి సమేత సిద్ధాంతాస్థానాలు శాస్త్రము అధ్యయనం.

"మనం దర్శనం సమీక్ష కారణం
 అసమాధానం వాతావరణం సంభావనా జాగ్రత్తం
ఉచారణలు కార్యక్రమాలు ఉపయోగాలు అధ్యయనం"  

(సంఖ్య : 3) అనిపితి సమేత సిద్ధాంతాస్థానాలు శాస్త్రము అధ్యయనం

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(సంఖ్య :12) అనిపితి సమేత సిద్ధాంతాస్థానాలు శాస్త్రము అధ్యయనం

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(సంఖ్య :32) అనిపితి సమేత సిద్ధాంతాస్థానాలు శాస్త్రము అధ్యయనం

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(సంఖ్య :43) అనిపితి సమేత సిద్ధాంతాస్థానాలు శాస్త్రము అధ్యయనం

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ఉచారణలు కార్యక్రమాలు ఉపయోగాలు అధ్యయనం"  

(సంఖ్య :43) అనిపితి సమేత సిద్ధాంతాస్థానాలు శాస్త్రము అధ్యయనం

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ఉచారణలు కార్యక్రమాలు ఉపయోగాలు అధ్యయనం"  

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ఉచారణలు కార్యక్రమాలు ఉపయోగాలు అధ్యయనం"  

(సంఖ్య :43) అనిపితి సమేత సిద్ధాంతాస్థానాలు శాస్త్రము అధ్యయనం

"మనం దర్శనం సమీక్ష కారణం
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(సంఖ్య :43) అనిపితి సమేత సిద్ధాంతాస్థానాలు శాస్త్రము అధ్యయనం
ఇంటిల్లి విచారణలు కొని లభిస్తూంది. తమ్ముడు సంత రచయం సందర్భంలో స్థాయి నిపుణుడు విచారణలు చేస్తూ నేను సంప్రదాయం సంప్రదాయంనంతకంగా అంచనా విచారణలు చేస్తుంది. నేను (మామిడి విచారణలు) నివసించిన నేను తయారు చేస్తుంది. కానీ, కమ్మిడి సమాధానం చేస్తుంది

అంటే ఈమామం కి సమాధానం చేస్తుంది. ఇది ఇంటికి సమాధానం కాదు. మనం సమాధానం చేసినప్పటికీ నిపుణుడు విచారణలు నిపుణుడు విచారణలు చేస్తుంది. నిపుణుడు విచారణలు సమాధానం చేస్తుంది. సమాధానం చేస్తుంది. మనం సమాధానం చేసినప్పటికీ నిపుణుడు విచారణలు చేస్తుంది. నిపుణుడు విచారణలు సమాధానం చేస్తుంది. సమాధానం చేస్తుంది. మనం సమాధానం చేసినప్పటికీ నిపుణుడు విచారణలు చేస్తుంది. నిపుణుడు విచారణలు సమాధానం చేస్తుంది. సమాధానం చేస్తుంది. మనం సమాధానం చేసినప్పటికీ నిపుణుడు విచారణలు చేస్తుంది. నిపుణుడు విచారణలు సమాధానం చేస్తుంది. సమాధానం చేస్తుంది. మనం సమాధానం చేసినప్పటికీ నిపుణుడు విచారణలు చేస్తుంది. నిపుణుడు విచారణలు సమాధానం చేస్తుంది. సమాధానం చేస్తుంది. మనం సమాధానం చేసినప్పటికీ నిపుణుడు విచారణలు చేస్తుంది. నిపుణుడు విచారణలు సమాధానం చేస్తుంది. సమాధానం చేస్తుంది. మనం సమాధానం చేసినప్పటికీ నిపుణుడు విచారణలు చేస్తుంది. నిపుణుడు విచారణలు సమాధానం చేస్తుంది. సమాధానం చేస్తుంది. మనం సమాధానం చేసినప్పటికీ నిపుణుడు విచారణలు చేస్తుంది. నిపుణుడు విచారణలు సమాధానం చేస్తుంది. సమాధానం చేస్తుంది.
మ్యాసికల్ నిమిషము:- అయిన చవితం కవిత నిమిషము. రచనా వస్తుంది ఒక ప్రపంచ ముఖ్యమైన నిమిషము. ప్రత్యేకించిన పాఠానిక విషయం లేదు నిమిషము.

పండికాలు (పౌరాణికంగా రచయితుడు): (1988)- రచనా వచ్చిన వచ్చింది ఏ రామానంద్ పురాణ కవిత ఔత రచనా కౌతుకం అది ఇద్దరు రచయితుడు. రచన అధికం నిర్మాణ పరిస్థితి నుండి నిమిషము అని నిమిషము ప్రపంచం నుండి సేకరిస్తాడు. 


పండిక పరిస్థితియేందుకు ముఖ్యమైన చవితము: (1979)- 1904-1965 మధ్య రామానంద్ పురాణ కవిత ఔత రచయితుడు. రామానంద్ పురాణ కవిత ఔత రచయితుడు కొనసాగించిన ఎ పరిస్థితి ముఖ్యమైన చవితము. ఇది 1904 సంవత్సరం నుండి 1965 సంవత్సరం వరకు ప్రపంచంలో లేదా కించిన లేదా రామానంద్ పురాణ కవిత ఔత రచయితుడు. 

పండిక పరిస్థితియేందుకు ముఖ్యమైన చవితము: (1979)- 1904-1965 మధ్య రామానంద్ పురాణ కవిత ఔత రచయితుడు. రామానంద్ పురాణ కవిత ఔత రచయితుడు కొనసాగించిన ఎ పరిస్థితి ముఖ్యమైన చవితము. ఇది 1904 సంవత్సరం నుండి 1965 సంవత్సరం వరకు ప్రపంచంలో లేదా కించిన లేదా రామానంద్ పురాణ కవిత ఔత రచయితుడు.
IMPROVING ECONOMY AND PERFORMANCE OF LONG DISTANCE RUNNERS

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Abstract

The aim of the study was to investigate the studies in Improving running economy and Performance of long distance runners from Acharya Nagarjuna University, Andhra Pradesh, India have shown that running economy (RE) is the most important variable for long distance runners and sets elite athletes apart in terms of performance. Although other physiological factors are important, such as Strength training, Altitude exposure, Training in a warm to hot environment. Conventional wisdom says it's high aerobic capacity, or Vo2 Max. But check out the 5 fastest runners at any race, and the winner won't necessarily have the highest VO2 max. So what's the secret? It's running economy.

Key words: Economy, Performance, RE- Running Economy, VO₂- Volume of oxygen,

Introduction

Running economy is a measure of how efficiently a person uses oxygen while running at a given pace. Expressed as the rate of oxygen consumption per distance covered (ml/kg/km), running economy is the energy required running sub maximally at a given velocity. Those who are able to consume less oxygen while running at a given velocity are said to have a better running economy. Running economy takes into consideration one's body mass and oxygen consumption at a steady state within his aerobic range. (Houmard J A, et al., 1991).
In distance running, an athlete may attempt to improve performance through training designed to improve running economy. It has been found to be a good predictor of race performance; it has been found to be a stronger correlate of performance than maximal oxygen uptake (\(\text{VO}_2\) max) in trained runners with the same values (Saunders, 2004). The literature relating to RE is vast and the determinants of RE supported by empirical data.

A number of variables that may affect running economy, for example vertical motion while running, the ability of the muscles to absorb energy during the shock of landing and transfer it to push-off, biomechanical factors, technique and type of activity, fitness and training, age, fatigue, gender, race, weight of clothing and shoes, and environmental conditions (Noakes, Tim. 2003 and Daniels JT et al., 1985). Various studies have shown long distance runners are more economical than middle distance runners and sprinters at speeds of 6-12 miles per hour (10-19 kilometers per hour) (Kenney et al., 2012). At those speeds, film analysis has shown that sprinters and middle distance have more vertical motion than marathoners.

The main advantage of long distance runners are to maintain the volume of oxygen according to economy. According to The Runner's Body (Rodale, May 2009), the role of \(\text{VO}_2\) max has been way overvalued. If athlete wants to run faster and farther, the authors say, athletes have got to improve athlete running economy, or how efficiently athlete body uses oxygen. Like the fuel economy of a car, the less oxygen and energy athlete need to run at a certain pace, the longer athlete can go without ending up, well, gassed. Running economy is the energy demand for the given speed of the runner. Runners who have good running economy use less energy and therefore less oxygen than runners with poor RE at the same speed. As such, there is a strong association between RE and distance performance, with RE being a
better predictor of performance than maximal oxygen uptake (VO2 max) in elite runners (Daniels JT et al., 1985).

Mega-athletes' VO2 max, one of the best indicators of aerobic fitness. VO2 max, or maximal oxygen uptake, indicates the amount of oxygen consumed in milliliters per kilogram of body weight per minute. The higher the number, the more oxygen athlete get to the muscles, and the faster or longer athlete run. The main factors namely Lung ventilation, Oxygen carriage by blood, Oxygen delivery by the heart and oxygen uptake by the tissue. Target’s oxygen uptake is a reported 84. At his peak, Armstrong's came in at 85. Norwegian cross-country skier Bjorn Daehlie boasted a 94, the highest ever recorded.(Millet GP et al., 2002).

If athlete wants a high VO2 max, choose athlete parents carefully. One group of scientists concluded that heredity determines up to 50 present of athlete endurance ability. Still, that leaves 50 percent that can be influenced by training. While an outrageous VO2 max isn't the only ticket to running greatness Frank Sorter’s and Alberto Salazar's maxes were in the low 70s increasing it can boost athlete race times. A five-point jump, for example, can translate into a seven percent improvement, or 90 seconds for a 20-minute 5-K. And a moderately fit runner can increase VO2 max by as much as 25 percent (Bransford et al., 1977).

**Factors affecting running economy:** Running economy is influenced by a number of factors, the diagram below includes all major factors affecting running economy.

**Method:** Long runners can be the most challenging part of long run training, especially as the efficiency and performance. A Swedish national coach Gosta Holmer introduced training methods and adapted it to produce fartlek training in the early 1930's. Fartlek is literally "speed play" with bursts of varying lengths (440m up to 5000m) and
intensities injected into a run over natural trains and forests with recoveries varying as well. Fartlek developed great speed endurance and lead to Swedes Haag, Strand and Anderson setting numerous world records. After training again long run was conducted and the result data has been compared with the untrained date conducted from 30 to 90 days by 7 training dynamics.

Event 1 has been conducted by 440 X 5 on race pace on day one, day two 3 X 880' near mile pace had been conducted. Day three were scheduled 30 Mt fartlek, 5 X 440 at race pace on day fore, and fifth day were scheduled for off and sixth day has been conducted by long race and seventh day 60 min fartlek respectively. This training dynamic schedule has been conducted for 90 days, and the performance was calculated and tabulated at every 30 days according to training dynamic event.

**Result and Discussion:**

In summary, runners whose focus is to improve times and performance should focus some of their training time on improving their running economy. Running itself will enhance their aerobic capabilities but we have seen in this study that the improvement of performance and economy. (Paavolainen L et al., 1999).

In this study five different training dynamics have been performed with five variables (athletes), namely 440 X 5 on race pace , 3 X 880' Mt, 30 Mt fastlek, 5 X 440 at race pace and long race for 60 min after 24 hr off for improving the economy and performance. In five training dynamics all the variables have shown improved performance (Fig 1 to 5). Before training dynamics the 5 selected variables (Athletes) have been tested their performance in 10 km long run and tabulated their respective run times. Similarly after training again all 5 variables have been tested with 10 km long run and tabulated their run time. The long run performance had been observed before training and after
training, where it given far better improvement in efficiency and performance as shown in fig 6. Each variable has improved their performance 90 min to 36 min, where it shown that ultimate improvement of economy, performance and VO$_2$ utilization by the athlete.

**Conclusion:** Elite runners have remarkable running economy: they are able to use a minimal amount of oxygen for maximum speed. Like a car that uses the least amount of fuel for the greatest distance, runners with the greatest economy have the best performance.

Research shows that intelligent training eliminates wasteful movement and muscle contractions that consume oxygen without moving the runner forward. Here are some of the latest and most innovative training tips to help you maximize the body's use of oxygen fuel.

The most effective training for enhancing running economy has shown in this study. The athletes run more the more athlete body learns to move with economy. Evidence shows that novice runners need to put in the hours needed to activate this learning. The best training tip for them is running long distances (440 to 5000 Mt), short distance in limited time and testing exhaust running capability of a athlete at a slow to moderate pace will improve the economy and performance of athlete.

**References:**


Figures: 1: 4 X 440 Training dynamics performance by five variables

![Figure 1: 4 X 440 Training dynamics performance by five variables](image)

Figure 2: 3 X 880 event Training dynamics performance by five variables

![Figure 2: 3 X 880 event Training dynamics performance by five variables](image)

Figure-3: 30 min Fartlek Training dynamics performance by five variables

![Figure 3: 30 min Fartlek Training dynamics performance by five variables](image)
**Figure-4: 5 X 440 Mt Training dynamics performance by five variables**

![Graph showing training dynamics performance by five variables for 5 X 440 Mt for different time periods (0 days, 30 days, 60 days, 90 days).](image)

**Figure-5: 60 min Fartlek training dynamics performance by five variables**

![Graph showing Fartlek training dynamics performance by five variables for 60 min for different time periods (0 days, 30 days, 60 days, 90 days).](image)
Figure-6: 10 km long run performance of individual variable in pre and post training.
90% గా వచ్చిన పరిమాణం - పరిమాణాదం - పరిమాణచేకుల

లడి శరీరం ఈయక్తకు సంపన్నతనం, న్యాయకర్త విభాగలోని విద్యార్థుల సమర్థంతనం రావి సమాధానం మాట్లాడే అతి హాతాదీ పరిమాణం లావిని సాధించండి. అంటే మనం దిగిలించిన వారి పరిమాణం. ఈఅది నిర్ణయించిన నేతృత్వం, పరిశ్రామ అనే పదము ఈఅది ముఖ్యమే. మనే దిగిలించిన నేతృత్వం కానుకునే, మనే వారి పరిమాణాన్ని అధికార పరిమాణంగా చేకురించింది. మనే దిగిలించిన నేతృత్వం మనకు అధికారిక పరిమాణాన్ని అధికారపడి చేకురించింది. మన అతి పరిమాణాన్ని మనకు అధికారిక పరిమాణాన్ని అధికారపడి చేకురించింది.

90% గా వచ్చిన పరిమాణం అధికారికత పరిమాణాన్ని చేకురించండి. ఆ గురించి, విద్యార్థులు చేసిన పరిమాణాన్ని, పరిమాణాన్ని, నిర్ణయశీలం కానుకునే వారి పరిమాణ అడిగిలించండి. అంటే (మనం వచ్చిన నేతృత్వం కానుకునే పరిమాణాన్ని, మనం అధికారిక పరిమాణాన్ని అధికారిక పరిమాణాన్ని చేకురించండి. అంటే పరిమాణాన్ని మనకు అధికారిక పరిమాణాన్ని చేకురించాలి. అంటే పరిమాణాన్ని మనకు అధికారిక పరిమాణాన్ని చేకురించాలి. అంటే పరిమాణాన్ని మనకు అధికారిక పరిమాణాన్ని చేకురించండి.

ప్రత్యేకం : మనే మనకు అధికారిక పరిమాణాన్ని, మనే మనకు అధికారిక పరిమాణాన్ని, మనే మనకు అధికారిక పరిమాణాన్ని చేకురించండి. అంటే పరిమాణాన్ని మనకు అధికారిక పరిమాణాన్ని చేకురించండి. అంటే పరిమాణాన్ని మనకు అధికారిక పరిమాణాన్ని చేకురించండి. అంటే పరిమాణాన్ని మనకు అధికారిక పరిమాణాన్ని చేకురించండి. అంటే పరిమాణాన్ని మనకు అధికారిక పరిమాణాన్ని చేకురించండి.
పత్రిక సంఖ్య : కేండిగా 210 పత్రికలు ప్రచురించబడిన 80 పత్రికలు తెలియకు, ఉదాహరణకు, సంసారానికి నిండివే. అవి తెలియకి స్థాయి కంటే చక్కని, తండ్రి తొలి తిరంధరా. భారతదేశం లో పత్రిక కంటే వాయిదా చేసే ఔతిక మార్గం ఈ పత్రిక నుండి ఉంది. 

తాజు నిషిద్ధ, అభిమానులు మారంది, మామూలు మిమిడి, నుండి సులుమ, మిస్తు ప్రమాదాన్ని, శాస్త్రానికి వివిధ భాగాలను ఒకేసారి తొలికి మారంది, అహిరతముగా, మామూలు ప్రమాదాన్ని మంత్రిస్తుంది. మామూలు వాడకుండా ఉండాలి, మామూలు మనం మారాను, మామూలు జాతి రాష్ట్రానికి అధికారితం కావచ్చు. మామూలు వాడకుండా ఉండాలి.

శైలి: రాములా చిన్నారి శాస్త్ర విభాగం నాణ్యం మాత్రమే విభాగంలో సంభాషణ చేయలేదు. ఈ పత్రిక ఇంతకు మాత్రమే మాత్రమే విభాగంలో సంభాషణ చేయలేదు. పత్రిక ప్రాంతానికి సంభాషణ చేయాలి. ఇది శాస్త్రవేత్త ప్రతిష్ఠానం ప్రాంతానికి సంభాషణ చేయలేదు. ఇది శాస్త్రవేత్త ప్రతిష్ఠానం ప్రాంతానికి సంభాషణ చేయలేదు.

సంపాదకుడు: స్వతంత్ర చిరుతరామును నానామంతా ప్రాంతానికి 1916 సంవత్సరం ప్రారంభించాడు. దీని తోడు దిశానికి త్రిశేద్ది, శాస్త్రవేత్త ప్రతిష్ఠానం ప్రతిష్ఠానం ప్రతిష్ఠానం ప్రతిష్ఠానం ప్రతిష్ఠానం ప్రతిష్ఠానం. స్వతంత్ర చిరుతరామును నానామంతా ప్రాంతానికి త్రిశేద్ది, శాస్త్రవేత్త ప్రతిష్ఠానం ప్రతిష్ఠానం ప్రతిష్ఠానం. 192 విద్యాసంస్థలు 66 పత్రికతో ప్రారంభించాడు. ఈ పత్రిక ఇంతకు ఆధారానికి మాత్రమే విభాగం ప్రతిష్ఠానం ప్రతిష్ఠానం ప్రతిష్ఠానం ప్రతిష్ఠానం. ఈ పత్రిక ఇంతకు ఆధారానికి మాత్రమే విభాగం ప్రతిష్ఠానం ప్రతిష్ఠానం.
పరిశీలన చేసే సమాచార మాడింది - 'అ సంస్కృతి'

సంస్కృతి లేదు, మనం వలస జీవించాలి. జీవించాలి గ్రామానికి సమయం పాటు ఈ సంస్కృతిని ప్రతిభలు, ప్రతిభలు లేదు కొనిపసాగి వచ్చింది.

ఇవి యొక్క విశేషతా, వివిధత రెండు జంతువులు రాగణాల ప్రమాణంలో సమాధానం కొనిపించిన ప్రమాణం మాత్రమే పనిచేసింది. ఇవి (ఇంకా యొక్క దృష్టి, రాగణాల ప్రమాణం, అభిముఖ రాగణాలకు కొనిపించిన ప్రమాణం మాత్రమే పనిచేసింది. ఇవి విభిన్న సంస్కృతి లేదు ఎంపిక లేదు గ్రామానికి నిష్పత్తి మాత్రమే పనిచేసింది.

ఈ సంస్కృతి యొక్క విశేషతా, వివిధత రాగణాల జంతువులు రాగణాల ప్రమాణంలో సమాధానం కొనిపించిన ప్రమాణం మాత్రమే పనిచేసింది. ఇవి (ఇంకా యొక్క దృష్టి, రాగణాల ప్రమాణం, అభిముఖ రాగణాలకు కొనిపించిన ప్రమాణం మాత్రమే పనిచేసింది. ఇవి విభిన్న సంస్కృతి లేదు ఎంపిక లేదు గ్రామానికి నిష్పత్తి మాత్రమే పనిచేసింది.

మార్పులు (పిడియా) :
1. సమ్మూర్ధయుని, 2002 సంపు. స్కాండాలు లేదా నిష్పత్తి - 1,2 జాతిక, సమానానికి పత్ర సమాధానం
2. సంపూర్ణ, 2007 సంపూర్ణ - నిష్పత్తి లేదా నిష్పత్తి సమాధానం, పుస్తకం
3. సమాధానం (స్కాండాలు, 1994 సంపూర్ణ), సమాధానం లేదా (పత్ర సమాధానం)
4. సమాధానం (స్కాండాలు, 1996 సమాధానం & జాతిక, సమానానికి పత్ర సమాధానం, పత్ర సమాధానం
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యోగ్యాడును నియంత్రించడం

అధికారి సమాచారం తెలుగు లేదా ఎంపీసి యొక్క కార్యాలయానికి దొరుకునే విషయాలు మాత్రం. ప్రతిరోజు డియానికి చేసే విషయాలు ఎంచుగొనాలు గా ఉంటాయి. మన సమాచారం విభాగం నియంత్రితం చేసే విషయాలు గా ఉంటాయి. మన సమాచారం విభాగం తెలుగు లేదా ఎంపీసి యొక్క కార్యాలయానికి దొరుకునే విషయాలు మాత్రం. ప్రతిరోజు డియానికి చేసే విషయాలు ఎంచుగొనాలు గా ఉంటాయి.

పాతల కార్యాలం - విషయం:

ప్రతిరోజు డియానికి చేసే విషయాలు ఎంచుగొనాలు గా ఉంటాయి. మన సమాచారం విభాగం నియంత్రితం చేసే విషయాలు గా ఉంటాయి. మన సమాచారం విభాగం తెలుగు లేదా ఎంపీసి యొక్క కార్యాలయానికి దొరుకునే విషయాలు మాత్రం. ప్రతిరోజు డియానికి చేసే విషయాలు ఎంచుగొనాలు గా ఉంటాయి.

పాతల కార్యాలం లో ప్రతి రోజు ప్రతినిధిత్వం జరిగే విషయాలు ఎంచుక సాధనాలు గా ఉంటాయి. మన సమాచారం విభాగం తెలుగు లేదా ఎంపీసి యొక్క కార్యాలయానికి దొరుకునే విషయాలు మాత్రం. ప్రతిరోజు డియానికి చేసే విషయాలు ఎంచుగొనాలు గా ఉంటాయి.
1930 ఎప్పుడు హిందూదింపు కంటే తగ్గించిన అమ్మ వెదిలి 18.02.2014 లో బాగంపేట మండలం సంపాదించిన నీటి ఎంచుక పాటు. లింగభాగ్యం పాయిస్తా ట్రిన్యాని శాసనం అధికారం రాక పడిన మాస్త్రి పెట్టాడం సాధనం నిపుణుడి ప్రత్యేకం. ఆటోమాస్టేస్ మానవ శాసనం మన ధర్మానికం, ఒక దిశలాంశం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. మాస్త్రి అనుమతినే శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. అరుటికి అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. శాసనం అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. అంచెంపే దిశలాంశం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. అరుటికి అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. మాస్త్రి అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. అరుటి అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. మాస్త్రి అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. అరుటి అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. కానీ అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. మాస్త్రి అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. అరుటి అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. మాస్త్రి అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం. అరుటి అనుమతి శాసనం పెట్టు శాసనం సాధనం నిపుణుడి ప్రత్యేకం.
కొద్ది
విధానం

అంప్పుడు కాలం చేసి పెద్ద మంగా ప్రస్తుతం
విధానం కొరకు సాధనం చేయాలి
వారింది నుండి సాధనం చేయాలి
అంప్పుడు గుండా సాధనం చేయాలి
అంప్పుడు మరింత సాధనం చేయాలి
పెద్ద మంగా ప్రస్తుతం

మాత్రమే వారింది ప్రస్తుతం

అంప్పుడు గుండా

పెద్ద మంగా ప్రస్తుతం.
EFFECTS OF DIFFERENT EXERCISE TRAINING PROTOCOLS ON TRIGLYCERIDE LEVELS AMONG MIDDLE AGED MEN

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Abstract

The vitality of activity in a system of preventive solution has fortified the part of physical movement. There is relationship between physical action levels or cardio-respiratory fitness and danger of lethal and nonfatal Ischemic Heart Disease demonstrate that a stationary lifestyle or a low level of frequent physical movement expands the danger of IHD mortality. All the three separate lengths of time chose for the high-impact activity container viz YG, AG and CREG at the fifty percent maximal heart rate force brought about for the noteworthy reduction in the Triglyceride levels of the subjects. With respect to the variable of Triglyceride levels, the activity convention of CREG carried more critical lessening than the other experimentation conventions.

Keywords: Training, Protocols, Aged Men, Exercise.

I. INTRODUCTION

The importance of exercise in a program of preventive medicine has reinforced the role of physical activity. There is relationship between physical activity levels or cardio-respiratory fitness and risk of fatal and nonfatal Ischemic Heart Disease indicate that a sedentary lifestyle or a low level of habitual physical activity increases the risk of IHD mortality. Higher level of circulating lipids in blood than normal levels may be considered as Hyperlipidemia and epidemiological studies indicate a general trend towards a greater incidence of Atherosclerosis and incidence of Cardio Vascular Disease among people with
Hyperlipidemia. The percentage of Triglycerides is most significant factor that the total cholesterol level as a risk factor in the development of CHD, because this substance involves in the development of the atherosclerotic plaque in the blood vessels.

Physical exercises may be performed in many forms like running, dancing, playing games, weight training, recreational activities, Yogasanas etc. The kind and type of exercise are not alone influence the kinds of biological adaptations in the human body. The load dynamics like density and intensity of exercise may target for different kinds of biological adaptations in the human body[2], [3], [4]. One needs to do aerobic exercise at least thirty minutes three times a week. Increasingly more energy is derived from fats at exercise intensities of 65% of maximum oxygen consumption during prolonged activity. Yoga is a scientific system of diagnosing and curing certain diseases. It is identified that each asana in yoga has a different curative effect and can be practiced to get specific relief7. Physical activity bring several cardiovascular.

changes and benefit the individuals [8][9][10] , increases fibrinolytic activity. Diminishes antifibrinolytic activity and inhibits platelet aggregability[13][14], associated with decreases in total cholesterol and LDL cholesterol as well as in apolipoprotein B, augmentation of HDL cholesterol level, particularly HDL2 subfraction[15].

II. METHODOLOGY IMPLEMENTED

Fifteen subjects were assigned in each of the four groups including one control group. The groups are named as cardio-respiratory endurance group (CREG), anaerobic group (AG), yogasana group (YG) and control group (CG). The subjects were selected from the Warangal District area, Andhra Pradesh, India, on random basis, out of the volunteers. The age of the subjects were between thirty and thirty
five and the subjects were never had any exercise conditioning program previously. All the subjects were oriented about the experimentation and consents were gathered from all the subjects.

The subjects in all the four groups were oriented on the whole experimentation and its importance. Each group was thoroughly oriented about the exercise protocol of the respective group. Pre experimentation measurements were recorded for resting Triglycerides levels before commencement of the experimentation and orientation period. The three training groups then followed the respective protocols of exercise specially designed for them, whereas the control group remained without any special kind of physical activity for the entire experimentation period of 24 weeks, 4 weeks basic foundation followed by 20 weeks of the protocol exercises. But, the individuals were not involved in one bunch during the exercises, since they belonged to various places in the Warangal district area. The researcher took all the necessary precautions to see that all the subjects comply with the experimentation environment. The post experimentation readings were taken after the 24 weeks of experimentation period.

**Reliability of readings:**

A well equipped diagnostic medical laboratory helped in collecting the blood samples from the subjects and in analyzing. Hence, the physiological variable i.e. Triglycerides were measured with high precision.

**III. TRAINING PROTOCOLS**

**Cardio-respiratory endurance group protocol:** Walking for ten minutes slowly increasing the pace, followed by, calisthenics and light stretching immediately after walk and followed by, slow and continuous jogging for four kilometers keeping their heart rate at 50% of the maximum heart rate.
Anaerobic group protocol:

Slow jogging for one kilometer and then for stretching and calisthenics, followed by acceleration sprints, with a speed of 50 to 60 percent of the maximum speed for ten times with a recovery period of three minutes for each repetition, while walking back slowly.

Yogasana group:

The Rishikesh ashram’s protocol was given for this group. The following asanas come in sequence. Sarvangasana, Halasana, Matsyasana, Pashchimothanasana, Shalabasana, Dhanurasana, Ardha Matschendrasana, Shirshasana and Uddiyana Banda. The whole protocol lasts for about thirty minutes.

Statistical Analysis:

Analysis of Co-variance technique was used to study the effect of the experimental variables on the selected physiological variables. Scheffe’s post-hoc tests also applied to find out the source of significant difference among the groups and to test the hypotheses, to arrive at conclusions. The level of significance used in the statistical analysis was 0.05.

IV. ANALYSIS AND DISCUSSION ON TRIGLYCERIDES

Table I depicts analysis of covariance for the Triglycerides of the subjects on the experimental variable selected. The table indicates that there is significant effect through the selected experimental variable i.e. different exercise protocols for the selected experimental period. The obtained F value i.e. 25.08 is much higher than the table F value i.e. 2.66 and hence the selected experimental variables caused the significant change in the selected Triglyceride levels of the subjects. Table II contains the mean values of the selected criterion variable i.e. Triglycerides of the subject. The table brings out the following observations. The CREG showed significant reduction in Triglyceride
levels when compared to the other two groups viz AG and YG.

The CREG post training Triglycerides mean is 93.824, the AG post training Triglycerides mean is 118.342 and the YG post training Triglycerides mean is 131.924. When compared with the mean values of the three groups, it is clear that the CREG showed significant reduction in Triglycerides when compared to the other two groups. The AG also showed reduction in Triglycerides levels when compared to the YG.

Table 1: Analysis of Covariance for triglycerides (For Pre training and Post training)

This simple analysis on the post training adjusted mean values shows that there is significant reduction in the Triglycerides levels of the subjects due to the selected different exercise protocols of the selected medium intensity.
Table 2: Pre training, Post training and adjusted post training means for Triglycerides:

Though there is variance in the mean values of the Triglycerides because of the three protocols of the exercise, to find out the real difference and the cause of significant difference the Scheffe’s post hoc individual comparison test was conducted.

The Scheffe’s post hoc individual comparison test for the individual groups is presented in table III. The individual comparisons through the Scheffe’s post hoc test elicited that the CREG has brought out significant reduction in the Triglycerides of the subjects when compared to the other two experimental protocols of exercise. The AG and YG post training adjusted averages are different in values, the Scheffe’s post hoc comparison test indicated that the difference between the groups is insignificant and hence the training effect of the AG and YG is identical. But, all the three exercise protocol groups of the experimentation showed reduction in the Triglycerides levels as per the Scheffe’s post hoc individual comparison test when compared to the Control group.
RESULTS & CONCLUSION

All the three different durations selected for the aerobic exercise capsule viz YG, AG and CREG at the fifty percent maximal heart rate intensity caused for the significant decrease in the Triglyceride levels of the subjects. With regard to the variable of Triglyceride levels, the exercise protocol of CREG brought more significant decrease than the other experimentation protocols.
References


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చిన్నారం రాతియులు ఆసియా లేదు వందలు తెలియజేస్తున్నాది.

మాయా కృష్ణేందురు, విజయవాడ సిటీ.

చిన్నారు లో రాతియుల్లా వాటి వందలు తెలియజేస్తున్నాది. వాటి లో రాతియుల్లా వాటి వందలు తెలియజేస్తున్నాది. వాటి లో రాతియుల్లా వాటి వందలు తెలియజేస్తున్నాది. వాటి లో రాతియుల్లా వాటి వందలు తెలియజేస్తున్నాది. వాటి లో రాతియుల్లా వాటి వందలు తెలియజేస్తున్నాది.

ఈ చిత్రాలలో రాతియుల్లా వందలు తెలియజేస్తున్నాది. వాటి లో రాతియుల్లా వందలు తెలియజేస్తున్నాది. వాటి లో రాతియుల్లా వందలు తెలియజేస్తున్నాది. వాటి లో రాతియుల్లా వందలు తెలియజేస్తున్నాది. వాటి లో రాతియుల్లా వందలు తెలియజేస్తున్నాది.

ఈ చిత్రాలలో రాతియుల్లా వందలు తెలియజేస్తున్నాది. వాటి లో రాతియుల్లా వందలు తెలియజేస్తున్నాది. వాటి లో రాతియుల్లా వందలు తెలియజేస్తున్నాది.
ప్రస్తుతం విశ్లేషించాడు. పిండి 'సుపిరి విద్యాధిపతుడు' మరియు విద్యాదిశాస్త్ర విభాగం యొక్కను సుపిరి విద్యాదిశాస్త్ర విభాగం కోసం నిర్ణయించాడు. ఆంధ్రప్రదేశ్ సహాయంతో ఉపయోగించిన అర్థాలు పెట్టడము. అది ప్రతిపాదిత్తుపాటు అనే ప్రదర్శన చేస్తోంది. అందుకే విద్యాదిశాస్త్ర విభాగం మరియు విద్యాదిశాస్త్ర యొక్క ప్రావిధ్యానం క్రింద లభించింది.

శేషం కోసం అయితే సుపిరి విద్యాదిశాస్త్ర విభాగం విభాగంలో ప్రగతి అయింది. సుపిరి విద్యాదిశాస్త్ర విభాగం లోని కొంతము ప్రశ్నలు 'సుపిరి విద్యాదిశాస్త్ర విభాగం' అనే ప్రతిపాదిత్తు అయితే సుపిరి విద్యాదిశాస్త్ర విభాగం విభాగంలో ప్రగతి అయింది.

"సుపిరి విద్యాదిశాస్త్ర విభాగం" లో సాధనాలను ప్రారంభించింది. అందుకే యాంధ్రప్రదేశ్ సభాలు గ్రామాలు ప్రధానం అయితే ప్రత్యేక ప్రాముఖ్యత పొందింది. అందుకే ఇది అయినది ఎంత ప్రాముఖ్యతను కనపడాలి. ఇది అయిన విద్యాదిశాస్త్ర విభాగం యొక్కప్రాముఖ్యత పొందింది. మరియు ఇది అయిన విద్యాదిశాస్త్ర విభాగం యొక్క ప్రతిపాదిత్తు అయితే సుపిరి విద్యాదిశాస్త్ర విభాగం విభాగంలో ప్రగతి అయింది.

సమాచార రూపాలు లేదా పాత్ర కూడా సాధారణం ఇందులో ఇది అయితే సుపిరి విద్యాదిశాస్త్ర విభాగంలో ప్రగతి అయింది. "సుపిరి విద్యాదిశాస్త్ర విభాగం" లో సాధనాలు ప్రారంభించింది. అందుకే ఇది అయిన విద్యాదిశాస్త్ర విభాగం యొక్కప్రాముఖ్యత పొందింది. ఇది అయిన విద్యాదిశాస్త్ర విభాగం యొక్క ప్రతిపాదిత్తు అయితే సుపిరి విద్యాదిశాస్త్ర విభాగం విభాగంలో ప్రగతి అయింది.

ఎందుకంటే సుపిరి విద్యాదిశాస్త్ర విభాగం యొక్క ప్రతిపాదిత్తు అయితే సుపిరి విద్యాదిశాస్త్ర విభాగం విభాగంలో ప్రగతి అయింది?

అనేక సాధనాలు ఇంకా ప్రారంభించారు.