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CASHLESS ECONOMY & ITS EFFECTS ON COMMERCE

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Introduction

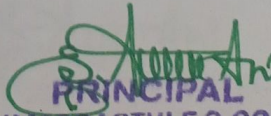
Cashless society, A cashless society describes an economic state whereby financial transactions are not conducted with money in the form of Physical bank notes or Coins, but rather through the transfer of digital information (usually an electronic representation of Money) between the transaction parties.

In cashless economy every monetary transaction will be done through electronic channels like EFT, mobile fund transfers, ATMs, E-banking etc. In this money will be not travel physically for any transaction. So the financial system will be totally dependent on information technology because payments will be done electronically. For a country's socio-economic growth and development information technology plays an important role because future of service industry is in the information technology. Because of information technology the cost of bank will reduce that will result in lower service charges for customers. Recycling and production of new currency notes will be reduced and cash related crimes will also be reduced. Though there are some issues which should be taken care of like power supply as it effects electronic transactions and electronic devices should have power backup, workforce has to be replaced by machines and users should be charged minimal for electronic transactions, and public acceptance is the main thing. Like any other network hackers will definitely try to exploit the systems. So there is a need of clear and strict of the cyber laws.

Awareness campaigns could be run all over India so that people do not take it as a threat rather they should be made aware about the technology and cashless economy.

"Why rely on your bank. when you can bank on Aadhaar! Now link your Aadhaar card with your bank account.

"My mobile...my bank...my wallet,"-PM Narendra Modi


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- It curbs generation of black money and reduce corruption.
- It keeps the record of all transactions which will help to reduce illegal monetary transaction.
- Digitization of transaction as well as ease of lifestyle.

Disadvantages of Cashless Society:

- Risk of identity theft.
- Risk of information loss.
- Risk of inactivity of electronic device during the transaction.
- Lack of secure internet facility.
- Less control in spending.
- Extra charge may be imposed by merchant.

Modes of cashless transactions

1. Cheque

The cheque is one of the oldest methods of cashless payment. It is a known method to everyone. In this method, you issue a cheque for the specific amount to someone else. The cheque gets deposited in the respective bank. The bank processes a payment through a clearing house. The entire transaction done through cheque gets recorded and there is a proof of payment. However, there are instances where cheque payments get dishonoured due to signature mismatch or insufficient fund. In order to avoid such issue, we can use other cashless payment options.

Demand Draft

Demand draft is another rudimentary way of cashless transaction. It is safest option to receive payment from anyone. Demand draft (DD) never gets defaulted as it is signed by the banker. The disadvantage of DD and cheque is you need to visit a bank in order to deposit cheque and demand draft. The clearance of cheque or DD takes additional time.

Online Transfer – NEFT or RTGS

The third simplest method for the cashless transaction is online transfer using NEFT or RTGS. In order to do online money transfer, you need internet banking facility. Online transfer using NEFT or RTGS is comparatively faster than cheque or DD. Online transfer can be done from anywhere using internet facility.


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4. Credit Card or Debit Card

Credit card or debit card is another cashless payment method. The usage of credit card and debit card was limited in India. However, usage of credit card and debit card is increasing now because of demonetization. The limitation of this payment method is an availability of swipe card facility (PoS) at merchant end.

5. E-Wallets

E-Wallet is next cashless payment option. E-Wallet can be used to purchase products starting from grocery to airline tickets. In order to use E-Wallet customer and merchant, both require a smart phone with active internet connection. The most popular example of E-Wallet is PayPal.

After registering for E-Wallet you need to link your credit card or debit card with your E-Wallet id. You can use E-Wallet for fund transfer or online shopping. It is simplest cashless method.

6. Mobile Wallets

The next cashless payment method is a mobile wallet. You do not need a debit card, credit card or internet banking password for making payment using a mobile wallet. Just load money in your wallet via IMPS and use it on the move. You can download mobile wallet app from play store. Few examples of mobile wallets are Pay tm, PayUmoney, MobiKwik, etc.

7. UPI Apps

UPI is a mobile payment system which allows you to do various financial transactions on your Smartphone. UPI allows you to send or receive money using virtual payment address without entering bank information. Merchants can enrol with banks to accept payments using UPI. Like in the case of a PoS machine, the merchant would require a current account with a bank to accept UPI payments. The examples of few UPI Apps are SBI Pay, Union Bank UPI App, Phonepe, etc

8. Gift Card

The next cashless payment method is a gift card. Gift card is a readymade card and can be purchased from a merchant or from the bank. The gift card is loaded with a fix cash amount you can purchase any item from the specific vendor by using a gift card.

9. Aadhaar Enabled Payment System

Aadhaar Enabled Payment System (AEPS) is one of the best cashless payment methods. AEPS is like Micro ATM it uses Smartphone and a finger-print scanner for the transaction. In order to use this facility, it is mandatory to link your Aadhaar card to your bank account. You can use AEPS in order to perform transactions like Aadhaar to Aadhaar fund transfer, Cash withdrawn, Cash deposit, etc.

10. Unstructured Supplementary service Data

You can use USSD cashless option if you don't have a Smartphone or internet connection. Unstructured Supplementary Service Data is mobile banking service. From any mobile phone, you can dial *99# and use this service. You can do all these things which are available to a person with Smartphone and internet connection. Almost including SBI, ICICI, BOB, Axis Bank and PNB supports USSD payment option.

Conclusion

With limited cash in hand and an indefinite crunch in sight, most people are rushing to cashless transactions. Digital transactions bring in better transparency, scalability and accountability. The new move will compel more merchants to accept digital money. Cash may no longer be king. While you wait for the serpentine queues at ATMs to peter out and currency notes of Rs 100 denomination to become easily accessible again, the adoption of digital payment solutions is picking up at a furious pace. Everyone from the neighbourhood vegetable vendor to the chai and bhelpuriwala is embracing digital payment solutions to tide over the cash crunch. ET Wealth conducted an online survey to find out the level of adoption of digital payment solutions and user habits. The findings reveal that while people are getting comfortable with cashless payments, some mindset issues are holding back many from embracing the newer platforms. The findings also suggest that the usage habits of those who have taken to cashless modes could be exposing them to security threats.

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SPORTS TRAINING

in the

National Seminar

on

**SPORTS - AN INTEGRAL COMPONENT FOR SOCIO-ECONOMIC
 AND CULTURAL TRANSFORMATION IN INDIA**

Saturday, 23rd March, 2019

Sri Chandrashekhara

Sri Chandrashekhara
 Organizing Secretary

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INTRODUCTION:

SPORTS TRAINING: Some definitions of sports training as given by the experts of this area are as under: According to Hardial Singh (1993), Sports training is a pedagogical process, based on scientific principles, aiming at preparing sportsmen for higher performances in sports competitions. According to Matveyew (1981) sports training is the basic form of an athlete's training. It is the preparation systematically organized with the help of exercises, which in fact is a pedagogically organized process of controlling an athlete's development (his sporting perfection). The **contents** of sports training consists of individual key areas which are called **components of sports training**:

- Physical component is generally focused on developing motor abilities.
- Technical component focuses on acquiring sports skills through motor learning.
- Tactical component focuses on acquiring and further development of different ways to conduct sports contest on a purposeful basis.
- Psychological component is focused on improving the athlete's personality.

ABSTRACT

All activities which are part of human behaviour were subject to a long-term development. Let us take throwing, which is regarded a basic motor activity, as an example. In the deep past, throwing was necessary for feeding and defence. At present, throwing has lost its importance as one of the above mentioned activities but it is involved in different sports to a great extent (e.g. athletics, handball, baseball, etc.). The task of a prehistoric hunter was to hit the target precisely to get food. The aim of a present-day athlete is to throw the javelin as far as possible. The result of the activity in both examples can be considered a performance. **Performance** is understood as an extent to which motor task is accomplished. With the prehistoric hunter, performance is evaluated dichotomically: hitting the target or missing and it is not restricted by any rules. In the case of the athlete, performance is evaluated following rules of the sports discipline which were set in advance, it is expressed by the length of the throw and is understood as a **sports performance**. An ability to achieve a given performance repeatedly is referred to as **efficiency**.

AIMS OF SPORTS TRAINING

is to achieve maximum individual or team efficiency in a selected **sports** discipline limited by rules. ... **Sports skills** are presuppositions needed for implementing performance in a selected **sports** discipline which is limited by rules. Such presuppositions are gained through motor learning.

OBJECTIVES OF SPORTS TRAINING

Multilateral Physical Development Athlete lead Multilateral physical development as a training base as well as overall physical fitness. The purpose is to increase endurance and strength, develop speed, improve flexibility, and refine coordination, thus achieving a harmoniously developed body. We expect athletes with a strong base and a good overall development to improve athletic performance faster and better than those without this foundation. In addition, such athletes will have a superior body form, which increases their self-esteem and reflects a strong personality.

SPORT-SPECIFIC PHYSICAL DEVELOPMENT

Sport-specific development improves absolute and relative strength, muscle mass and elasticity, specific strength (power or muscular endurance) according to the sport's requirements, movement and reaction time, and coordination and suppleness. This training creates the ability to perform all movements, especially those required by the sport, with ease and smoothness.

TECNICAL FACTOR

Technical training involves developing the capacity to perform all technical actions correctly; perfecting the required technique based on a rational and economical performance, with the highest possible velocity, high amplitude, and a demonstration of force; performing specific techniques under normal and unusual circumstances (e.g., weather); improving the technique of related sports; and ensuring the ability to perform all movements correctly.

TACTICAL FACTOR

Tactical factors include improving strategy by studying the tactics of future opponents, expanding the optimal tactics within athletes' capabilities, perfecting and varying strategies, and developing a strategy into a model considering future opponents.

PSYCHOLOGICAL ASPECTS

Psychological preparation is also necessary to ensure enhanced physical performance. Psychological training improves discipline, perseverance, willpower, confidence, and courage.

TEAM CAPABILITY

In some sports (team sports, relays, rowing, cycling, etc.), team preparation is one of the coach's main objectives. The coach can accomplish this by establishing harmony in the team's physical, technical, and strategic preparation. The coach must establish such a concord for psychological preparation, meaning sound relationships, friendships, and common goals among teammates. Training competitions and social gatherings consolidate the team and enhance the feeling of belonging. The coach must encourage the team to act as a unit and should establish specific plans and roles for each athlete according to the needs of the team.

HEALTH FACTOR

Strengthening each athlete's health is important. Proper health is maintained by periodic medical examinations, a proper correlation of training intensity with individual effort capacity, and alternating hard work with an appropriate regeneration phase. Following illness or injury, the athlete must begin training only when completely recovered, ensuring adequate progression.

INJURY PREVENTGION

Prevent injuries by following all safety precautions; increasing flexibility beyond the level required; strengthening muscles, tendons, and ligaments, especially during the initiation phase of a beginner; and developing muscle strength and elasticity to such a degree that when athletes perform unaccustomed movements accidents will be unlikely.

THEORETICAL KNOWLEDGE

Training increases athletes' knowledge of the physiological and psychological basis of training, planning, nutrition, and regeneration. Coaches should discuss athlete-coach, athlete-opponent, and teammate relationships to help athletes work together to reach the set goals.

7 Principles of Exercise and Sport Training

BY MARTY GAAL | AUG. 28, 2012,

When you approach your multisport training, the best way to answer your questions is to better understand the principles behind the work you are putting in to improve. These are seven basic principles of exercise or sport training you will want to keep in mind:

Individuality

Everyone is different and responds differently to training. Some people are able to handle higher volumes of training while others may respond better to higher intensities. This is based on a combination of factors like genetic ability, predominance of muscle fiber types other factors in your life, chronological or athletic age, and mental state.

Specificity

Improving your ability in a sport is very specific. If you want to be a great pitcher, running laps will help your overall conditioning but won't develop your skills at throwing or the power and muscular endurance required to throw a fastball fifty times in a game. Swimming will help improve your aerobic endurance but won't develop tissue resiliency and muscular endurance for your running legs.

Progression

To reach the roof of your ability, you have to climb the first flight of stairs before you can exit the 20th

floor and stare out over the landscape. You can view this from both a technical skills standpoint as well as from an effort/distance standpoint. In order to swim the 500 freestyle, you need to be able to maintain your body position and breathing pattern well enough to complete the distance. In order to swim the 500 freestyle, you also need to build your muscular endurance well enough to repeat the necessary motions enough times to finish.

Overload

To increase strength and endurance, you need to add new resistance or time/intensity to your efforts. This principle works in concert with progression. To run a 10-kilometer race, athletes need to build up distance over repeated sessions in a reasonable manner in order to improve muscle adaptation as well as improve soft tissue strength/resiliency. Any demanding exercise attempted too soon risks injury. The same principle holds true for strength and power exercises.

Adaptation

Over time the body becomes accustomed to exercising at a given level. This adaptation results in improved efficiency, less effort and less muscle breakdown at that level. That is why the first time you ran two miles you were sore after, but now it's just a warm up for your main workout. This is why you need to change the stimulus via higher intensity or longer duration in order to continue improvements. The same holds true for adapting to lesser amounts of exercise.

Recovery

The body cannot repair itself without rest and time to recover. Both short periods like hours between multiple sessions in a day and longer periods like days or weeks to recover from a long season are necessary to ensure your body does not suffer from exhaustion or overuse injuries. Motivated athletes often neglect this. At the basic level, the more you train the more sleep your body needs, despite the adaptations you have made to said training.

Reversibility

If you discontinue application of a particular exercise like running five miles or bench pressing 150 pounds 10 times, you will lose the ability to successfully complete that exercise. Your muscles will atrophy and the cellular adaptations like increased capillaries (blood flow to the muscles) and mitochondria density will reverse. You can slow this rate of loss substantially by conducting maintenance / reduced program of

training during periods where life gets in the way, and is why just about all sports coaches ask their athletes to stay active in the offseason.

The principles of specificity, progression, overload, adaptation, and reversibility are why practicing frequently and consistently are so important if you want to improve your performance. Missed sessions cannot really be made up within the context of a single season. They are lost opportunities for improvement. Skipping your long ride on weekend A means you can't or shouldn't go as far as originally planned on weekend B (progression & overload). Skipping your Monday swim means your swimming skills and muscles won't be honed or stressed that day (specificity). Missing a week due to a vacation sets you back more than one week (adaptation and reversibility). Apply these principles to your training to get a better understanding of your body and how to achieve success.

Conclusion

Sports Training to achieve maximum individual or team efficiency in selected sports discipline limited by rules. Reaching maximum efficiency in any activity is not possible over a day. Efficiency is conditioned by several interrelated areas. Sports training focuses on reaching maximum efficiency in motor abilities connected to a certain sports discipline. Supposed performance depends on motor ability and motor skill which are closely related to the sports discipline. **Motor abilities** can be described as relatively stable sets of inner genetic presuppositions needed to carry out locomotive activities. They include force, speed, endurance, coordination and flexibility. **Motor abilities** are manifested on the outside by sports skills. **Sports skills** are presuppositions needed for implementing performance in a selected sports discipline which is limited by rules. Such presuppositions are gained through motor learning. It, however, would not be possible to implement sports skills or develop locomotive abilities without motivation. **Motivation** is understood as an inner incentive to carry out certain activity. The final area needed for performance implementation is represented by tactical skills. **Tactics** means conducting a sports competition in a purposeful way.

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IMPACT OF COVID-19 ON PHYSICAL FITNESS ACTIVITIES – AN ANALYSIS

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INTRODUCTION:

The COVID-19 pandemic is a massive global health crisis and rapidly spreading pandemic at present. As compared to the earlier pandemics the world has witnessed, the current COVID-19 pandemic is now on the top of the list in terms of worldwide coverage. This is the first time the whole world is affected simultaneously and struck strongly in a very short span of time. Exponential growth in COVID-19 cases has led to the isolation of billions of people and worldwide lockdown. COVID-19 has affected the life of almost every person around the world. The difference between personal or professional lives has narrowed due to work-from-home situations, and people's lives are revolving around these two due to the lockdown. People have also been pondering over a vital concern at home, i.e., the importance of their health and fitness.

Although imposing lockdown or quarantine for the population has been one of the widely used measures across the world to stop the rapid spread of COVID-19, it has severe consequences too. Recent multinational investigations have shown the negative effect of COVID-19 restrictions on social participation, life satisfaction, mental well-being, psychosocial and emotional disorders as well as on sleep quality, and employment status. Announcement of a sudden lockdown of all services and activities, except few essential services, by the authorities has resulted in a radical change in the lifestyle of affected people and has severely impaired their mental health, which has been manifested in the form of increased anxiety, stress, and depression. The sudden changes in people's lifestyle include, but are not limited to, physical activities and exercise. It has been reported that COVID-19 home confinement has resulted in a decrease in all levels of physical activities and about 28% increase in daily sitting time as well as increase in unhealthy pattern of food consumption. Similar results are also reported by other researchers as well.

Although these abrupt changes have influenced every individual, many people who were regularly following their fitness activities in gyms, or in the ground, or other places before the lockdown have been affected intensely. Closure of fitness centers and public parks has forced people to stay at home, which has disturbed their daily routines and hampered

Development of Independent India - Issues and Challenges

their fitness activities. While compulsion to stay at home for a long period of time poses a challenge to the continuity of physical fitness, the experience of hampered physical activities, restricted social communication, uncertainty, and helplessness leads to the emergence of psychological and physical health issues have found that psychological problems are occurring in adults while adjusting to the current lifestyle in accordance to the fear of contracting the COVID-19 disease. However, effective coping strategies, psychological resources, and regular physical exercise can be helpful in dealing with such health-related problems during the COVID-19 pandemic.

AIMS OF THE STUDY:

1. To study the effect of COVID-19 on Physical Fitness
2. To study the situation during lockdown period
3. To understand the changing perceptions of people about physical fitness

METHOD OF STUDY:

The study is based on secondary information collected from journals, books, articles and we sources.

DISCUSSION:

It is important to note that physical activities and exercise not only maintain physical and psychological health but also help our body to respond to the negative consequences of several diseases such as diabetes, hypertension, cardiovascular diseases, and respiratory diseases. In a recent review of 31 published studies, concluded that physical inactivity due to current pandemic restrictions is a major public health issue that is a prominent risk factor for decreased life expectancy and many physical health problems. Exercise is shown to keep other physical functions like respiratory, circulatory, muscular, nervous, and skeletal systems intact and supports other systems including endocrine, digestive, immune, or renal systems that are important in fighting any known or unknown threat to our body.

Regular physical activity, while taking other precautions, is also considered effective in dealing with the health outcomes of the COVID-19 pandemic. Research studies suggest that regular exercise might significantly reduce the risk of acute respiratory distress syndrome, which is one of the main causes of death in COVID-19 patients. Exercise and physical activities have important functions for individuals' psychological well-being as well. There is sufficient literature to show that exercise can play a vital role in the promotion of positive

Development of Independent India - Issues and Challenges

mental health and well-being. However, when health promotion activities such as sports and regular gym exercises are not available in this pandemic situation, it is very difficult for individuals to meet the general WHO guidelines.

Since the onset of this disease, people have been confined to their homes, which has not only resulted in various psychological health issues but also challenged their physical fitness and health. Although this pandemic situation has led to the unexpected cessation of almost all the outside routine activities of all the individuals, it has profoundly hampered the physical activities of fitness freaks (those who regularly go to the gym for their physical fitness), as gyms and other such places have been shut down due to the lockdown. However, studies addressing the issues of fitness freaks, who used to spend a significant amount of time for regular workout in order to maintain their physical fitness, health, and appearance, seem to have found no place so far in the literature in relation to the current pandemic situation. Supposedly, the unique experiences of such people, their health issues, and the ways in which they have dealt with these issues during the COVID-19 pandemic have remained underexplored.

Also, it is well-known that the COVID-19 pandemic has made it difficult for people to adequately maintain their normal physical activity patterns at home. There are plenty of studies that have addressed the impact of COVID-19 on physical activities of the general public demonstrated the significant decrease in physical activities and exercise patterns, and illustrated its ill effects on physical and mental health status. There is also a growing body of literature that suggests strategies to encourage people to be involved in home-based exercises and fitness activities.

FINDINGS:

The key findings of the study are as follows:

- 1 The closure due to the pandemic has created a state of uncertainty about an individual's own future as well as about the future of the family and community, which in turn is being reflected in terms of psychological states of frustration, anxiety, fear, and stress.
- 2 Individuals stuck at their homes without a clearly defined routine and work are not able to prioritize their work schedules, resulting in the experience of unexplained laziness and fatigue.
- 3 The monotonous and closed life cycle of one confined to one's own home has also resulted in extreme disturbances of one's sleep cycle.

- 4 The closure of gyms and other fitness activity centers, including sports stadiums, morning walk parks, etc., and the heightened psychological health issues have resulted in the lack of fitness motivation.
- 5 The motivation for fitness is not only internal but also external. People are motivated when they observe others doing fitness activities.

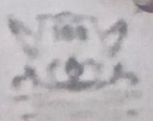
CONCLUSIONS:

To conclude, the findings of the study indicate that the perceptions and social media habits of fitness freaks, who were hitting gyms for a regular workout before the lockdown, were greatly impacted by the COVID-19 pandemic. They also experienced psychological health issues during the initial phase of the pandemic. However, they gradually changed their dependence on gym-based workout and switched to alternative exercises that helped them greatly to restore their mental and physical health.

The present study shows that despite the initial experience of anxiety and fear and the lack of motivation to engage in physical exercise at home, fitness freaks were able to shift to home exercises and were greatly supported by social media uses and listening to music. One could argue that this study only included fitness freaks who find it difficult to detach themselves from physical activities for a long time, and this was probably the reason for their shift to home-based exercises. However, there is no doubt that the findings of this study have demonstrated that if performed regularly, physical exercise has the potential to mitigate the ill physical as well as psychological effects of the COVID-19 pandemic. The findings of this study, therefore, could be extended to the common public to also persuade them to engage in physical fitness exercises, which would result not only in a better physical health but also in an enhanced psychological health and well-being.

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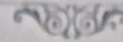
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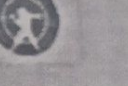
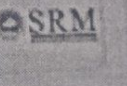
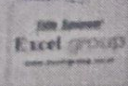
This is to certify that Mr./Ms./Prof./Dr. PANDIAN. T Research Scholar, Physical Education Director of Sri Uma Pragathi First Grade College, Karnataka has Participated / Presented a paper entitled Effect of Weight Training and Sprint Training on Selected motor Variables of state Level Men Handball Players in the International Congress on Renaissance in Sports (ICRS 2024), held at National College (Autonomous), Tiruchirappalli, Tamilnadu, India from 7th to 11th February, 2024.

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EFFECT OF WEIGHT TRAINING AND SPRINT TRAINING ON SELECTED MOTOR VARIABLES OF STATE LEVEL MEN HANDBALL PLAYERS

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ABSTRACT

Introduction: Handball is a team sport played by two male or female teams. The players are allowed to handle and throw the ball using their hands, but they must not touch the ball with their feet. Motor Fitness refers to the capability of an athlete to perform effectively at their particular sport. The present study was finding out effect of Weight Training and Sprint training on the development of selected bio motor variables among men handball players. **Methodology:** As the purpose of the present study, 60 players were selected as samples from Karnataka State. They were divided into three groups. Each group consists of 20 subjects. Group -I aerobic training, Group - II anaerobic Training and Group - III control group. The ages of subjects were ranged from 18-25. Group A and B underwent training for a period of twelve weeks. The control group was not exposed to any specific training apart from their regular routine. The selected criterion variable were speed and strength. **Results:** (a) In order to analyze the training effects of each group on the selected variables, "t" ratio was used. (b) In order to compare the effect of treatment on the selected variables among the three groups, analysis of covariance was used. Whenever, the 'F' ratio for adjusted post-test was found to be significant to and to determine which of the three paired means significantly differed, the Scheffé's test was applied. **Conclusion:** The study results showed that the experimental group had significantly altered selected variables namely speed & strength and this was due to the influence of aerobic and anaerobic training.

Key words: Weight Training, Sprint Training, Handball Players.

The hypotheses formulated in the present study are as follows: -

1. It was hypothesized that as far as comparative effects are concerned, there is a significant mean difference among the three groups, namely Sprint Training, Weight Training group and control group on motor variables of State Level men handball players.
2. It was hypothesized that the interventions such as anaerobic would have positive and significant changes from the base line to post treatment on motor variables of inter collegiate man handball players.
3. It was hypothesized that where compare to Weight Training, Sprint training group, the anaerobic training group more effective than the Weight Training group.

METHODOLOGY

For the aim of this study, sixty players were chosen as samples from Karnataka University associated colleges in Tumkur District. They were separated into three groups. Each group contains twenty subjects. Group I: Sprint training, Group II: Weight training, and Group III: Control group. The ages of the individuals ranged from 18 to 25. The pre-post randomized trial design was used because it was thought to be ideal for determining the influence of preseason aerobic and anaerobic training on selected bio-motor variables of intercollegiate men's handball players. For this, 60 subjects were chosen at random from among the selected subjects. The randomly selected subjects (N=60) were divided into three equal groups. Each group consisted of twenty individuals. Two of the three groups were employed for experimental purposes, while one served as a control group. The experimental group I got preseason anaerobic training, while the experimental group II underwent aerobic training. Group III served as a control group and did not participate in any training. All two experimental groups received their respective instruction for around six days each week for a 12-week period. The two different types of training were conducted on alternate days. Thus, the experiment design for the current investigation was completed.

The test items and tools used in the present study were given in the following table - 1

Handball is a team sport played by two male or female teams. The players are allowed to handle and throw the ball using their hands, but they must not touch the ball with their feet. Motor fitness refers to the capability of an athlete to perform effectively at their particular sport. The components of motor fitness are: speed and strength and finally reaction time. Defined that speed is the ability of an individual to make successive movements of the same kind in the shortest period of time. Speed is the number of movements per unit of time." Strength is the maximum force that can be developed in a muscle or group of muscles during a single maximal contraction.

Traditionally, coaches and trainers have planned conditioning programs for their teams by following regimens used by teams that have successful win-loss records. This type of reasoning is not sound because win-loss records alone do not scientifically validate the conditioning programs used by the successful teams. In fact, the successful team might be victorious by virtue of its superior athletes and not its outstanding conditioning program. Without question, the planning of an effective athletic conditioning program can best be achieved by the application of proven physiological training principles. Optimizing training programs for athletes is important because failure to properly condition an athletic team result in a poor performance and often defeat. The coaches presently use various conditioning skills among, skill-based conditioning is prescribed to all level players, because this type offers many benefits. One of the benefits of implying this type of training is the combination of sports specific skills and fitness.

This type of training is also known as small-sided games which are very popular in soccer and rugby, where players use smaller play area and less number of participants during small-sided games, each player comes into contact with the ball and deals with common game situations more often (Capranica et al. 2001). These situations require good technical skills such as passing, dribbling, feinting and shooting as well as tactical skills such as running without the ball, unmarking and cooperation with other players. The advantages of this training ensure the players to perform optimally during a game. This suggests that small sided game conditions may show different responses and this is the first attempt made on university level handball players. Therefore, the aim of our study is to assess the effect of handball specific aerobic training on aerobic capacity of male handball players.

STATEMENT OF THE PROBLEM

The purpose of the study was finding out effect of Weight Training and Sprint training on the development of selected motor variables among men handball players.

HYPOTHESES

TABLE - I

Motor Variables		Test
01.	Speed	50 yards test
02.	Strength	Hand Grip Dynamometer

ANALYSIS AND INTERPRETATIONS OF DATA

The statistical analysis on significance of the mean gains or losses made in the scores in the variables related to bio-motor of men intercollegiate handball players of Weight Training Group, Sprint Training Group and Control Group are presented in Tables II to III.

TABLE - II
SIGNIFICANCE OF MEAN GAINS/ LOSSES BETWEEN PRE AND POST TEST OF WEIGHT TRAINING GROUP

Variables	Pre Test Mean \pm SD	Post Test Mean \pm SD	M. D	SEM	't'-ratio
Speed	7.02 \pm 0.49	6.74 \pm 0.38	0.28	0.07	4.28*
Strength	30.65 \pm 2.11	38.05 \pm 3.56	7.40	0.54	13.70*

*Significant at 0.05 level.

Table II indicates the obtained 't' values on variables for the aerobic group: 4.28 (speed), 13.70 (strength), 7.72. The obtained t- values to be significant at 0.05 level for degree of freedom 1, 19 the required critical value was 4.22. Thus the observed t-values on variables are found to be higher than the required critical value. It is concluded that the anaerobic group produced significant improvement in speed ($+0.20P < 0.05$), strength ($+ 7.40P < 0.05$). Thus the formulated hypothesis is accepted.

TABLE - III

**SIGNIFICANCE OF MEAN GAINS/ LOSSES BETWEEN PRE AND
POST TEST OF SPRINT TRAINING GROUP**

Variables	Pre Test Mean \pm SD	Post Test Mean \pm SD	M. D	SEM	't'-ratio
Speed	6.95 \pm 0.42	6.38 \pm 0.21	0.57	0.97	5.96*
Strength	32.05 \pm 3.10	41.35 \pm 2.50	9.30	0.38	24.63*

*Significant at 0.05 level.

Table III indicates the obtained 't' values on variables for the anaerobic group: 5.96 (speed), 24.63 (strength), The obtained t- values to be significant at 0.05 level for degree of freedom 1, 19 the required critical value was 4.22. Thus the observed t-values on variables are found to be higher than the required critical value. It is concluded that the sprint training group produced significant improvement in speed ($+0.57P < 0.05$), strength ($+9.30P < 0.05$).

**TABLE - IV
SIGNIFICANCE OF MEAN GAINS/ LOSSES BETWEEN
PRE AND POST TEST OF CONTROL GROUP (CG)**

Variables	Pre Test Mean \pm SD	Post Test Mean \pm SD	M. D	SEM	't'-ratio
Speed	6.96 \pm 0.43	6.95 \pm 0.43	0.01	0.02	0.33
Strength	31.00 \pm 2.36	30.95 \pm 3.09	0.05	0.50	0.10

*Significant at 0.05 level.

Table IV indicates the obtained 't' values on variables for the control group: 0.33 (speed), 0.10 (strength). The obtained t- values to be significant at 0.05 level for degree of freedom 1, 19 the required critical value was 4.22. Hence the obtained t-values on the variables were failed to reach the significant level. It is concluded that the changes made from pre-test to post test is

statistically not significant. The changes made from the baseline to the post treatment of Weight Training Group, Sprint Training Group and Control Group on bio-motor components were displayed in Figures 1 and 2.

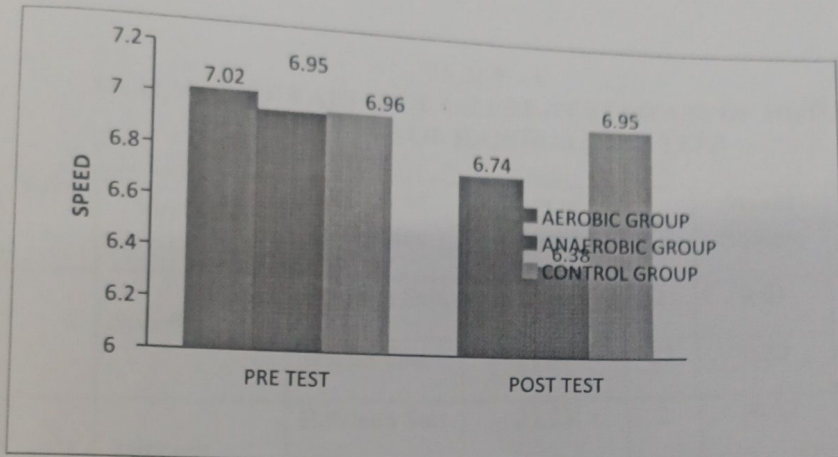


FIGURE - 1 : BAR DIAGRAM SHOWING THE MEAN VALUES OF PRE-TEST AND POST- TEST ON SPEED OF SPRINT, WEIGHT TRAINING AND CONTROL GROUP.

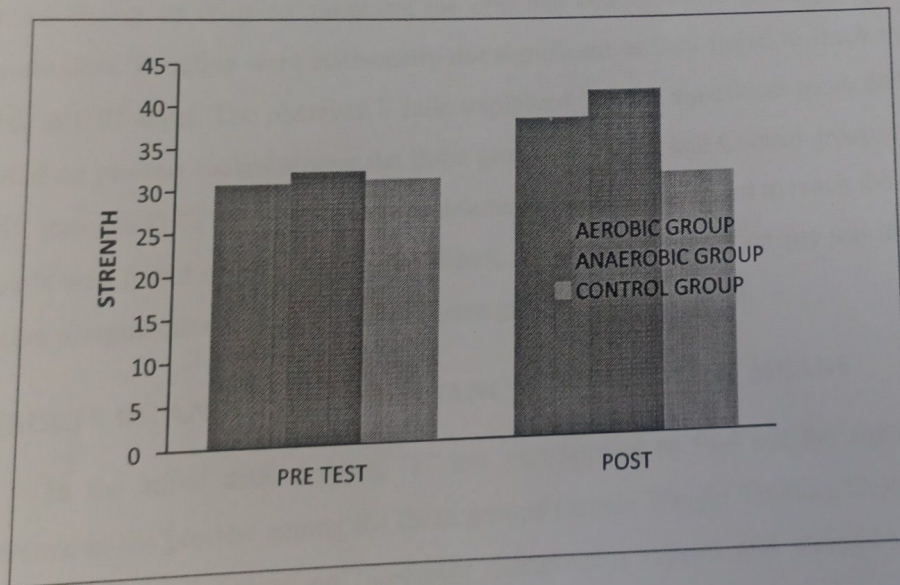


FIGURE - 2 : BAR DIAGRAM SHOWING THE MEAN VALUES OF PRE-TEST AND POST- TEST ON SPEED AND SPRINT, AEROBIC AND CONTROL GROUP.

TABLE - V
ANALYSIS OF VARIANCE ON PRE-TEST MEANS OF MOTOR VARIABLES OF HANDBALL PLAYERS

S.No	Variables	Source of Variance	Sum of Square	Df	Means Square	'F' ratio
1	Speed	Between Sets	0.06	2	0.03	0.15
		Within Sets	11.57	57	0.20	
2	Strength	Between Sets	21.23	2	10.62	1.62
		Within Sets	373.50	57	6.55	

Table V shows the pre test means among the Weight Training Group, Sprint Group and Control Group on criterion variables, the obtained f-ratios were: 0.15 (speed), 1.62 (strength). The obtained F- ratios were statistically not significant as they failed to reach the critical value (3.16) at 0.05 level. The observed F ratio explained that the significant mean difference was not existed on pre-test means among the three groups of Sprint and Control group on speed ($0.15 < p.05$), strength ($1.62 < p.05$). Since the obtained critical value failed to reach the required critical value it was found to be insignificant. Thus, the obtained results on pre test mean confirm the random assignment of subjects into different groups was successful.

RESULTS OF ANALYSIS OF VARIANCE ON POST-TEST MEANS

In the initial data analysis, 'F' test was applied to find out the significance of mean difference in the pre-test among the three groups namely Weight Training Group, Sprint training Group and Control Group on bio-motor components (speed and strength). The analysis is presented in table VI.

TABLE - VI
ANALYSIS OF VARIANCE ON POST-TEST MEANS OF MOTOR
VARIABLES OF HANDBALL PLAYERS

S.No	Variables	Source of Variance	Sum of Square	Df	Means Square	'F' ratio
1	Speed	Between Sets	3.37	2	1.68	13.5*
		Within Sets	7.10	57	0.12	
2	Strength	Between Sets	1084.90	2	542.45	55.4*
		Within Sets	557.70	57	9.78	

Table VI shows the posttest means among the Weight Training Group, Sprint Group and Control Group on criterion variables, the obtained F-ratios were: 13.5 (speed), 55.4 (strength). The obtained F-ratios were statistically not significant as they failed to reach the critical value (3.16) at 0.05 level. The observed F ratio explained that the significant mean difference was not existed on pre-test means among the three groups of aerobic, anaerobic and control group on speed ($13.5 < p.05$), strength ($55.40 < p.05$). Since the obtained critical value failed to reach the required critical value, it was found to be significant. Thus, the obtained results on pretest mean confirm the random assignment of subjects into different groups was successful.

**TABLE VII
SCHEFEE'S POST HOC TEST**

S.No.	Variables	Adjusted Post-Test Means			M.D	F-Value	Critical Value	
		Group-A	Group-B	Group-C				
1	Speed	6.39	6.71	----	0.32	17.60*	6.32	0.19
		6.39	----	6.96	0.57	56.09*	6.32	
		----	6.71	6.96	0.25	10.85*	6.32	
2	Strength	40.37	38.57		1.80	6.96*	6.32	1.72
		40.37		31.16	9.21	181.44*	6.32	
			38.57	31.16	7.41	117.34*	6.32	

*Significant at 0.05 level of confidence.

Table-VII shows that the adjusted post-test mean difference in speed and strength between Weight Training group-A and Sprint group-B, aerobic group-A and control group - C, Weight Training group-B, and control group - C respectively are 17.6, 56.09, 10.85 and 6.96, 181.44, 117.34 which were greater than the confidence interval value of 6.32 at 0.05 level of confidence. It may be concluded from the results of the study that Weight Training group-A and Sprint group-B have significantly altered when compared with the control group. Moreover, the aerobic group-A has increase in the speed and strength than the Sprint group-B and control group. The mean values on speed and strength of Weight Training group - A, Sprint group - B and control group - C are graphically represented in Figure-1 & 2.

CONCLUSIONS

1. It was concluded that as far as comparative effects are concerned, that there is a significant mean difference among the three groups, namely Sprint training group, Weight Training group and control group on bio- motor and variables of inter collegiate men handball players.
2. It was concluded that the interventions such as Weight Training and Sprint would have positive and significant changes from the base line to post treatment on bio- motor variables of inter collegiate men handball players due to the 12 weeks of Weight Training and Sprint training
3. It was concluded that where compare to Weight Training, Sprint training group, the Sprint training group are more effective than the Weight training group.

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