CHAPTER V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

INTRODUCTION

The youth of our country is most precious assets and is the backbone of the future. This generation must be very healthy in all respect. All the experts related to the field of sports and fitness having main emphasize on this segment of population. Unfortunately this segment of our country population is in the grip of unemployment, physically inactive in the field of sports. There are so many reasons e.g. lack of facilities, interest, guidance, motivation etc. Some of them are developing chronic disease in young age. This is clearly proved that physical activities during childhood or in adolescent age prepare a solid foundation for whole life. The quality life of an individual is measured not by the length of life alone but mainly on how an individual is possessed with better vigor and health to save him and the society best. This health related physiological and motor fitness, which is considered as a key component in an individual’s life, is developed and protected through participation in various physical activities. This physical activity may be by means of direct involvement in various kinds of activities, or else though leading active life style. Though there is no consensus on the concept of active lifestyle, physical educationists all over the world are trying to find out various means and methods to protect the health of individuals through different physical activities including various levels of training. Excess bodyweight and childhood obesity has recently being identified in the youth of urban population. There is a big need to understand this pandemic, by this way we can reverse this dangerous and harmful trend among them. The regular exercises produced enough benefits to them, while some experts recommend aerobic exercises. Some of the experts have identified that strength training is a very effective & essential part of conditioning in youth. So many Researches are going on in the field of strength
training in the every sport as per the need of respective event. Throughout the world there is a need to introduce new methods or alternate modes of strength training to fulfill the objective of this component. By this way there is a possibility to create of awareness among maximum population of youth. It is well known fact that traditional strength program for youth can produce desirable results such as strength and strength endurance. Sometime traditional methods are not the choice of youth, at that time there is need to introduce to new methods in this field to meet the challenge of the present time. There is a need to make alternate methods of resistance training. There is a need to adapt non traditional forms of strength training for e.g. weightlifting, power lifting, body building, strength training, pliometric, Functional strength training etc.

Weight Training:-

Weight training is today considered as very significant method of securing strength, which requires the advance training under the guidance of experts. In the modern trends of general fitness program 25-30 minutes of strength training coupled with aerobic exercise plus 5-10 minutes of stretching for the balanced work out. When we do weight training regularly with the balanced intake, various systems of the body change in positive ways. Muscles become stronger, better toned and show less fatigue during training. The neuromuscular system works properly.

Weightlifting

It has a "generic" meaning which refers to the activity of lifting weights. To those who are well versed in the use of weights, the word weightlifting has a particular meaning. It refers to the Olympic sport of Weightlifting, which tests strength a power through two methods of lifting a barbell overhead - the Snatch and the Clean and Jerk. Weightlifting is the only Olympic sport involving weights, which is why it is sometimes referred to as Olympic lifting or as Olympic-style lifting, or Olympic-style weightlifting

Weightlifting has been a longstanding part of the modern Olympic Games and has wide and growing international participation. During the performance of the two
competitive lifts, the snatch and the clean and jerk (C&J), weightlifters are required to generate extremely high peak forces and contractile and rates of force development and, consequently, high peak power outputs and contractile impulses. In 1935, the Indian Weightlifting Federation was formed. Sir Bijoy Chand Mahatab of Burdwan was its first president and N.N. Bose, Barrister-at-Law, was the first honorary secretary. In the same year it got affiliated with the Indian Olympic Association and International Weightlifting Federation. In the 1936 Berlin Olympic Games, Indian weightlifting team participated for the first time. Weightlifting in India got a jolt when three Indian weightlifters S. Sunaina, Sanamacha Chanu and Pratima Kumari were found guilty of doping in many international competitions in a year. For this reason, International Weightlifting Federation barred the Indian Weightlifting Federation for one year.

Power lifting

The sport of power lifting has become one of the most popular disciplines in a collection of modern day activities commonly referred to as strength sports. Alongside other disciplines, such as bodybuilding, strongman and Olympic weightlifting, power lifting requires participants to engage extensively with resistance training to develop specific aspects of fitness. Of all the strength sports, power lifting is viewed as the discipline which requires competitors to exhibit the highest maximum strength capabilities. The training practices and subsequent phenotypes developed by power lifters have been used infrequently as a model for researchers to investigate topics such as the joint loading capacity of the human body "Indian power lifting federation" that started in the year 1975 with a motto to improve health by doing iron games. In 1979 our Federation has been recognized by The Ministry of Youth Affairs & Sports, Govt. of India as well as The Indian Olympic Association. At present we are having more than 10,000 (ten thousand) Power lifters both Men & Women throughout the country with 37 affiliated State Association and 6 Central Govt. Office Board Units Championships.
History of Weightlifting

Although weightlifting is a sport that can be traced back to the earliest of the Olympic Games, it is only in the post World War II years that it has been given prominence in the national press of this country. And this has mainly come about because a certain aspect of weightlifting, weight training, has received widespread publicity because of the beneficial effects that it has produced in almost every branch of sport. Milo of Crotona, an Olympic champion for no less than twenty-eight years, was the first 'scientific' weightlifter in that he progressed from strength to strength by regularly lifting a calf as it grew into a bull. That was in 684 B.C. And this principle of progressive weightlifting still applies today.

Kirkley (1957). In the modern revival of the Olympic Games in 1896 records show that a Briton, Launceston Elliott, is credited with winning the 'One Hand' contest, with Jensen of Denmark winning the 'Two Hands' event. Modern weightlifting really began in the year 1920, when the Seventh Olympic Games were held in Antwerp. At Paris, in 1924, the Two Hands Press and the Two Hands Snatch were added to these to make a five-lift championship. These lifts gave way later to the 'Olympic Three' the Two Hands Clean and Press, the Two Hands Snatch and the Two Hands Clean and Jerk which have remained the standard lifts to the present day. Now, the sport is controlled by an international body with more than sixty affiliated national associations. The U.S.A. and the U.S.S.R. On one side, in America, we have a great weightlifting team gathered, supported and encouraged almost solely by the efforts of one man, Bob Hoffman.

Modern Olympic Weightlifting :

Kirkley, (1985). The standard tests to decide Olympic and world weight-lifting championships are firmly established in the three lifts Two Hands Clean and Press, Two Hands Snatch and the Two Hands Clean and Jerk. And while, of course, no set of just three weightlifting movements can be regarded as a fully comprehensive test it would not be easy to choose a more representative double-handed selection. Now although only three lifts are used for championships, there are other lifts officially
recognized by the International Weightlifting Federation, i.e. the Right and Left Hand Snatch and the Right and Left Hand Clean and Jerk. And any of these can be included, as they once were, in the Olympic set; while world records are recognized. MODERN competitive weight lifting is one sport of the strength athlete but to be a top-line or champion weight lifter one needs not to be only strong but also courageous, athletic, fast and mobile in joint and limb. Many doctors and other professional men practice weight lifting both as a sport and a means of keeping fit and one of the Russian world and Olympic champions, Doctor Arkady Voro-byev, is an eminent surgeon. Another, Yuri Vlasov, the world's strongest Olympic lifter, is a man of outstanding intelligence and his favorite diversion is the study of philosophy. He writes expert commentaries on aviation-engineering as well as fiction and poetry. The Japanese seven-man team for the 1960 Olympic Games was composed almost entirely of university students and grad-autos and in this country almost every university has a weight-lifting group and annual university championships are held. The sport has been a firmly established part of the Olympic Games since the modern revival of the four-yearly event in 1896. Going back to that year, we find that the weight lifting event was divided into two separate contests — a one-handed lift and a two-handed lift, both overhead movements in the Clean and Jerk style (incidentally, the two hands' contest was won by an Englishman, Launceston Elliott). It is interesting to note, too, that there were no bodyweight classes in those days all entered irrespective of size or weight and modern Olympic lifting as we know it did not really begin until 1920.

History of Power lifting

The roots of power lifting are in traditions of strength training stretching back as far as Greek and Roman times. The modern sport originated in the USA and the UK in the 1950s. During this period Olympic weightlifting declined in the United States, while strength sports gained many new followers. The first genuine national ‘meet’ was held in September 1964 under the auspices of the York Barbell Company, Bob Hoffman, was the owner of this company. During the late 1950s and early 1960s various ‘odd lift’ events gradually developed into the specific lifts – the bench press, the squat, and the dead lift and lifted in that order. The first British Championship was
held in 1966. During the late 60’s and at the beginning of the 70’s, various friendly international contests were held. At the same time, in early November of each year and to commemorate Bob Hoffman’s birthday, a prestige lifting contest was always held as part of "Bob Hoffman’s Birthday Party." In 1971, it was decided to make this event the "World Weightlifting Championships." There was no such thing as ‘teams’ and thus was predominantly a whole bunch of American lifters, plus four from Great Britain and one from the West Indies. All the Referees were American. This event got off the mark in York, Pennsylvania, at 10.05 am on Saturday 6 November 1971. In 1972 the ‘second’ AAU World Championships were held. With 67 lifters in all, the other 47 were Americans. Lifts were still measured in pounds, the bench press was the first lift, Pacifico just won against another American. The International Power lifting Federation was formed immediately after the contest, and so none of the lifts could be yet registered as official world records. The 1973 Worlds was also held in York, Pennsylvania, American Bob Crist was the IPF President, and another American, Clarence Johnson, was Vice-President. 1973 was the first time that the lifts were done in the order we now recognize Squat, Bench Press, Dead lift (although still lifting in pounds)1974 was the first time that teams had to be selected in advance. With 74 entrants this was the largest Worlds so far. The 52 kg class was introduced and there were 9 lifters entered. In 1975 the World Championships was held outside America for the first time, in Birmingham, England first time the Television Company filming the event. The establishment of the IPF in 1973 spurred the establishment of the EPF (European Power lifting Federation) in 1974. The first U. S. national championships for women were held in 1978 and the IPF added women's competition in 1979. The U.S.P.F. was founded in 1980 as the new national governing body for American power lifting. In 1981, the American Drug Free Power lifting Association (ADFPA), led by Brother Bennett, became the first federation to break away from the USPF, citing the need to implement effective drug testing in the sport. In 1982, drug testing was introduced to the IPF men’s international championship, although the USPF championships that year did not have drug testing.
REVIEW OF THE RELATED LITERATURE

1. Studies related to Physical fitness components.
2. Studies related to Strength training.
3. Studies related to Weight lifting.
4. Studies related to power lifting.
5. Studies related to Socio economic status (SES)

PLAN AND PROCEDURE

The main objective of the present research work was to compare the physical fitness components socio economic status of Haryana state weight lifters and power lifters.

Selection of Subjects

Total 120 (61 weight lifters + 59 power lifters) were selected on the basis of position won (first, second and third) in the Haryana senior state, MDU and, KUK weight lifting and power lifting championships, which were held in 2012-2013.

Design of the Study

For the purpose of this study, the weight categories of weight lifting & power lifting players were divided in three groups’ i.e. heavy, middle and light weight categories as per their body weight registered in various competitions. Thus, in this study the variables of the area and SES were differentiated into three categories (low, middle and high) so to compare SES and physical fitness of the weight lifters and power lifters of Haryana State. The Socio-Economic Status was divided on basis of SES Scale constructed by Rajbir Shing, Radhey Shyam and Satis Kumar Socio Economic Status Scale (2005). The SES is divided in three sections on the basis of the scale as given below.

**High SES:** The weight lifting & power lifting players who have scored 60 or above were included in this category.

**Middle SES:** The weight lifting & power lifting players who have scored between 40 to 59 were included in this category.
**Low SES:** The weight lifters & power lifters who have scored below 40 were included in this category.

The physical fitness components data of the weight lifting & power lifting players were measured by using the AAPHER fitness test battery consisting of 5 items to measure, Speed, Strength, Agility, Power and Endurance.

**STATISTICAL TECHNIQUES EMPLOYED**

All the above mentioned objectives of the present study was to be realized by applying statistical technique to the collected data, therefore the following techniques have been used to find the solution to the problem:

1. Analysis of Variance (ANOVA) has been applied to find out the mean differences in Physical Fitness components in relation to different categories and Socio-Economic Status of weight lifters & power lifters of Haryana State.
2. Critical ratios to find out differences in Socio-Economic Status of different weight categories of weight lifters & power lifters of Haryana State.

**FINDINGS:**

1. The mean scores in terms of shot put of weight lifters is more than the power lifters mean scores it shows that the weight lifters are better in strength then power lifters. Thus, null hypothesis is rejected.
2. Middleweight and heavy weight, weight lifters have significance difference in strength as compared to light weight, weight lifters, but middle weight, weight lifters have no significance difference in strength with the heavy weight, weight lifters.
3. Middleweight and light weight power lifters have no significance difference in strength but middle weight power lifters have significance difference in strength as compared the heavy weight power lifters and heavy weight, power lifters have significance difference in strength as compared with light weight power lifters.
4. The mean scores in terms of speed of weight lifters is lesser than the power lifters mean scores it shows that the weight lifters are better in speed then power lifters. Thus hypothesis is rejected.

5. There is no significant difference in speed component when light weight, weight lifters compared with middle weight and heavy weight, weight lifters. But when middle weight lifters compared with both categories the middle weight, weight lifters have significance difference in speed then heavy weight, weight lifters.

6. Middleweight and light weight, power lifters have no significance difference in speed, but these two weight categories, power lifters have significance difference in speed then the heavy weight power lifters.

7. The mean scores of agility is less in power lifters so this group is better than weight lifters.

8. There is no significant difference in agility component between light weight, weight lifters and middle weight, weight lifters, but both these groups of weight categories have significant difference in agility component with heavy weight, weight lifters. It means that these two weight categories are better in agility than heavy weight, weight lifters.

9. There is no significant difference in agility fitness component when light weight, power lifters compared with middle weight, power lifters and heavy weight, power lifters but middle weight power lifters have significance difference as compared to heavy weight power lifters.

10. The mean score in terms of broad jump of weight lifters is greater than power lifters it proves that weight Lifters are better in power component as compared to power lifters.

11. There is no significant difference in power component between light weight, weight lifters and middle weight, weight lifters, but both these groups have significant difference in agility component with heavy weight, weight lifters. It means that these two weight categories are better than heavy weight, weight lifters in the power component.
12. In power component, middle weight power lifters have significance difference as compared to light weight power lifters and heavy weight power lifters but light weight power lifters have significance difference as compared with heavy weight, power lifters.

13. The mean score in terms of endurance is greater of weight lifters as compared to the mean score of power lifters. This proves that weight lifters are better than power lifters in endurance component.

14. There is no difference in endurance component between light weight, weight lifters and middle weight, weight lifters, but both these groups have significant difference in endurance component with heavy weight, weight lifters. It means that these two weight categories are better than heavy weight, weight lifters in the endurance component.

15. There is no significance difference in endurance component between light weight power lifters and middle weight power lifters, but both these groups have significant difference in endurance component as compared with heavy weight power lifters. It means that these two weight categories are better than heavy weight power lifters in the endurance component.

16. The mean scores in terms of socio economic status of both games are equal so it proves that there is no significance difference in socio economic status.

17. Heavy weight, weight lifters have significance difference in socio economic status as compared with light weight, weight lifters and middle weight, weight lifters, there is no difference in socio economic status between light weight, weight lifters and middle weight, weight lifters.

   Heavy weight power lifters have significance difference in socio economic status as compared with light weight power lifters and middle weight power lifters, there is no significance

**DISCUSSION ON HYPOTHESIS**

1. In the first hypothesis, we assumed that there exists no significant difference in the physical fitness components of weight lifters & power lifters of Haryana state belonging to light weight, middle weight, heavy weight, weight
categories. We found that they differ significantly in strength, speed, agility and explosive power, so we will reject the null hypothesis. They do not differ significantly endurance for this physical fitness component we will accept the hypothesis.

2. In the second hypothesis, we assumed that there exist no significant difference in physical fitness components of Haryana State weight lifters and power lifters belonging to low, middle and high socio-economic status. On the basis of results this is found that they differ significantly in physical fitness components as compared to all weight categories separately in both games. The formulated hypothesis is rejected.

3. In the third hypothesis, we assumed that There exist no interactional effects of weight category and socio-economic status on physical fitness components of Haryana state weight lifters and power lifters. On the basis of interpretation of the data and graphs drawn this is found that all athletes differ significantly in all physical fitness components in low socio economic status, middle socio economic status and high socio economic status. So this hypothesis is rejected.

4. In the fourth hypothesis, we assumed that there is no significant difference found related to their socio-economic status between weight lifters & power lifters. The calculation of socio-economic status score with the help ses scale this is found that there is no significant difference in both games athletes. So this hypothesis is accepted.

5. In the fifth hypothesis, we assumed that there exist no significant difference in socio-economic status of Haryana state weight lifters and power lifters belonging to light weight, middle weight and heavy weight, weight categories. On the basis of observations
This proved with help statistical technique that they differ significantly in all weight categories. So this hypothesis is rejected.

6. In the sixth hypothesis, we assumed that there is no significant difference in the physical fitness components of light weight, weight, weight lifters & power lifters as compared with heavy weight lifters and power lifters. They
differ significantly in physical fitness components as compared to heavy weight categories separately in both games. The formulated hypothesis is rejected.

7. In the sixth hypothesis, we assumed that there exist no significant difference in physical fitness components in relation to socio-economic status of light weight, middle weight and heavy weight, weight categories of Haryana state. The physical fitness of both games athletes differ significantly in physical fitness components in relation to socio-economic status of light weight, middle weight and heavy weight, weight categories of Haryana state. The formulated hypothesis is rejected.

CONCLUSION

In the perfect sports world all factors of physical training are equally important to develop various physical fitness components i.e. power, strength, speed, agility, balance, and conditioning, which is the base of high level sports performance. The weight lifting and Power lifting training programs would be incorporated into an athletic strength and conditioning program. The both methodologies are based on strength but they are totally different in nature from each other. Both are important entities for the development of athletic performance. Weight lifting and power lifting should not be considered competing to each other but rather complimentary methodologies. A well smoothed training program should not be restricted to only one area of highlighting but should integrate all components that are explicit to the athlete’s sports performance. Although the attitude of both games training may be diverse, the goal of training should be the same. Enhancing performance and reducing injury should always be the focus of strength and conditioning programs. In conclusion, the adaptation of both major training methodologies could illicit a greater returns because both parameters are being trained (maximum strength and power). The weight lifting training programs enhance the strength with speed but Power lifting programs enhance maximal strength. The coaches and athletes can include the training program as per the need of their sports activities. Olympic style weight lifting is very beneficial to develop the speed with strength. In the modern sports training
this type of training is the essential part. All leading countries already have developed the such infrastructure to boost up the performance of their athletes. Although the economy of the concerned country play an important role in the sports achievements. In the most of competitions of the world, always the leading countries secure top place in the medal tally. The Olympic style weight lifting is very popular in our country, but due to lake of knowledge we are not aware of the advantages of such training for modern sports performance.

**RECOMMENDATIONS**

On the basis of results of the study the subsequent recommendations are drawn

- This study is recommended to the various games coaches, trainers and physical educators to implement this training to improve in the motor fitness components at every stage of sports performance.
- The present study is suggested to the coaches, trainers and physical educators to approve both types of training to improve the physical fitness components.
- The present study is recommended to the coaches, trainers and physical educators to adopt modified both training to improve in the strength components in the starting of sports carriers.
- The present study is recommended to the coaches, trainers and physical educators who are directly attaché with strength training programs in various training centers.
- The present study is suggested to the coaches, trainers and physical educators to apply both types of training to check the physical fitness components.
- The present study is suggested to the coaches, trainers and physical educators to apply both types of training to maintain the physical fitness components in various age groups.
- The present study is recommended to the coaches, trainers and physical educators to remove the weakness of various physical fitness components of their trainee.
The present study is recommended to the coaches, trainers and physical educators to use both types of training methods in rehabilitation of the injured athletes to regain the performance level.

The present study is recommended to the coaches, trainers and physical educators to use both types of training particularly to develop or to maintain the strength level in female athletes.

The present study is recommended to the coaches, trainers and physical educators to use both types of training particularly to maintain the body mass index in various age groups.