

CHAPTER - II

REVIEW OF RELATED LITERATURE

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According to Best – ‘a familiarity with the literature in any problem area helps the students to discover what is already known, what others have attempted to find out, what methods to attack have been promising and disappointing and what problems remain to be solved. Introduction is gate-way and review of literature is the gate-pass for the research work to be done by the researcher. The competent physician must keep constantly abreast of the latest inventions and discoveries in the field of medicine. The successful lawyer must be able to readily locate the information pertinent to the case at hand. In the field of education also, the Researcher needs to acquire up to date information about what has been thought and done in the particular area from which he/she intends to take up a problem for research.

Review of literature also helps the researchers to avoid any duplication of the work done earlier. It aims at interpreting prior studies and indicating their usefulness for the study to be undertaken.

Review of related literature is, thus an important pre-requisite to actual planning and then the execution of any research work.

Good, Barr and Scotese analyzed the purpose of related literature as:

1. To show whether the evidence already available solves the problem, adequately without further investigation and thus avoiding the risk of duplication.
2. To provide ideas, theories, explanations or hypotheses, which are valuable in formulating problems?
3. To suggest methods of research appropriate to the problem.
4. To locate comparative data useful in the interpretation of results.
5. To contribute the general scholarship of the investigator.

With these purposes, the researcher consulted books, periodicals, manuscripts, reports and other relevant related literature and tried to lay sound foundations in order to crystallize the problem under study.

The researcher also made an extensive study for reviewing the related literature. Some of the important reports of research studies related to the problem under investigation, to which the researcher was above to lay his hands are reviewed as under:

Sergeant (1921) conducted a Physical Test on man consisting of vertical jump. Since then the vertical jump has been utilized in the physical education as a power and has frequently been incorporated in general athletic ability and motor fitness batteries. In the vertical

jump, typically the individual swings his arms downward and backward taking a crouch position. The subject pauses momentarily in this position and then leaps upward as high as possible swinging the arms forcefully forward and upward. Just before the highest point of the jump is reached, the arms are swing forward and downward timed to coincide with the height of the jump.

Everett, P.W. & Skills, F.W., (1952) studied the relationship between selected Anthropometrics measurements of the hands and arm to grip strength. They randomly selected 139 male and female subjects for skin fold measurement. The straight arm hang was used to assess upper body muscular endurance. They found that weight, height and hand width were the most influential variables in the production of grip strength among the subjects.

Water Winter Botom (1954) has commented that coaching is not a matter of pouring out knowledge. It implies teaching the use of the right knowledge at the right time and there is a considerable technique to be acquired in putting this knowledge across. A player gets far more satisfaction from doing something than from hearing about it or watching it. He will see for himself each improvement he makes. But he is made immediately aware of his progress by such practical instruction and situation, he must not be allowed too much or the next skill too quickly.

Bucy (1965) conducted the study to find out the effect of three methods of training on physical fitness of male students at Rector High School. He equated the three groups consisting of 17 subjects each on the basis of AAHPER physical fitness test scores, age, weight, height and strength. Groups were assigned 11 weeks exercised programme in addition to regular physical education classes, three times a week. The isometric exercise group used weight exercises requiring nine minutes per day for 5 days a week. The analysis of data was done by using T ratio. Result of the study showed that all the groups improve significantly in physical fitness, strength and weight. The isometric exercise group had significantly greater than the calisthenics exercise group decreased in heart rate. There was no significant change in systolic and diastolic blood pressure and anxiety levels. A programme of exercise, moderate in intensity and under proper supervision, was found to improve to physical fitness of an elderly and to be safe and effective.

John Callaghan (1969) has suggested that player learns a game and discovers his ability to perform new skills. How well he actually performs these skills indicates what sort of a game he will be able to play and what will be his usefulness to his team. From time to time it is well for a player to assess his own improvement by analyzing how successfully and how rapidly he can accomplish the

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basic movement of skill and he will actually use so often during the game. If a man misdirects 5 out of 20 passes during a game, he certainly needs much practice in this area.

Debary, Levine and Carter (1974) after intensive study of anthropometrics measurements of athletes concluded that top level performance in a particular type of body size and shape was found. They established that a strong relationship between the structure of an athlete and specific task (event) in which he excelled, clear physical prototype existed for optimal performance at the level of Olympic Games. So emphasis should be given to find out the relationship between the anthropometrics measures and the specific task (event) of an athlete for high level of performance.

Santo (1976) selected 76 college men to study the effect of physical conditioning programme on cardio-respiratory fitness of college men. Subjects were divided into four different groups, three of which participated into different conditioning programmes. One was the control group, which have no formal physical conditioning programme. The different physical conditioning programmes were: (i) Cooper's Aerobic Programme (ii) Interval Conditioning Programme (iii) Regular Physical Education Programme and (iv) Control group. Cardio-respiratory fitness was measured by using Harward Step Test, the 12 minute run/walk, a 3 minute shuttle run

and a one minute lateral jump. It was concluded that interval conditioning, aerobic conditioning and regular physical groups improved significantly in cardio-respiratory fitness in comparison to control group.

Parks (1976) determined the effects of ten weeks physical fitness programme on selected physiological and psychological variables of individuals 65 to 85 years of age. After a ten weeks of medical physical fitness programme, the study concluded that improvement in fitness for the elderly could be attained through participation in a physical training programme of moderate intensity. It was also concluded that proper supervision could be safe and effective for the women between the ages of 60 and 82.

Thomas (1980) in his study has pointed out 'if by some miracle, women suddenly begin using public and private sport's facilities to even half the extent they are used for men, then the overcrowding would be catastrophic. If women ask their husband to do domestic chores so that they can participate in recreational activities as often as their husband now do, men would, most probably rebel.

Brown (1980) has found that if girls are given the same opportunity and encouragement, will participate in vigorous athletic activity.

Shaffer (1982) has noted that all children have a natural desire to participate in games. Realizing this, it must be assumed that our society has, by most shaling strong negative forces or by persistent neglect, effectively prevented women from realizing their potential in either recreational or competitive sport's activities.

Salih (1984) identified the effects of a conditioning programme on selected physiological variables of college women gymnasts. Ten women gymnast at Oklahoma State University were tested prior to and following a three months conditioning programme. After the conditioning programme the study concluded that significant improvement were found in anaerobic threshold heart rate, resting blood pressure in the standing position, percent body fat from both skin fold and under water weighing and all strength measures except for right leg strength. No significant differences were found in the means of vo2 max (ml/Hg/min.), percentage of CO2 max at anaerobic threshold, supine resting blood pressure, resting heart rate and right leg strength.

D.V. Harries (1984) found that the image of he female athlete and risks she takes by winning in competition with a man, who feels that many women taken the easy route, that is they avoid all participation in athletic. The deprecation of female athletes will have to be alternated if not abolished, before women are allowed to and

indeed allow them the opportunity to realize their full potential in sport's endeavors. Finally, we must never lose sight of the biological fact that each sex is responsible for half of human genetic material. This being true; if we all continue to tolerate a system that places women in an impressed milieu with respect to allowing them to participate in vigorous physical activities than we must be prepared to accept depreciation of our most valuable assets the 'sinequa' known for vigorous healthy productive, genetic soubrette human beings with sound mind and sound bodies.

Watson (1984) conducted a study using factor analysis, which produced seven factors (the percentage of the total variance explained is in parenthesis) (a) circumference and bone widths (32.1%), (b) Skeltal length, particularly of limb bones (17%), (c) Skin fold on the trunk (10%), (d) leg and triceps skin folds (8%), (e) Muscle size specific of the leg (6%), (f) Trunk length (5.1%) and factoring solutions.

Soltani Jamhaydary (1984) conducted a study to determine the attitude of college and university students towards required physical education activity class programs and to compare the attitude of freshman and senior black/white students towards their required physical education activity classes. The purpose of the study were:

1. to examine whether the required physical education class programs had any positive effect on students' attitudes towards physical education;
2. to determine whether there was any significant difference in the attitude of students towards physical education activity classes in relation to the variables of sex, race, level of activity, field of study or type of physical education program and;
3. to determine whether there as a significant relationship between students' attitude and their age or the number of physical units they had completed.

In general, the scores showed a significant favorable attitude to exist among students towards physical education activity classes. Moreover, senior students attitude was significantly more favorable than freshmen attitude. The social science students attitude was significantly more favorable than science students attitude. The difference between the means of the social science and science students was significant at 0.01 levels. The study did not show statistically significant differences in students' attitude in relation to race, sex, number of physical education units completer, or type of physical education program. There was no statistically significant

relationship between the students' attitude in relation to age or marital status.

The purpose of the Amuss and Sohi's (1985) study was to examine the changes in muscular strength, muscular endurance, muscular power, speed, agility, cardio-respiratory endurance and body composition on college age soccer players following a 20 weeks training. The study concluded that all the muscular, speed, agility and cardio-respiratory endurance improved significantly whereas a reduction in fat percentage was also seen.

Ross W.D. and Ward R.(1985) assessing the quantitative interface between human structure and function their data assembly is cross-sectional or longitudinal or in complex designs, a combination of both. The purpose of developing norms and reference models is to help in assessing structural and functional status or monitor change.

Pacific L. (1986) defined the degree of physical activity in sports events; the three samples of subjects – The sample with normal activity, with moderate and versatile physical activity and the third group elite athletes in watermelon and rowing. The subjects were measured with a set of 18 anthropometrics measures. No difference was found between the given groups. The principal component analysis is used to analysis the differences on the talent

structure. Studying the results of multivariate analysis of variance and discriminative analysis on the measure and on the scores of the subjects on principal components. It can be stated statistically that significant difference was found between the given groups. The difference of groups can be explained by recession and by the influence of training process.

Wynick (1987) has pointed out the little interest investigators have in using women as subjects in studies of physical education, it is almost as if there were a cultural or professional taboo against designing a research study involving women until this condition is altered, we will continued to be penalized by task of information concerning half of the human race. The future is patently unpredictable and persons who ignore this reality are usually sorry, but some indirect predictions and comments are possible. Whatever the future holds for women, it will be directly proportional to the interest or conversely, the apathy of all of us.

Frost, et al, (1988) found that inflation, unemployment and hardship are serious causes for concern among many for those who are living on bare subsistence income they can be tragic. The loss of homes and other pieces of property coupled with hunger and are the lowering of the standard of living became a stark reality fortunately

this fact is often affected the performance of the child, of such parents who are living in the above condition.

Tiger (1988) has stated that it is essential that men learn more about women in his working. It is curiously anomalous that while makes may be tough about the tax system, about the value of exercise, or about the poetry of Browning, they are unlikely to receive systematic knowledge about the specialized patterns of behavior of members of the sex with whom great majority will spend a good deal of their adult lives. More realistic and analytic treatment of different typical careers and life chances of male and female might alright what appears to be frequent disharmony between what many female expectations. In particular, some objective discussion of the anti female tradition and nature of male exclusion of female from various male groups could simply or clarify the problem women may feel who seek careers in predominantly male organization.

Parkash (1989) reported that physical education teachers and athlete coaches have made many attempts to analyze the measure of various tracts which contribute to success athletics and games. Within the field of games and sports, much emphasis has been laid on the physical ability and skills for the success of a player. It is during the last half century or so that physical education has

speculated upon the possible interrelationship between physical activity and various social forces.

Gill Jigger Singh and Dr. Rao V.S.S.M.(1992) conducted a study, "Self-Concept and Physical Fitness in Secondary School Boys". The purpose of this study was to investigate the relationship between self-concept and physical fitness among secondary school boys. For this study, they took 169 students of Class IXth and Xth of 13 to 18 years of age. AAHPER Youth Fitness Test Battery was administered. They concluded that the value of co-efficient of correlation between the composite scores in physical fitness with the scores in self-concept as well as various other dimensions were worked out. It was found that none of the obtained coefficient correlation exceeds the value of 0.152 required for being significant at 0.05 level of significance.

Co-efficient of correlation of self-concept with various items of Youth Fitness Test Battery is given below. None of the obtained coefficients of correlation exceeds the value of 0.125 required for significance at 0.05 level of significance.

The correlation between scores and physical fitness are found to be very low in this study. This may be due to the low level of physical fitness in the subjects of this study. Only high level of physical fitness can give a sense of achievements and also

recognition from poor groups as well as appreciation from elders like parents and teachers and in turn develop high level of self-concept in a child.

The co-efficient of correlation of self-concept with physical fitness and its component items.

S.No.	Physical Fitness and its Components	Co-efficient of Correlation
1.	Physical Fitness (Composite)	0.099
2.	Pull Up	-0.090
3.	Sit Up	0.125
4.	Shuttle Run	-0.100
5.	Standing Broad Jump	0.150
6.	50 Yards Dash	-0.100
7.	600 Yards Run Walks	0.110

Lashly (1993) undertook a comparative study of Negro and Caucasian boys on the factors of personality, socio-economic status and physical fitness. He found significant relationship between the socio-economic status and the level of physical fitness. He concluded that:

1. Negro junior high school boys are significantly better in pull up than Caucasian junior high school boys.
2. Caucasian junior high school boys have significantly higher socio-economic status than Negro junior high school boys.

3. Negro junior high school boys are significantly better in sit ups than the Caucasian high school boys.
4. Caucasian junior high school boys are significantly better in 600 yard run walk than Negro junior high school boys.
5. There is no significant difference between the two groups on the shuttle run, standing broad jump, fifty yard dash and the softball throw.

Gordhan Singh (2001) in his study found that the income, assets and education of the parents is related to the performance of the wrestlers and the average income and performance of wrestler bore a positive relationship as level of wrestling increase average income also increase except state and university level player.

Kaur Gurinder Pal (2002) conducted a study on the topic, "A survey of Indian Women Weight Lifters and Their Contributions in the International Competitions from 1985-2002. She concluded that Indian Women Weight Lifters took part in international competitions and showed remarkable achievement in three weights categories. Indian women have not participated more than four to five weight categories. The Indian women took part in various competitions and won many medals at World level, Asian level and Common Wealth level. K. Malleshwari and Kunjrani won various medal from different international competitions.

Satyanarayana (2002) studied the effect of sand training on selective motor abilities of junior volleyball players. Investigation was done on 24 junior players. Subjects were divided in two groups each comprising of 12 subjects. One was experimental group and other was control group. Standing vertical jump, standing broad jump, approach and jump reach, court speed test, coordination test (92 meters agility) and 30 mts sprint test were administered at the beginning and end of 4 weeks sand and general training programme. On the basis of results, it was found that sand training on experimental group improved jumping abilities with significant 't' value 2.09, 2.83 and 2.50 in standing vertical jump, standing broad jump and jump reach respectively but significant improvement was not observed in speed and coordination dominated abilities where 't' value are 1.57, 1.27 and 1.94 in coordination test (92 meters agility) court speed test and 30 mts. Sprints respectively. A non significant improvement in all the test performances was also seen in control group.

Female elite soccer players (N = 16) were tested by Zebis MK (2002) at the end of the autumn season, after 12 weeks of either isolated heavy resistance training (~2 times per week) or detraining, and at the end of the following spring season. The resistance trained group increased maximal eccentric quadriceps muscle strength and

rate of force development by the end of the resistance training period. The detraining group decreased in rate of force development by the end of detraining. The resistance training group also displayed an increase in percentage of Type IIA fibers with a corresponding decrease in Type IIX fibers. Fiber area of both types of fibers increased. The fiber area of the detraining group decreased at the end of detraining. At the end of the spring season, jump, sprint, and kicking performance improved significantly in the resistance trained group but not in the detrained group.

The purpose of the study by Simranjeet Singh (2003) was to see the difference between senior and junior girl hockey players. The subjects for this study were hockey girls attending the camps at SAINSNIS Patiala. Five tests were administered to assess the physical fitness level. The data was statistically analyzed. It was found that there is no significant difference between senior and junior group in 30 m and standing broad jump test performance. The junior group was found to be significantly superior in agility and endurance ability. The senior group was found to be significantly better in shoulder strength.

- H.P.S. Sodhi and Harnam Singh conducted a study on 157 male physical education players to find out the relationship of body composition and standing broad jump. The selected students were

from Punjab University, Chandigarh and Guru Nanak Dev University, Amritsar. The AAPHER test was applied. They measured with the help of skin fold caliper the body weight, percent fat and lean body weight. They found that individual body composition variables did not show any significant correlation with the body weight and percent fat. The main findings were:

1. The individual body weight, lean body weight and percent fat did not show any significant correlation with the stand broad jump.
2. When body weight and percent fat were held constant power has shown a negative and positive significance correlation with body weight and percent fat respectively.
3. The multiple correlation of the combination of body composition variable with person has been found to be significant.

Wisloff U (2004) conducted this study to determine whether maximal strength correlates with sprint and vertical jump height in elite male soccer players. Seventeen international male soccer players (mean (SD) age 25.8 (2.9) years, height 177.3 (4.1) cm, weight 76.5 (7.6) kg, and maximal oxygen uptake 65.7 (4.3)

ml/kg/min) were tested for maximal strength in half squats and sprinting ability (0-30 m and 10 m shuttle run sprint) and vertical jumping height. There was a strong correlation between maximal strength in half squats and sprint performance and jumping height. Maximal strength in half squats determines sprint performance and jumping height in high level soccer players. High squat strength did not imply reduced maximal oxygen consumption. Elite soccer players should focus on maximal strength training, with emphasis on maximal mobilization of concentric movements, which may improve their sprinting and jumping performance.

DuPont (2004) studied the effects of in-season, high-intensity interval training on professional male soccer players' running performance. Twenty-two subjects participated in 2 consecutive training periods of 10 weeks. The first period was considered a control period and was compared with a period where 2 high-intensity interval training exercises were included in the usual training program. Intermittent runs consisted of 12-15 runs lasting 15 seconds at 120% of maximal aerobic speed alternated with 15 seconds of rest. Sprint repetitions consisted of 12-15 all-out 40-m runs alternated with 30 seconds of rest. Results from the high-intensity interval training have shown that maximal aerobic speed

was improved (+8.1 +/- 3.1%; $p < 0.001$) and that the time of the 40-m sprint was decreased (-3.5 +/- 1.5%; $p < 0.001$), whereas no change in either parameters were observed during the control period. This study shows that improvements in physical qualities can be made during the in-season period.

X-X-X-X-X-X-X