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**AN ANALYSIS UPON IMPACT OF PHYSICAL
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AND FOOTBALL PLAYING**

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An Analysis upon Impact of Physical and Yogic Exercises on Motor Fitness and Football Playing

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Abstract – There is a great scope and need for research in evaluating the effect of Yogic exercise training on Fitness components of Football players. Day by day various research studies are taking place in physical education, games and sports, to know the attitude of various activities. Sportsmen or athletes are the center of this research.

Before evaluating the actual performance in any sports, it is highly important to know the awareness of that particular sport. To find out the relationship of Yogic training and football for the promotion of fitness and skills of football players, which may be helpful to the other players as well as coaches and physical educationists also. There is a hope that the results of the present study may be helpful to the college students for their overall development in the field of football.

INTRODUCTION:-

At the beginning of the twentieth century hardly a small percentage of the population were doing activity and exercise for the development of functional fitness. Global warming and pollution cause hypo kinetic diseases and diseases related to bones. If functional fitness would be well maintained then we can say good bye to various diseases. This also indicates that individuals can experience health benefits while changing from a sedentary lifestyle to an active lifestyle. It is important to identify any physical limitations, cardio-respiratory fitness, muscular strength and endurance, flexibility and so on, that could place them at risk of bodily harm.

Yogic practices getting popular are looked upon. It's systematic for the improvement of physical fitness of an individual. Yet we lack in the experimental evidence about the utility of physical exercise and yogic exercises for promoting physical fitness. Despite this fact many people misunderstand yoga even in India. If we were to take a cross-section of society and make a general survey of the public's opinion about yoga we would find many misconceptions about yoga.

Yoga is a systematic discipline originated in India, for self-realization. However, now a day scientific researchers find its utility for all round development of personality along with innumerable spiritual as well as therapeutically applications. As per Indian tradition Yoga, especially Hatha yoga, comprises of different yogic exercises viz., *asana* (body postures), *pranayama* (controlled regulation of breath), *bandha* (physiological locks or holds of the semi-voluntary

muscles), *kriyas* (cleansing process), and *mudras* (attitude which spontaneously arouses meditation). Swami Kavalayananda, the father of scientific research in Yoga and founder of Kaivalyadhama (India), has constructed the curriculum of yogic exercises to maintain health and fitness. Yogic exercises are also becoming popular in the area of games and sports and also in the curriculum of Indian schools, colleges and universities.

Yogic practices are supposed to reduce the high activation level and psycho physiological disequilibrium and also contribute to steadiness, psychomotor coordination and emotional stability. Such condition of high activation level and psycho physiological imbalance along with emotional instability seems to increase various disorganization of motor responses and tremors.

The word „Yoga“ is derived from the *Sanskrit* root verb 'Yuj' meaning – to find, join, unite, control etc. It is allied to English word „Yoke“, the German 'Joch' and the Latin, *Jungo* (to join). Yoga thus literary means union and control. It signifies the union of man with God or an individual with the universal reality, or each with the universal reality. It means union of mortal with eternal that is indeed, the aim of Yoga. But yoga also means control, that is to say, appropriate self-discipline. It is the mobilization of the inner resources of personality with a view to attain that self-integration which leads to self-realization and mystician calls immediate union with the infinite. In this sense, Yoga is the system, the programme of psycho-physical, moral and spiritual training by following which, one can fulfill the ultimate destiny of

life. The word „Yoga” thus implies both the goal of life and the path leading to that goal.

Maharshi Patanjali, the father of classical Yoga, defines Yoga as a practical method or means as well as a goal. According to him, Yoga is the complete cessation of the functional modification of ‘Citta’. The word „citta” can be translated into the word, „mind”. In broad sense, „citta” is active, right from gross body level, where sensation of sense organs is present, right up to the mind, inclusive of its sub-conscious and un-conscious levels, and even beyond mind to supra-conscious level.

Yoga is a systematic discipline for self-realization. However, now a day’s Yoga specially Hathayoga comprises of different Yogic exercises viz., asana (body postures), pranayama (controlled regulation of breath), bandha (physiological locks or holds of semi-voluntary muscles), kriyas (cleansing process), and mudras (attitude which spontaneously arouses meditation). Yogic exercises are becoming popular in the area of games and sports and also in the curriculum of Indian schools, colleges and universities.

In fact, Yoga works at the conscious level for awakening awareness which, in turn, claims to improve concentration. The step-wise process in Yoga, viz., *yama*, *niyama*, *asana*, *pranayama*, *dharana*, *dhyana* and *samadhi*, develops awareness as well as concentration to the fullest extent to achieve success. The principles of these practices, in fact, work on the psycho-physio-neurological level that jeopardizes the unequilibrium state and provide a state of balance or homeostasis. Once an athlete reaches this state of homeostasis, he can concentrate perfectly on his task of shooting performance and becomes successful.

Yoga is a science of complete health and is more than physical. It is mental and spiritual as well. It may help population to become Satchitanand, where Sat means “existence” *chit* means “knowledge” and *ananda* means “bliss.” Thus, Yoga seems to be relevant for population. This investigation would bring real evidence of benefits of Yoga especially for teaching professionals.

PRINCIPAL OF YOGIC PRACTICES

1. Yogic practice is not exercise as understood. The word exercise is generally applied to vigorous physical movement. Since Yogic practices do not involve vigorous movements, any kind of violent action should be avoided during Yoga practice.
2. The nature of Yogic practices is varied and involves different mechanisms through which the results of particular Yogic practices are obtained.
3. Asana, one of the most important and best known of the Yogic practices is static stretching procedures. They should be performed slowly and smoothly in order to influence the tonic system rather than the physical one.
4. The position in a particular Asana should be comfortably maintained for some time with least effort. Effortless performance and relaxing as much as possible during the final position are the chief characteristics of the techniques of Asanas.
5. Pranayamic practices are very different in purpose and technique from the “Breathing exercise”. They are supposed to increase oxygen uptake. However, they are considered of little value in the literature of physical education.
6. Yogic practices should not lead to undue fatigue. If there is fatigue, it should be overcome by the practice of relaxation in Shavasana.
7. All Yogic practices should be performed according to one’s own capacity and without competition with others.
8. All Yogic practices should lead to peace of mind.
9. Any Yogic routine should begin with psycho-physical relation centering one’s attention as one would in prayer or actual recitation of some prayer.
10. It would be better to learn the Yogic practices while one is having normal health. An imprudent way of practicing the Yogic practices is sometime found to lead to impairment of the health of an individual instead of making healthier. Persons who are very weak, or those who have recovered from illness, should be careful in this respect. It is true that many ailments can be cured by nicely administering the Yoga techniques, but for that, one has to take the help of a Yoga Therapist.
11. Age and sex do not offer any barrier to the Yogic practices are concerned. This does not, of course, mean that every Yoga technique may suit every individual. Children may start practicing the Yoga techniques at about eight years of age. There is no upper age limit as far as the Yogic practices are concerned.
12. The place for practicing the Yogic practices should be well protected from the menace of animals, rodents and insects. If it is done

indoors, it should be well ventilated and having sufficient light. The surroundings should not be noisy. The ground should plain and flat, not sloping in one direction.

13. Morning time is considered better from the point of view of regularity, while it is the experience of some people. Especially the beginners, that the Yogic practices can be done with ease and comfort in the evening as well.
14. Yogic practices should not be done with a loaded stomach. After a full meal, nearly five hours should be allowed to pass and nearly two hours after snack so that the exercise does not interfere in any way with the process of digestion and absorption of food.

LITERATURE REVIEW

The literature presented in this section indicates that ample of research investigations have been done on Football game. Many investigators suggested different training schedules of exercises and strategies for enhancing related fitness and various skills in Football. Researcher feels that training strategies for enhancing such skills must be based on the scientific reasoning and the composition of such training must be formulated depending upon players' cultural heritage.

Joglekar Anjali (1999) studied skills in badminton and associated fitness abilities of sixty female students (n=60), age 18-20 years, from S.N.D.T Arts and Smt. C.B. College of Commerce & Economics for Women, Mumbai. Selected yoga practices were the training intervention for 6 weeks. This was a controlled study. Result revealed that yoga played an efficient role for improving not only the skills of badminton, but the level of physical fitness too.

Lolage, R.S. and Bera, T.K. (2002) has conducted the study on forty (N=40) male college level kho-kho players, age ranged from 20 to 30 years, from Pravara College of physical education (Maharashtra) These players were randomly assigned into equal number of subjects in experimental and control groups. Their cardiovascular efficiency was assessed by administering three test viz., Harvard Step Test ($r = 0.63$, $p < 0.01$), 8-min. Run Test ($r = 0.73$, $p < 0.01$) and 1600 M Run Test ($r = 0.60$, $p < 0.01$). The experimental group underwent training of Pranayama (viz., anuloma – viloma, ujjayi, suryabhedana and bhastrika) in two sessions of 45 minutes each day (morning and evening), 6 days. Week1 for a total period of 3 months. The subject of control did not participate in the above programme and were kept busy with interesting activities, separately, during the experimental period. The results of ANCOVA revealed – 1) treatment effect of Pranayama on three test of

cardiovascular efficiency were not identical, 2) Harvard step test could measure cv efficiency with insufficient reliability ($r=0.82$, $p<0.01$., $r=0.80$, $p<0.01$). 3) Selected Pranayama were found useful in improving cv endurance of kho-kho players.

N. Govindarajuluz, J. Gananadeepam and Bera T.K. (2003) have conducted the study yoga practices on flexibility and cardio-respiratory endurance. They have taken sixty high school girls (average 12 years) who were volunteered in a pre-experimental group „A” (n1=30) for a period of eight weeks. The control group „B” (n1=30) was not allowed to participate in the experimental treatment. The pre and posttest were conducted on flexibility and cardio-respiratory endurance. The results of ANOVA revealed that there was an improvement in the flexibility and no significant change was evident in the cardio-respiratory endurance. Thus, short-term yoga is useful in improving flexibility, but not the cardio-respiratory endurance even at the stage of puberty in girls.

Paul, D. and Jr. Cangton (2005) have conducted the study on Cardiovascular and Motor Fitness. Three groups of 5th and 6th grade boys were given three weeks of instructions in rhythmic, basketball and wrestling respectively ANOVA plus the Finney „T” test were used to determine , significance ($p<10$) of changes on resting diastolic blood pressure, 5 minutes step test, total body strength, the Illinois agility run and total ability body rate. It was found that basketball and wrestling were more effective in improving total body strength and that wrestling was more effective than basketball in improving total body rate. There were no other significant changes.

Donohue, B., et al. (2006), conducted study to examine the efficacy of two preparatory interventions on one mile run performance in 90 high school long distance runners. After participants had completed a one mile baseline run, they were randomly assigned to participate in either one of two interventions (brief yoga exercises, motivational shouting exercises) or a no intervention control condition. Experimental conditions were implemented one week after the baseline run about 20 minutes before a second one mile trial.

Sidiropoulou, M. P., et. al. (2007) placed emphasis in screening individuals with exercise-induced bronchospasm in order to avoid persistence bronchial hyperactivity and consequent chronic silent inflammation of the respiratory tract. The purpose of this study was to evaluate the effect of interval training on the respiratory function and endurance in children with exercise-induced asthma (EIA) participating in the sport of soccer.

Clarke, R. A., et. al. (2008), studied with the purpose to compare the peak force and force curve characteristics during a traditional bench press (BP) and a ballistic bench throw (BT). Eight (age = 21.0 +/- 2.3 years, height = 182.3 +/- 7.4 cm, body mass = 85.9 +/- 5.5 kg) semi-professional rugby league players with resistance and power training experience performed both BP and BT exercises at loads of 55 and 80% of their predicted one-repetition maximum. The force curves for each test were then divided into three intensity levels, set at low to moderate (0-75%), high (75-95%), and near-maximal force (95-100%). These values were obtained by determining the percentage of the range of motion (ROM) in which the force produced during each test was within these thresholds.

Brechue, W. F. and Mayhew, J. L. (2009) conducted study to assess changes in upper-body muscular strength and work capacity following off-season resistance training and the resultant effect on prediction of muscular strength (1 repetition maximum, or 1RM). National Collegiate Athletic Association (NCAA) Division II football players (n = 58) were divided into low-strength (LS, 1RM <275 lb, n = 23) and high-strength (HS, 1RM > or =275 lb, n = 35) groups based on initial 1RM bench press. Maximal repetitions to failure (RTF) were performed with a relative (60, 70, 80, and 90% of 1RM) and absolute load (185 lb for players with 1RM <275 lb; 225 lb for players with 1RM > or =275 lb) at pre- and posttraining. Following training (n = 58), there was a significant increase in 1RM bench press (22.8 +/- 12.0 lb) and body mass (3.7 +/- 10 lb).

Castagna, C., et. al. (2010) with the purpose conducted this study to examine the relationship between popular endurance field tests and physical match performance in elite male youth soccer players. Eighteen young male soccer players (age 14.4 ± 0.1 years, height 1.67 ± 4.8 cm, body mass 53.6 ± 1.8 kg) were randomly chosen among a population of elite-level soccer players.

Stodden, D. F. and Galitski, H. M. (2010) conducted study with a purpose to examine the longitudinal effects of a strength and conditioning program on selected body composition and performance data over 4 consecutive years of training. Body mass, percent body fat, lean body mass, proagility (18.3 m shuttle), 36.6-m (40-yd) sprint, bench press, chin-ups, vertical jump, and power index data for 84 National Collegiate Athletic Association division IA collegiate football players were examined.

Carling, C. and Dupont, G. (2011) with the aim conducted this study to determine whether decline in physical performance in a professional soccer team during match-play were associated with reductions in skill-related performance. Computerized tracking of performance in midfield players (n = 11) showed that total distance and distance covered in high-speed

running (>14.4 km · h⁻¹) were greater in the first versus second half of games (both P < 0.001) and in the first versus the final 15 min of play (P < 0.05).

Schache, A. G., et. al. (2012) demonstrated the potential for a simple clinical test of hamstring muscle strength to identify susceptibility to muscle strain injury. A single-case design was used; specifically, an elite-level male Australian Rules football player performed bilateral isometric maximum voluntary contractions of the hamstring muscles on a weekly basis for a period of 5 weeks preceding a right hamstring muscle strain injury.

Austin, D., et.al (2013), with the purpose to describe the match-play demands of professional rugby union players competing in Super 14 matches during the 2008 and 2009 seasons. The movements of 20 players from Super 14 rugby union team during the 2008 and 2009 seasons were video recorded. Methods using time-motion analysis (TMA), five players from four positional groups (frontrow forwards, back-row forwards, inside backs and outside backs) were assessed. Results Players covered between 4218m and 6389m during the games.

METHODOLOGY

Present study was conducted to collect the information in the context of utility of selected asanas for the promotion of motor fitness components on players. For this the researcher had chosen experimental method. The methodology adopted for collecting the data include experimental design selection of sample, selection of test, reliability of the data, criterion measure, procedure, description of tests, statistical tools etc.

Two groups participated in this study. Group selection was done only after conducting one week pilot study. The design followed in this study was, thus, parallel group design, classifying the subjects in to experimental and controlled groups. The criteria for selecting parallel group design was that after dividing subjects in to control and experimental groups the average of their height and weight as well as some of their physical abilities should be similar.

Motor fitness is important factor essential in every sport. Research works on these variables revealed that yoga contributes to improve motor fitness as well as skills of different sports and games. This is the basis on which following variables have been incorporate in this present study and tests were conducted for this study is as follows. The research scholar had selected motor fitness components which consists of speed, flexibility, endurance, with football skills like SAI Football Skill Test, 30 Meters Running with the Ball, Kicking Accuracy, Juggling. The scholar had selected the following variables which are the basic needs of the player for their regular routine.

Therefore, the scholar wants to improve the fitness level of the subjects with the help of yogic asanas which is less expensive, less energetic, and also convenient for the school students with the use of less space and facilities.

On the basis of the previous researches and with reference to the advantages and disadvantages of various Yogic exercises for the player it was advisable to select the above set of yogic exercises for the study.

CONCLUSION

Yoga is a science of complete health and is more than physical. It is mental and spiritual as well. It may help population to become Satchitanand, where Sat means "existence" *chit* means "knowledge" and *ananda* means "bliss." Thus, Yoga seems to be relevant for population. This investigation would bring real evidence of benefits of Yoga especially for teaching professionals.

Football is perhaps the most demanding of all sports. In the modern game (at any level) soccer, training and conditioning is essential. Few sports are played on as large a playing field, lasting as long and without regular rest periods. Players cover 8-12km during a match, consisting of 24% walking, 36% jogging, 20% coursing, 11% sprinting, 7% moving backwards and 2% moving whilst in possession of the ball.

The present study aims to evaluate the impact of yogic exercise modules on motor fitness and playing skills of football players in Mumbai with the purpose to:

- To evaluate the playing ability of football players with respect to the daily activities with a set of yogic exercises.
- To design yogic exercise modules for improving motor fitness
- To measure motor fitness of football players with respect to flexibility, strength, and agility.
- To evaluate efficiency of the module on selected Motor fitness factors through a controlled experiment.

Selected yogic exercises were useful to improve speed measured by 50 yards dash and juggling skill. To find the significance of other variables similar experiment can be conducted with change in set of yogic exercises. Also by increasing the duration of training other variable can be tested and analyzed for their significant, which is possible in further research.

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