CHAPTER - II

REVIEW OF RELATED LITERATURE

The research scholar has made every possible effort to go through the literature related to the problems in the game of Cricket wherever available. The scholar has gleaned through almost every source like research quarterly, journal of various kinds, periodicals, encyclopedia, relevant books and e-resources on Cricket training and Yoga to pick up the related materials. While going through the various sources of literature, it has been observed that very little work has been done on yoga related to the game of Cricket. However, the scholar has gone through the literature of allied studies that are related with other games and sports to collect the necessary information.

Sharma and Tyagi, (2011) investigated the effect of specific training programme on physiological and fitness components of Table tennis players. For the study Table tennis players from Delhi were identified as subjects randomly. To conduct the study in accordance of the methodology the subjects were given a pre test for the physical and physiological parameters. The physiological parameters selected were systolic blood pressure, diastolic blood pressure, pulse rate, vital capacity, cardio respiratory endurance and breathing holding rate. The physical parameters were speed, flexibility, power, balance and agility. The subjects underwent the programme of the specific training designed for the players. Pre test and post test comparisons were done to find the effect of the specific training on the players. The result reveals that significant difference were
obtained on physiological (systolic blood pressure, pulse rate, and breathing holding rate) and fitness (speed and agility) components on the comparisons of means within the components on the comparisons of means within the control group.

Samsudeen, (2011) investigated the effect of asanas, pranayama, meditation and game-specific training on selected physical fitness components and performance parameters among District level Cricketers. Forty eight male college level Cricketer were randomly selected from various affiliated clubs of Madurai District and their age ranged between 18 and 25 years. Initially the Cricket playing ability of the subjects were subjectively rated by three qualified coaches. By using matching procedure on the basis of their Cricket playing ability the subject were classified into three matched groups, each having sixteen subjects. Group-I was involved in game-specific field training, Group-II was given game-specific field training combined with yogic practices and Group-III (Control) was not exposed to any specific training / conditioning. The game-specific field training schedule was specifically designed to improve the Cricket playing ability and fitness levels of the Cricketers. The game-specific training packages designed by the investigators of the study was administered for a period of twelve weeks, five days a week, two sessions each day, each session lasted two hours. The yogic practices were meted out for 45 minutes to group-II either before or after the game-specific field training. The yoga practice includes selected asana, pranayama and meditation technique. The motor components namely speed; explosive strength,
endurance and flexibility were selected as variables for this investigation. Fifty metres run, standing broad jump, twelve minutes run and stand & reach tests were used to collect the physical fitness components of the subjects. Three qualified coaches subjectively rated the Cricket playing ability of each player. The guideline for subjective rating was given by the investigators. The pre and post test were conducted one day before and after the experimental treatment. Analysis of covariance was used to analyse the collected data. Scheffe’s test was used as a post hoc test to determine which of the paired mean differ significantly. The results of the study reveal that both game-specific training and game-specific combined with yogic practice produced positive impacts on the motor components and performance parameters.

Manikam, (2011) investigate the influence of strength training package with and without yogic practices on selected psychological and technical skills level among collegiate level Football players. Three matched groups each having 15 males of 18 to 25 years of age served as subjects. The Group-I acted as control group, Group-II was given strength training without yogic practices and Group-III was given strength training with yogic practices. The strength was given for twelve weeks, four days per week of two hours duration every day in the morning session. Yogic package was given for 45 minutes each for twelve weeks four days per week of two hours duration every day in the evening session to Group-III. Psychological variables namely anxiety and achievement motivation were selected as variables as they may have direct relation to the performance of Football
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players in competitive situation. These variables were assessed by administering standardized questionnaires. The skill level of the players was subjectively rated by three qualified coaches. Analysis of covariance (ANCOVA) was used to analyze the collected data. Scheffe’s test was followed as a post hoc test to determine the level of significant difference between the paired means. The results clearly indicate that there was a significant difference in players’ performance due to training. The results also showed that strength training with yogic practice group showed significant improvement in all the selected psychological and technical skill level of the players compared to other groups.

JohnParthiban,(2011) investigated the study Was to find out the Quantification of Physiological Responses to Yogic Practices and Weight Training among professional College men players. For this purpose, forty five men students studying undergraduate Engineering courses in Government College of Engineering, salem, Tamilndu, India, in the year 2010-2011 were selected as subjects at a random and they were divided randomly into three groups of fifteen each, group I underwent Yogic Practices, group II underwent weight training and group III acted as Control. The training period was limited to twelve weeks. The dependent variables selected for this study were Resting Pulse Rate, Respiratory Rate and Cardio Respiratory Endurance. All the subjects were tested prior to and immediately after the experimental period on resting pulse rate, respiratory rate, Cardio respiratory endurance. The data obtained from the experimental groups before and after the experimental period were
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Statistically analyzed with Analysis of covariance (ANCOVA). Whenever the ‘F’ ratio for adjusted post test means was found to be significant, the Scheffe’s test was applied as post hoc test to determine the paired mean differences. The level of confidence was fixed at 0.05 level for all the cases. Resting Pulse Rate, Respiratory Rate and Cardio Respiratory Endurance showed significant difference among the groups.

Saroja,(2011) Conducted the study on to find out the effect of yoga practice, physical exercise and combination of yoga practice, physical exercise on selected motor ability components, physiological variables among college men students. For this purpose sixty college men students were selected as subjects at random from various colleges in Sivagangai District, Tamilnadu, India and their age was 19-23 years. They were divided into four groups namely yoga group, physical exercise group, yogic practice and physical exercise combined group and control group. The first three groups did yoga asanas, pranayama, Dhayana and physical exercise respectively for six weeks. The pre and post test were taken for all the subjects before and after the training respectively. Dependent variables are Motor ability components (Flexibility, Cardio Respiratory endurance) and Physiological variables (Resting pulse rate, Breath holding time) Independent variables (yoga, physical exercise, combination of yoga and physical exercises group and control group) were selected. This study concluded that the level of flexibility was improved greater by selected yogic practices that that of physical exercises and combined training of yogic practices than that of physical exercises and endurance was
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significantly improved greater by selected combined activities that of physical exercises. Also physical exercises improve the cardio respiratory endurance greater than yogic practices. Yogic practices improved the resting pulse rate greater than physical exercise.

Amutha,(2010) conducted study to find out the effect of selected yogic exercise and pranayama on anxiety, VO\textsubscript{2}\text{max} and flexibility. For this purpose fifty male students were selected from various high and higher secondary schools in and around Chidamabaram town. They were divided into two equal groups. one as experimental group doing underwent training for nine weeks, weekly five days, Monday to Friday between 6.00 a.m to 8.00 a.m. and control group (n=25) did not participate in any special training. The result of the study indicated that the anxiety was reduced significantly, maximal oxygen uptake and the flexibility increased significantly for the training group. It was concluded that the yogic exercise and had reduced the anxiety and increased the maximal oxygen uptake and flexibility.

Alagesan,et.al., (2010) conducted study on effect of yogasana on selected physical fitness parameters such as strength endurance and flexibility. To achieve this purpose of the study thirty men students studying in the Department of Physical Education and Sports Sciences, Annamalai University, Tamilnadu were randomly selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group-I underwent yogasana for three days per week for twelve weeks. Group-II acted as control that did not undergo any special training
programme apart from their regular physical education programme. The following variables namely strength endurance and flexibility were selected as criterion variables. All the subjects of two groups were tested on sleeted dependent variables at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The 0.05 level of confidence was fixed at as the level of significance to test the ‘F’ ratio obtained by the analysis of covariance, which was considered as an appropriate. The results of the study showed that there was a significant difference Yogasana group and control group on selected criterion variables such as strength endurance and flexibility. Also it was found that there was a significant improvement on selected criterion variables due to yogasana.

The purpose of the study was to find out the effect of Gymnastics exercises and Yoga on selected Physical performance, Physiological and Biochemical variables among college students. Ninety College women students were selected as subjects for this study and were divided into three groups namely control, yoga and gymnastics exercise groups. The age group of the subject was 18 to 21 years. To assess the effect of 12 weeks training for gymnastics and Yogic programme and the following dependent variables were chosen, vital capacity, heart rate, breath holding time, systolic blood pressure, diastolic blood pressure, blood sugar and cholesterol, endurance, speed and abdominal strength. The obtained data were statistically analysed through ANCOVA to test the significant difference and the result showed that the Gymnastic exercise and yogic
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training brought significant improvement among the college women on all variables except in diastolic blood pressure. (Divya and Shenbagavalli, 2010).

The purpose of the study was to find out the effect of yogasana on selected physical and physiological parameters. To achieve this purpose thirty men students studying Bachelor’s degree in the Department of Physical Education and Sports Science students of Annamalai University, Chidambaram, Tamilnadu, India were selected as subjects at random. The selected subjects were divided into two equal groups of fifteen subjects each, such as yogasana group and control group. The group-I underwent yogasana for three days per week for twelve weeks. The control group did not participated in any special training programme apart from their regular physical education activities as per their curriculum. Among the physical and physiological parameters, the following variables such as leg strength and breath holding time were selected. Leg strength was measured by using leg lift with dynamometer; breath holding time was measured by using holding the breath for time was measured. All the subjects of both groups were tested on selected physical and physiological parameters at prior and immediately after the training programme. The analysis of covariance was used to analyse the significant difference, if any between the groups. The level of significant to test the “F” ratio obtained by the analysis of covariance was fixed at .05 level confidences which was considered as an appropriate. The results of the study showed that there was a significant difference between yogasana group and control group on
selected criterion variables such as leg strength and breathe holding time. And also it was found that there was a significant improvement on selected criterion variables namely leg strength and breath holding time due to yogasana. (Surenthini and Karthikeyan, 2010)

Samsudeen and Kalidasan (2010) examined the influence of game-specific field training and yogic practices on selected physical, physiological, psychological and performance variables among college level Cricketers. Methodology: subjects sixty four college level Cricket players were selected as subject and their age range between 18 to 25 years. Statistical techniques: The Analysis of Covariance was used to analyze the collected dat. Scheffe’s test is to be used as post hoc test to determine which of the paired mean difference is significant. Results: The results are presented in bar diagram which reveals that there was significant difference among the groups. Group-II has shown significant improvement in all the selected parameters among college level cricket players.

As limited research has focused on the physiological responses associated with cricket activity, the aim of this pilot study was to measure selected physiological responses during batting in a simulated high-scoring 1-day cricket game. Ten male university cricketers performed a batting specific work bout consisting of four sprints per over (six balls) for a seven over period. Testing was conducted outdoors with players wearing full batting gear. All experimentation was conducted under temperate environmental conditions. During the simulated work bout, a portable on-line metabolic system (the k4b(2)) was attached to the subjects for the
continuous assessment of selected physiological variables including heart rate (HR), ventilation (F(B), V(T) and V(E)), oxygen uptake (V(O2)) and metabolic carbon dioxide (V(CO2)) production. Energy expenditure was calculated from the oxygen consumption responses and substrate use was calculated from the V(O2)/V(CO2) responses. The results demonstrate that although the first over carried a statistically (p<0.05) lower energetic cost than the remaining six overs, most physiological responses stabilised thereafter. This excluded the heart rate responses which increased significantly (p<0.05) during the first three overs after which marginal increases were observed with no statistical difference between the last four overs (heart rate ranged from 149+/-19 bt min(-1) in the fourth over to 155+/-18 bt min(-1) in the last over). There was a mean energy expenditure of 2536kJh (-1) over the duration of the work bout. (Christie, Todd AI and King, 2008)

The aim of the present study was to investigate the relationship between physiological and performance responses during repeated 6-over fast-bowling spells. Six, first-class, medium-fast bowlers performed 2x6-over spells separated by 45 min of light activity. The 6-over spells were based on the Cricket Australia fast bowling skills test that is a set order of deliveries at a grid-based target. Ball speed, accuracy and full and final 5-m run-up speed were measured on each ball. Nude mass, heart rate, core temperature, capillary blood lactate, pH and glucose, perceptual measures of RPE and muscle soreness (MS) and repeated vertical jump efforts were measured prior to, during and following each spell. Results indicated no
decrement (P=0.41) and small effect sizes (d<0.2) in bowling speed (125.7+/−5.1 and 125.4+/−4.5 km.h(-1)) or accuracy (40.4+/−16.1 and 41.6+/−18.0 AU) between spells 1 and 2. No differences (P=0.6−20.8) were present between spells for heart rate, core temperature, lactate, pH, glucose, RPE, MS or vertical jump. Only final 5-m run-up speed showed a large correlation with ball speed (r=0.70), while accuracy and speed were not correlated (r=0.05). In conclusion, repeated 6-over spells in well-trained bowlers results in minimal performance decrement in mild conditions (22 degrees C). As faster bowlers had faster final 5-m run-up speeds, the maintenance of high final 5-m run-up speeds might be important to maintaining bowling speed. Future research should also include a third bowling spell and warmer environmental conditions. (Duffield, Carney and Karppineninen, 2009)

The purpose of this study was to measure the effects of 12 weeks of yoga training on selected measures of balance, fitness, and mood. Initially, 30 adult, healthy males and females volunteered for this study. At 12 weeks, yoga =3, n=6control All participants underwent one static and two dynamic tests on a force plate to measure balance, two functional tests to measure fitness, and the BRUMS mood scale to test state mood. The participants were assessed at week 1, week 6 and week 12 of the study. Standard deviations of the Center of Pressure (COP) in the x and in the y directions were averaged for each balance test. Maximum sit-and-reach distance (cm) and curl number were averaged for each fitness test. Subcategories of the BRUMS mood scale were added and compared for
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each test. The results of all tests were compared between groups and across time using mixed model ANOVAs. No significant differences were obtained, p>.01. However, mean differences were observed for the yoga and control groups. Increased static balance for the stork stance was observed in the yoga group during week 6 and 12 (013±.01, .008±.003). While small, positive and negative fluctuations occurred in the control groups’ static balance during the 12 weeks (.007±.001, .009±.003, .007±.00). Increased hip and hamstring flexibility were observed in the yoga group during week 6 and 12 (36.00±7.26, 39.25±7.54, 40.75±5.619). Both groups showed improved core strength (yoga =14.67±14.50, 23.00±19.92, 29.00±25.24, control = 47.67±22.64, iv 56.83±20.16, 60.00±17.16).

Depression scores were shown to decrease and maintain decreased after 6 weeks of yoga training (45.33±4.04, 43±.00, 43±.00). Depression scores in the control group showed a similar decrease however, this was not maintained throughout the 12 weeks (46±4.8, 44.33±2.07, 46±3.5). The yoga group decreased tension scores while the control group showed an increase in tension scores (yoga =44.67±2.31, 43.33±2.31, 42.00±.00, control =45.67±3.14, 42.00±.00, 49.00±8.05. We suggest a training stimulus of 2 sessions/week and/or 12 weeks of yoga is not adequate to significantly influence balance, fitness, and mood, but there is a trend toward improvement in all variable. (Silver and Mokha, 2005)

Yoga techniques practiced for varying durations have been shown to reduce state anxiety. In this study, there were 300 naive-to-yoga persons of both sexes who were attending a yoga therapy center in north India for
stress relief as day visitors and were not residing at the center. They were assigned to two groups, yoga practice and yoga theory, and their state anxiety was assessed before and after a 2-hr. yoga session. A significant reduction in scores on state anxiety was found in the yoga practice group (14.7% decreases), as well as in the yoga theory group (3.4% decrease). The difference in scores following the sessions was statistically significant. Hence, yoga practice as well as learning about theoretical aspects of yoga appears to reduce state anxiety, with a greater reduction following yoga practice. (Telles, Gaur and Balkrishna, 2009)

Rajakumar (2010) in his study analyze the impact of yogic practices and physical exercises on selected physiological variables among the intercollegiate soccer players. To achieve this purpose, sixty (60) male intercollegiate soccer players from the various colleges; Chennai were selected at random. Their age ranged between 17 and 22. The selected subjects were divided into three equal groups of 20 each, namely yogic practice group (Group A), physical exercises group (Group B) and control group (Group C). The experimental groups have underwent 12 weeks of training namely; yogic practices and physical exercises respectively, whereas the control group (Group C) maintained their daily routine activities and no special training was given. The subjects of the three groups were tested using standardized tests and procedures on selected physiological variables before and after the training period to find out the training efforts in the following test items: Resting pulse rate through stethoscope, Breath holding time through digital stop watch, Peak flow rate
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through Wright's peak flow meter. The collected data were analyzed statistically through Analysis of Co-variance (ANACOVA) and Scheffe’s post hoc test to find out the pre and post training performances, compare the significant difference between the adjusted final means and the better group. The yogic practice group showed significant improvement due to 12 weeks training on resting pulse rate, breath holding time and peak flow rate compared to the physical exercise and control group. In the overall training effects in terms of improved number of physiological variables and their magnitude of improvement through training, yogic practice group is found to be the better group.

The vital role played by yoga i.e. physical fitness, fitness related to health, skill and performance has assumed tremendous importance in recent times. A review, of research papers on yoga practices, physical exercises and its relation to metabolic changes is conducted at Vivekananda Kendra Yoga Research Foundation, Jigani, Bangalore. The goal of the review was to establish a comprehensive literature review and provide a rationale for future research concerning metabolic changes during yoga practice. Computer searches were conducted using medline, pubmed, along with library search, and review of published journals and standard textbooks. An elaborate list of energy expenditure pattern of various physical activities is available but little documented for yogic exercises. Reviews are not large and need extensive research coverage. There is lack of replicated studies which will confirm the methods results. Evidences suggest yoga as a mind/body approach which has very vast application. The vital role played by
yoga i.e. physical fitness, fitness related to health, skill and performance has assumed tremendous importance in recent times. The life style changes leading to positive energy balances has been the causative factor for many of the metabolic disorders like hypertension, diabetes malites, cardiovascular diseases and obesity and related problems. Yoga, which is a time-tested method, has shown great positive influence on physical, mental, psychological, social and spiritual personalities of a person. With the above in background various research works have been undertaken to measure the changes that take place during yoga practice. The measurement of metabolic changes is one of them. (Chaya, 2006)

The purpose of this study was to determine the efficacy of 24 weeks of the senior-tailored silver yoga (SY) exercise program for transitional frail elders. METHODS: A convenience sample of 69 elders in assisted living facilities were assigned randomly to the SY group (n = 38) or to the control group (n = 31) on the basis of the facilities where they resided, and 55 of them completed this quasi-experimental pretest and posttest study. Intervention was conducted three times per week, 70 minutes per session, for 24 weeks. Physical fitness (body composition, cardiovascular-respiratory functions, body flexibility, muscle power and endurance, balance, and agility) were examined at baseline, at 12 weeks, and at the end of the 24th week of the study. RESULTS: At the end of the study, the physical fitness indicators of participants in the SY group had improved significantly, and they had better physical fitness than participants in the control group (all p values < .05). DISCUSSION: It was recommended that the SY exercises be
Literature supports the impact of yogic practice on physical performance especially, the aerobic aspects. The study therefore attempted to compare the effect of 3 months yogic practice on aerobic and anaerobic capacity. Healthy young male volunteers of age 21–33 years, height 174.8±3.52 cm and weight 69.6±7.17 kg (mean, ±SD) were participated in this study (64 volunteers for anaerobic (n₁=64) and 21 volunteers for aerobic (n₂=21)). The yoga training imparted by certified yoga teacher included the practice of yogasanas, pranayamas, meditation, mudra and bandh for 2 h in the morning and 1½ h in the evening during the weekdays. Wingate Anaerobic Test protocol was applied for the prediction of peak and average anaerobic power. The device consisted of a mechanically braked bicycle ergometer and software controlling the test. Aerobic performance was assessed by sub maximal exercise for 5 min on a bicycle ergometer with a fixed load of 150 w and cycle speed 50 rpm. Heart rate was recorded at rest, 5 min of exercise. Body mass index (BMI) was calculated as the ratio of weight to height squared. After 3 months body weight and BMI decreased significantly (p < 0.05). After training, heart rate decreased non-significant by 5.10%, at 5 min of exercise as compared to that before training. Peak and average anaerobic power (Wingate Test) improved significantly (p < 0.05). The study revealed that 3 months continuous yogic exercise resulted improvement in
anaerobic capacity of individuals, as compared to aerobic capacity. (Saha, et. al, 2010)

Lack of activity destroys the good condition of every human being, while moment and methodical physical exercise save it and preserve it. Psychic tensions, anxieties, obesity, BP, etc, in sedentary people have now swelled (grew larger) to enormous proportions. Exercise or physical activities help in handling all this by increasing basal metabolic rate (BMR). The research findings could remove several misconceptions about exercise and remove the mystical sheath over it. Many people do not perform any exercise and are unaware of this fact. Proper exercise profoundly improves our BMR. The exercise is intimately connected with our State of Health and improper BMR will often reflect various disturbances of body and mind. The purpose of the study was to investigate the effect of aerobic and anaerobic exercise on BMR. For this study, 40 male and 20 female students from BPE group were randomly selected as subjects from LNUPE, Gwalior. The subjects were divided into two groups, that is, one experimental group and one control group. Experimental group was administered with aerobic and anaerobic exercise and second group was control group that did not participate in training programme. The quantitative measurement of each subject was taken with the help of standard equipment, before and after the treatment period of 2 h. The selected physiological variables were resting BMR administered in the Laboratory of Health Science and Yoga, LNUPE, Gwalior. The random group design applied for the effect of exercise
on BMR. The analysis of resting BMR changes on the practice was positive of aerobic and anaerobic exercise subjects. (Singh, et. al., 2010)

The purpose of the study was to analyse the effect of Ujjayi and Bhashrika Pranayama on selected physiological variables. For this 60 physically challenged male students were randomly selected as the subjects from Amar Jyoti School and Roshni Rehabilitation Centre, Gwalior. Further the subjects were divided into two groups that is, experimental group and control group. The experimental group followed of Ujjayi and Bhashrika Pranayama for a period of 6 weeks. The training was given for 5 days in a week in the morning. Only four physiological variables that is, vital capacity, positive breath holding time, resting pulse rate and blood pressure were selected for the study. Pre- and post-test data on selected physiological variables were recorded prior to and after completion of 6 weeks pranayama training of experimental group, and the control group did not participate in the training programme. The criterion measures for measuring vital capacity was measured with Recorder and Medicare Systems Spirometer (Helios 401) in litres, positive breath holding and resting pulse rate was measured with the help of stopwatch, and blood pressure was measured by sphygmomanometer and stethoscope. Paired ‘t’ test statistical technique was employed to analyse the raw data, and the mean difference between the pretest and post-test scores each of the criterion variables of the groups. The level of significance was chosen at 0.05 level. From the findings it was observed that ‘t’ ratio was not significant in case of resting pulse rate and diastolic blood pressure.
However in case of vital capacity and positive breath holding time ‘t’ was significant. (Mazumdar and Suryavanshi, 2010)

Forty male high school students, age 12-15 yrs, participated for a study of yoga in relation to body composition, cardiovascular endurance and anaerobic power. The Ss were placed into two subsets viz., yoga group and control group. Body composition, cardiovascular endurance anaerobic power were measured using standard method. The duration of experiment was one year. The result of ANCOVA revealed that a significant improvement in ideal body weight, body density, cardiovascular endurance and anaerobic power was observed as a result of yoga training. This study could not show significant change in body fat (midaxillary), skeletal diameters and most of the body circumferences. It was evident that some of the fat-folds (tricep, subscapular, suprailiac, umbilical, thigh and calf) and body circumferences (waist, umbilical and hip) were reduced significantly. (Bera and Rajapurkar, 2010)

Rajkumar (2007) conducted a study on effect of yogic practices and physical exercises on selected Physical and Physiological parameters on football players. He concludes that yogic practice groups showed significant change in flexibility, resting pulse rate, breath holding time and peak flow rate among the football players.

Jesintha and Parthiban (2007) studied the influence of yogic practices on resting pulse rate, breath holding time and cardio respiratory endurance of school kho-kho players. For the study 32 school girls who were studying in Government Higher Secondary School in Kalanivasal, Pudukkottai
District, Tamil nadu, India were selected randomly and assigned to two groups. Group I underwent yogic practices (n=16) and Group II (n=16) acted as control group. The data collected from the groups were statistically analyzed with analysis of covariance (ANCOVA). Resting pulse rate, breath holding time and cardio respiratory endurance showed significant difference between the groups.

This study aims to provide a physiologic profile of professional cricketers and note positional differences at the start of the 2007/08 competitive season. Fifteen participants (9 bowlers, 6 batsmen) aged 25.0 ± 5.0 years (mean ± SD) took part in this study. Participants (bowlers and batsmen) completed a series of field-based fitness assessments: body composition (sum of 7 skinfolds, 72.5 ± 16.5 and 65.5 ± 19.3 mm, respectively), flexibility (sit and reach 8.1 ± 10.3 and 6.0 ± 6.2 cm, respectively), predicted maximal oxygen uptake (multistage shuttle run, 54.1 ± 2.8 and 56.1 ± 4.5 ml-1·kg-1·min-1, respectively), upper- (medicine ball throw, 7.7 ± 0.6 and 7.0 ± 0.1 m, respectively) and lower-body strength (countermovement jump, 45.7 ± 5.8 and 43.9 ± 4.1 cm, respectively), speed (sprint 17.7 m, 2.76 ± 0.6 and 2.77 ± 0.1 s, respectively), and explosive power (repeated jump, 31.0 ± 2.0 and 34.1 ± 4.8 cm, respectively). The data provided the physical fitness profile for each player, which, compared with normative data, identified that this cohort of professional cricketers had some superior fitness parameters compared with the general population, and where applicable, were comparable with other professional athletes. In addition, after effect size calculations, the results showed that some
physical fitness differences existed between playing positions. Cricket professionals possess a superior level of physical fitness and strength, and conditioning coaches should seek to progress these physical parameters and further identify position-specific physical requirements to progress the modern game. (Johnstone and Ford, 2010)

Research into the science and medicine underlying cricket performance and injury has progressed since the First World Congress of Science and Medicine in Cricket in 1999. This review covers material on the physiological and psychological demands of the game and preparation for it, the biomechanics and motor control of cricket skills, the psychology of team dynamics, performance analysis and cricket injuries. Technological aspects of cricket equipment are also covered, where such research could influence injury risk or player performance. Fielding remains the least studied of the skills. Much more research needs to be done before we can gain a full understanding of the scientific aspects of the game. There is a need to address common definitions of injury, along with more research into injury mechanisms. Research on batting needs to bring together motor control and biomechanics more fully. The fitness demands of the game are still poorly understood, along with the mechanisms causing fatigue. Evaluation of the efficacy of intervention strategies needs to continue and to develop. The applications of research need to be communicated more to coaches and players--for example, in team dynamics--so that they can be applied, and tested further, in international matches. (Bartlett, 2003)
Ten healthy, untrained volunteers (nine females and one male), ranging in age from 18-27 years, were studied to determine the effects of hatha yoga practice on the health-related aspects of physical fitness, including muscular strength and endurance, flexibility, cardio respiratory fitness, body composition, and pulmonary function. Subjects were required to attend a minimum of two yoga classes per week for a total of 8 weeks. Each yoga session consisted of 10 minutes of pranayamas (breath-control exercises), 15 minutes of dynamic warm-up exercises, 50 minutes of asanas (yoga postures), and 10 minutes of supine relaxation in savasana (corpse pose). The subjects were evaluated before and after the 8-week training program. Isokinetic muscular strength for elbow extension, elbow flexion, and knee extension increased by 31%, 19%, and 28% (p<0.05), respectively, whereas isometric muscular endurance for knee flexion increased 57% (p<0.01). Ankle flexibility, shoulder elevation, trunk extension, and trunk flexion increased by 13% (p<0.01), 155% (p<0.001), 188% (p<0.001), and 14% (p<0.05), respectively. Absolute and relative maximal oxygen uptake increased by 7% and 6%, respectively (p<0.01). These findings indicate that regular hatha yoga practice can elicit improvements in the health-related aspects of physical fitness. (Tran, et al., 2001)

Despite its long history and global appeal, relatively little is known about the physiological and other requirements of cricket. It has been suggested that the physiological demands of cricket are relatively mild, except in fast bowlers during prolonged bowling spells in warm conditions. However, the physiological demands of cricket may be underestimated
because of the intermittent nature of the activity and the generally inadequate understanding of the physiological demands of intermittent activity. Here, we review published studies of the physiology of cricket. We propose that no current model used to analyse the nature of exercise fatigue (i.e. the cardiovascular-anaerobic model, the energy supply-energy depletion model, the muscle power-muscle recruitment model) can adequately explain the fatigue experienced during cricket. A study of players in the South African national cricket team competing in the 1999 Cricket World Cup revealed that, in a variety of measures of explosive (‘anaerobic’) power and aerobic endurance capacity, they were as 'fit' as South African national rugby players competing in the 1999 Rugby World Cup. Yet, outwardly, the physiological demands of rugby would seem to be far greater than those of cricket. This poses the question: 'Why are these international cricketers so fit if the physiological demands of cricket are apparently so mild?' One possibility is that these specific groups of athletes are unusually proficient in a variety of sports; many achieved high standards of performance in other sports, including rugby, before choosing to specialize in cricket. Hence their apparently high fitness may simply reflect a superior genetic physical endowment, necessary to achieve success in modern international sports, including cricket. Alternatively, it could be hypothesized that superior power and endurance fitness may be required to cope with the repeated eccentric muscle contractions required in turning and in bowling and which may account for fatigue and risk of injury in cricket. If this is the case, the fitness of cricketers may be increased
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and their risk of injury reduced by more specific eccentric exercise training programmes. (Noakes & Durandt, 2000)

Kalidasan et.al (1998) in their study on Influence of training with and without selected yogic practices on the technical skill level among cricketers. They conclude that the performance of the boys who had training with yogic practices were better in technical skill level, than those of other groups.

This study extended Hanin's 1980 Zone of Optimal Functioning hypothesis by assessing both intensity and direction components of competitive state anxiety. 20 volunteer semiprofessional Cricketers responded to the modified Competitive State Anxiety Inventory-2 prior to ten matches. For each game, players' performances were intra individually evaluated by three qualified cricket coaches using subjective criteria. Separate Cognitive Anxiety and Somatic Anxiety 'below,' 'in,' and 'above' zones for Intensity and Direction of state anxiety were identified via repeated empirical assessments. Two two-way analyses of variance were computed for Intensity and Direction of anxiety (Cognitive Anxiety Zone Level x Somatic Anxiety Zone Level) with standardized performance scores as the dependent variable. A significant interaction was found between the zone levels for Cognitive and Somatic Anxiety Direction and performance scores. Examination of the Zone of Optimal Functioning hypothesis that focuses on the interactions between Cognitive and Somatic Anxiety and in
particular the directional elements of the modified inventory seems warranted. (Thelwell and Maynard, 1998)

Aerobic Power (VO₂ max) and anaerobic power were estimated in medical students before and after six weeks of yogic training. A significant increase in aerobic power and a significant decrease in anaerobic power was observed. This may be due to conversion of some of the Fast Twitch (F.T.) muscle fibres into Slow Twitch fibres (S.T.) during yogic training. (Balasubramanian and Pansare, 1997)

Summary

In this chapter, totally 28 related literatures were documented. From the observations of above elicited literature it was observed only few research studies were done using yogic practice for Cricket players. This chapter also reveals that research using yogic practice and other forms of training in sports such as Football, Kho-Kho, Volleyball, Table Tennis, Athletes and various other games were document. Most of the results indicate that yogic practices influence the selected physical, physiological, psychological and performance factors. In this chapter it is also presented that few studies indicating that selected physical, physiological, psychological and performance factors can influences results due to yogic practices on Cricketers.