CHAPTER - II
REVIEW OF RELATED LITERATURE

The previous studies have stated that adolescents are facing many problems and there are sufficiently a large number of them who need therapy. It can also be inferred from the statements that yoga has been very effective in curing the humans both at physical and psychological level. But many would still argue about the true and effective nature of yoga in curing disease. Definitely any theory would be scientific and valid only if it is validated by sufficient facts and literature to support the same. Therefore, a review of the related literature must precede any well planned research study. Review of literature is necessary because it gives the indication of direction, is a pre-requisite to plan study, avoid duplication and provide a source of problem of study for identifying and selecting problems of research.

The following findings as reputed in the related study have been incorporated to support the fundamentals for which the present research was initiated.

Two important facts that would require literature support are:

1. Whether the studies and observations are of the nature that they truly reveal the existence of cases of mental health or other psychological problems i.e. 'Studies related to emotional states.'
2. Is there enough evidences that Yogic practices have been useful in revival or improvement in mental health related subjects or other closely related disorders? i.e. 'Studies related to Yogic practices'.
Studies related to present study are given below in two parts:

2.1 Studies related to Emotional States.

2.2 Studies related to Yogic Practices.

2.1 STUDIES RELATED TO EMOTIONAL STATES

Andreasen (1980) found the following symptoms in about 400 adolescents and adults: Dysphonic mood, appetite or weight change, sleep deficiency, loss of energy, psychomotor agitation, loss of interest or pleasure, feeling of reproach, diminished concentration, crying spell, thought of suicide, and suicide attempt.

Bhatia (1981) studied the effect of reciprocal inhibition therapy on anxiety in adolescents. The prior study of the incidence and pattern in adolescents was studied among students of three Delhi schools of classes IX and X within the age group of 15-17 years. Anxiety as a whole was found to be almost normally distributed in the population. It was stated to be a matter of concern for a clinical psychologist and mental hygienist that the distribution of anxiety among the adolescents at such a tender and pliable age was normal; and 18% were those who definitely required psychotherapeutic help.

Arias (1986) found that 25% children who were unpopular in elementary school had dropped out before completing high school as compared to general rate. The behavior indicated inefficiency towards dealing of human relationship. It further put forward great concerns that needed related seriousness and necessary intervention.
Davison, Faull and Nicol (1986) emphasized that educational stressors (high educational demands, poor school progress, difficulties settling in school) have been highlighted as of relevance for the somatic symptoms of children with functional problems.

Epidemiological studies of children and adolescents have found recruitment distressing somatic symptoms which are manifestations of psychological difficulty to be present in 11% of girls and 4% of boys aged 12-16 years (Offord et al., 1987).

Hembree (1988) studied the effects of ‘Test Anxiety’ on ‘academic performance’. Such effects have been thoroughly investigated. Comprehensive reviews by him showed that in most studies ‘Test Anxiety’ is accompanied by lower test performance.

Whately, Foreman and Richards (1988) studied the effect of age on study and stress found that age and year of study stresses students which stems from feeling of perfectionism and inadequacy in achieving exaggerated goal.

Robinson, Alverej and Dodge (1990) found the cases of somatisation which give rise to severely handicapped functions including difficulties in school and frequent school absences.

Cairns, McWhirter, Barry and Duffy (1991) In relation to high anxiety created due to stress factors remarked that "the raised stress levels are typical in adolescents of general and final year school students."

Dubey (1993) attempted to study relation of manifest anxiety and educational performance. He found that there existed a high correlation between manifest anxiety and educational performance.
Zuckerman, Debenham and Moore (1993) stated by obtaining a statistical survey of the National Institute of Mental Health estimates that one in five people will experience mental illness in their lifetime, and one in four knows someone personally who has a mental illness. Anxiety disorders are the most common, affecting nearly 15% of people at some time in their lives.

Depressive disorders occur nearly 8% in lifetimes, while 2% of people will experience schizophrenia in their lifetimes. In all likelihood, employees or students will experience mental illness while at work or in school.

Peter and Paul (1994) found that the transition to adulthood is poorly understood in-spite of the fact that it is a period when most adult disorders have their peak rate of incidence. Prospective epidemiological studies estimated incidents of specific risk factors and disorders in childhood, adolescents and during the transition to adulthood, from age 15-25, are frequent. The studies indicated that mood disorders were more common among adolescents than they had been thought, and that family history of mood disorders is one of the most potent risk factors for depression.

Wegener and Wilson (1994) found that the most educational institutes have recognized effect of stresses on students mental well being and have responded with development and implementation of some forms of counseling and psychiatrist as learning services.

According to an estimate by U.S. Dept. of Health and Human Services (1996), the prevalence of mild to severe
depressive syndromes in adolescents in typical range from 20% to 32% was found. Similar observation has been made in U.S. by (Department of Education, 2000) that students with learning disabilities and emotional problems account for nearly 60% of all children receiving special services in schools today.

**Bera, Gore and Oak (1998)** studied the comparative effect of two different postures and *Shavasana* and, found that the recovery from induced physiological stress was significantly faster for supine posture with additional progressive relaxation, compared to resting, sitting in a chair, or plain *Shavasana* (SR).

**Hofstra, Van Der Ende and Verhulst (2000)** suggested that "the development pathways toward mood disorders in adult males tend to be rooted in earlier problems during childhood, whereas the much more prevalent mood disorders in adult females tend to emerge later in life". Another especially interesting finding was that boys who were deviant on both the Anxious/Depressed and Delinquent Behavior syndromes were at exceptionally high risk for having disruptive disorders in adulthood (odds ratio=8.0).

**Hudziac, Rudiger, Neale, Health and Todd (2000)**, Using Child Behavior Checklist (CBCL) found that genetic factors accounted for 60-68% of the variance in Attention Problems; 70-77% of the variance in Aggressive Behavior; and 61-65% of the variance in Anxious/Depressed syndrome scores. These were thus large genetic effects on these syndromes. However, there were also moderate environmental effects, ranging from 23% of the variance in the Aggressive Behavior syndrome scores for boys to 40% of the variance in the Attention Problems syndrome scores for girls.
Van, Matthys, Cohen-Kettenis, Butelaar and Van England (2000) tested the children (8-12 yrs) with disruptive behavior disorders (DBD), attention problems, delinquent behaviors, aggressive behaviors and externalizing scores in the clinical range and teacher rating form aggressive behavior. They found their externalizing scores in borderline range.

Biederman, Mick, Farone and Burback (2001) stated that emotional and behavioral problems caused due to direct or severe forms of psychological treatment may manifest in the form of earning disorder in childhood (e.g. lying, depression, aggression & psychological distress in adulthood.

Elisabeth (2001) stated that the emotional intelligence was hypothesized to be a factor in successful life adjustment; among them the successful achievement of a well balanced life with little interference between work, family and leisure. Emotional intelligence was positively related to salary both for men and women, and at different levels of educational achievement.

Ghose (2001) in relation to test anxiety stated that Test anxiety is associated with mental symptoms of unwarranted and irrational thoughts along with the behavioral signs of loss of concentration, despair, and feeling of panic which is a reflection of performance anxiety.

Hegde (2001) while stating on the effect of present examination system on the student's mental state stated that examinations fill one with fear, anxiety, uncertainty, depression and dejection after failure, and pride after a good rank.

Mesman and Hans (2001) in a longitudinal study of a general population with a sample of 332 children, found that
when preschool child characteristics (i.e., internalizing and externalizing problems and physical health problems) are accounted for, most environmental factors (i.e. harsh parenting, negative maternal attitude, family psychopathology, maternal absence, low SES) independently contribute to the prediction of preadolescent psychopathology”.

National Crime Record Bureau (2001) reported that even when anxiety becomes overbearing it drowns students into thrones of depression and the suicidal urge creeps in. As reported, failure in examination had been an important cause of suicide, accounting for 2.7 percent in 1997, 2.2 percent in 1998 and 2.1 percent in 1999 of the total cases of suicide reported across the country.

Grover (2002) examined relationship between perceived school climate and mental health of XII grade students. He found that intimacy, acceptance, creative stimulation, supporting and expressive environment, cognitive encouragement, involvement, discipline, identity, physical environment, psycho-emotional environment and overall school climate were positively related to mental health.

Mathur and Sharma (2002) studied emotional competence in adolescents and found that family climate effect emotional competence among boys and girls. Emotional competence was found higher in girls than in boys.

Patnam and Jayarajarani (2002) studied emotional maturity of Indian adolescents and found them unstable in all five aspects of emotionality Emotional instability, Emotional regression, Social maladjustment, Personality disintegration and Lack of independence.
Sabapathy (2002) held that negative factors can manifest as mental disorder or mental symptoms (anxiety, depression, and obsession) or even negative states (anger, hostility, dissatisfaction, jealousy, irritability, fear, prejudice, inferiority feeling, loneliness, hatred, anxiety and depression). Positive mental health could manifest as general mood of well being, self confidence, competence, achievement, ego strength, security and adjustment.

Sabapathy (2002) also studied mental health of XI standard students in relation to their parental behavior. Significant and positive correlation-ship was observed between all the sub-components and the total scores of mental health of the students and their parental behavior. He found that students from private aided and unaided schools had better mental health than students from government schools.

Sindhu and Shukla (2002) studied 10-15 years old boys and found them suffering from behavioral problems of internalization and externalization.

A study was conducted selecting a study sample from two schools from Delhi. Behavior rating of 289 students studying in class VI, VII and VIII was done on Rutter's Scale B₂. Prevalence rate of behavioral problems was noted to be 39% in the studied sample based on teacher's rating (Srivastava, Khan, Srivastava and Singh, 2003).

According to National Survey at least 20 % of teenagers were likely to be depressed and a government working group report says 40 % admit to severe anxiety. The studies revealed that one third of teenagers have imbibed alcohol and addictive substances. It is beginning to acknowledge that adolescents have
specific needs that require special care. So adolescents’ clinics have sprung up across the country from Delhi to Mumbai and Chandigarh to Thiruvananthapuram. In Chennai experts found that at least five adolescent patients were visiting the Apollo Hospital everyday with disorders ranging from obesity to anorexia. Teen suicide rates have trebled in the past 25 yrs due to academic pressure, lack of family support. (Ganguly, India Today, August 4, 2003).

In a project report released by Indian Council of Medical Research (2004) on 'Urban mental health' it was found that there are about 10% of people in our country who are suffering from mental ill health. 92% do not get themselves examined due to lack of knowledge. Only 8% come for treatment. 38% do not undergo treatment as they think they would lose social image. 22% cannot undergo treatment due to financial constraint. This shows the increasing population of mental ill health year after year.

Collins (2004) has stated that emotional energy is the main motivating force in social life, for love and hatred, investing, working or consuming, rendering cult or waging war. Emotional energy ranges from the highest heights of enthusiasm, self confidence and initiative to the deepest depth of apathy, depression and retreat.

2.2 STUDIES RELATED TO YOGIC PRACTICES

During the period of later Upanishads and Yoga-Samhitas, it was duly emphasized that the practice of yogic postures and yogic breathing were able to alleviate physical, mental and ethical disorders (Yoga Chudamani Upnishad, Hath Pradeepika and Yoga Vashistha).
Sharma, Prohit and Tyagi (1980) studied effects of Yogâsana on learning. It was an experiment on primary students. The objective of the study was to study the effect of Yogâsana on learning. The study was delimited to area, class, and subject consent and Yogâsana point of view. 2 x 2 factorial designs were followed. The study was conducted on a sample of 120 primary pupils. Results revealed that Yogâsanas can be used for effective learning.

Sahu and Bhole (1983) studied effect of three weeks yogic training Programme on psychomotor performance. The study was conducted on 10 male subjects of teacher training certificate course from Lonawala (Pune). The findings of the study revealed that yogic training programme was found to increase performances involving speed and accuracy.

Srinivasan (1983) studied on "Yoga and biofeedback: A comparison". Alpha enhancements in EEC, skin temperature control of visceral functions have been reported through instrumental learning procedure. Yogic practices such as Shavasana and meditation reduced sympathetic tone through precise control over the autonomic activity.

Norton and Johnson (1983); DeLuca and Holborn (1984) have demonstrated the comparative efficacy of different types of muscle relaxation therapies (taped instructions or applied relaxations) in different types of anxiety of both cognitive and somatic type such as snake phobia, nail biting, hair pulling, panic attacks as well as general anxiety.

Butler (1986) practiced yoga with teenagers in Westside high school, USA. His finding revealed that in addition to the
emotional stresses of school work, family conflict or dating troubles, high school students also must cope with the physical stress of sitting for most of the day, which can strain the back and abdominal muscles.

Sharma and Singh (1987) revealed the effects of transcendental meditation (TM) on the component and composite measures of verbal creativity. 120 VI grade male students, 60 for the control and 60 for the TM group, were used as subjects. The two groups were given the experience of meditation practice for 90 days. Mehandi’s Verbal test of creativity thinking VTCT was administered four times to both the groups. Once before the TM technique was introduced (to the experimental group). The results revealed that the TM practice improved positive change in self improvement and in turn better performance on component as well as composite measures of creativity.

Vicente (1987) studied the role of “Yoga Therapy on Anxiety, Neurosis and Depression” on 284 patients. Yogic therapy was carried out for 2-2 hour every week for one year. As a result revealed that 42% patients showed very good improvement, 52% showed good response and it was found that Shavasana is very useful for anxiety and depression.

Vishal, Singh and Madhu (1987) studied the effect of yogic practices on certain psychological parameters revealed that yoga contributed positive and significant change for the short term memory and also observed a mark decrease in anxiety and feeling of insecurity among 20 male participants.

Crisan, Nagarathna, Nagendra, and Seethalakshmi (1988) observed reduction in scores on Max Hamilton's ‘anxiety’
scale, general health questionnaire, heart rate, urinary level of VMA and a rise in galvanic skin resistance in 19 patients with generalized anxiety neurosis after eight weeks of Pranayama practice.

**Barnes and Nagarkar (1989)** studied the effect of yoga on scholastic aptitude and intelligence on 40 students of VIII class of Mumbai. After 4 month yoga training given to them 3 hours daily at yoga institute found a positive effect on both scholastic aptitude and intelligence.

**Prabhakar, Chopra, and Verma (1989)** evaluated effect of yoga therapy comprising of Kriyas (Internal cleaning processes), Asana (postural patterns) and Pranayama (Breath control) given over 4-6 weeks to a group of 47 patients suffering from psychogenic headache. Evaluations conducted over a year showed that yoga therapy resulted in a significant improvement in severity of headache. Evaluation of psychological functions showed a significant reduction in depression, neuroticism, psychiatric disability (personal, social, vocational) and both state as well as trait anxiety.

**Sahasi, Mohan and Kacker (1989)** studied the effectiveness of Yogic techniques in the management of anxiety. A sample of 91 patients of anxiety neurosis was taken. 38 put on yoga therapy and 53 on drug therapy. The results showed improvement rates of 76.7% in the yogic group and 50% in the drug group.

**Sharma and Singh (1989)** in a study of treatment of neurotic illness by yogie techniques observed that yoga is a broad class of practices of which transcendental meditation (TM) is an example. Beneficial effects of yoga and T.M. in neurotic and
psychosomatic disorders have been reported. The paper presents the existing literature and evaluates the current status of yoga as a treatment modality for neurotic illness. Yoga therapy is recommended for wide use.

**Grover, S. Verma and V. Verma (1990)** reported a significant improvement in a group of 20 chronic neurotic patients with mean duration of illness 6-11 years after 4-6 weeks of yoga therapy.

**Vinod (1991)** concluded that the yogic practices like meditation, *Yogāsana* and relaxation can reduce anxiety level by about 28%.

**Nespor (1992)** with his twelve years of experience with yoga in psychiatry emphasized the usefulness of yoga in the prevention of stress, drug addiction and some other health problems.

**Kumar, P. Kaur and S. Kaur (1993)** examined the effectiveness of ‘*Shavasana*’ as a therapeutic technique on depression among university students for a period of one month and it was found a positive effect i.e. depression level of university students was decrease to a large extent.

**Telles, Hanumanthaiah, Nagaratna and Nagendra (1993)** in a study observed that both school children and university students showed an improvement in their performance in a test of static motor performance following ten days of yoga program. This test reflects an improvement in the ability to focus attention and to concentrate and an improvement in eye-hand concentration.
Panwar, Asnani and Selvamurthy (1994) studied the effects of yogic exercises on mental functions at high altitude acclimatization. The objective of the study was to find out whether practice of yogic exercises prior to attitude induction as well as during stay at high altitude (HA) will be useful in improving the health and operational efficiency of individuals at high altitude. The study was conducted on 30 individuals divided into 3 groups. Group I: practiced the routine physical exercise of P.T. Programme; Group II: performed selected Hatha Yogic Exercises (Asanas and Pranayama); and Group III: was to perform endurance type of physical training. These 3 types of exercise schedules were administered regularly for one hour daily for a period of one month on the plains before the subjects were taken to high altitude. The subjects continued to perform these 3 types of exercises regularly - during two months stay at high altitude. Psychological variables like choice reaction time, eye-hand coordination, test of simple decision making, vigilance and two tests related to personality problems were administered at the commencement of the study; after one month training in 3 exercise regime at plains as well as periodically during stay at high altitude and on return to sea-level again. The result of the study shows that yoga helped in maintaining reaction time, motor coordination and better vigilance activities in comparison to other control and PT groups.

Miller, Fletcher, Kabat and Zinn (1995) observed a three year follow up of clinical implications of a mindfulness meditation based on stress reduction intervention in the treatment of anxiety disorders. The immediate effects of relaxation therapy (RT) were assessed in hospitalized children and adolescents with
diagnoses of adjustment disorder and depression. These effects were assessed using a subjects pre-test/post-test design and by comparison with a control group of 20 depressed and adjustment disorder patients who watched a one hour relaxation videotape. The one hour relaxation videotape class consisted of yoga exercise, a brief massage and progressive muscle relaxation. Decreases were noted in both self-reported anxiety and in anxious behavior and fidgeting as well as increases in positive affect in the relaxation technique but not the video group. In addition, adjustment disorder patients and a third of the depressed patients showed decreases in cortisol levels following relaxation technique, while no changes were noted in the video group. Thus, both diagnostic groups appeared to benefit. Relaxation therapy reduces anxiety in child and adolescent psychiatric patients were observed.

Khalsa and Beckett (1996) tried the efficacy of a specific yoga breathing pattern in eight subjects with obsessive-compulsive disorder and found significant improvement on OCD, as measured by anxiety and global severity indices.

Verma (1996) on trial of one of the techniques of Yoga on subjects found that the yoga is useful in the treatment of anxiety status and reactive depression.

Vijayalaxmi and Aminabhavi (1996) conducted a study to know about the impact of yoga on attitudes and mental health of adults. The results revealed that subjects developed significantly positive attitudes towards yoga and significant improvement in mental health after attending yoga.
Naveen, Nagarathana, Nagendra and Telles (1997) in another study found that school children between the ages of 10 to 17 years showed significant improvement in their scores in a right cerebral hemisphere-specific memory task. In this study 135 school children were categorized into 5 groups (with 27 children in each group). Four of the groups practiced different and specific yoga breathing techniques, while the fifth group was a 'non-yoga group. All the five groups were assessed at the beginning and end of the 10 day experimental period using two tests, one for verbal memory scores and the other for spatial memory. In both the yoga and the non- yoga groups the scores in the verbal memory tasks remained unchanged. However the four 'yoga' groups showed an 84% increase in spatial memory scores. The results suggesting that the right hemisphere specific spatial memory function improved significantly following yoga, irrespective of the specific yoga technique practiced.

Telles, Narendra, Raghuraj, Nagrathana and Nagendra, (1997) studied the effect of yogic practices on socially maladjusted adolescent girls who were under legal custody in a state of 'remand' home for committing minor offences. When a randomly selected sample of these participants were randomly assigned to yoga and physical activity programmes for a six month period, it was found, at the end of the period that the yoga group had lower mental stress levels and were better adapted to various perceptual and motor skill tasks, suggesting that they were better equipped to receive vocational training.

Suwanna (1998) conducted the study on Effect of neo-humanist based Asanas and meditation practices on aggressive behavior of students. The sample comprised 30 Mathayom Suksa,
3 students of “Ban Na In school Uttradit Province”, who enrolled during the second semester of 1997 academic year. The sample was drawn by using simple random sampling method and pairing the experiment group of 15 students with their counterparts in the control group. The experiment group practiced nineteen consecutive 40-60 minutes-long sessions of Asanas and meditation program in 4 week period. The instruments used in this research were: (1) aggressive behavior test (2) Asana and meditation practice program based on Neo-Humanism, (3) practice evaluation form. Statistics used to analyze the collected data included mean, standard deviation and t-test. The findings were as follows:-

1. After the experiment, aggressive behavior of students decreased at 0.01 levels of significance.

2. Students who had practiced asana and meditation had lower aggressive behavior than students who did not practice at 0.05 levels of significance.

**Malathi, Damodaran, Shah, Patil and Marathe (1999)** studied the practice of yoga in achieving self actualization. In order to test this hypothesis 48 health volunteers were given 4 months yoga practice. They were assessed on 'Personal Orientation Inventory', an inventory for to measure self actualization. At the end of four months, a significant increase was observed in the mean percentile on both basic scales viz. Time Competence and Inner Directedness, as well as in the mean percentile of the 7 out of 10 sub scales which highlights positive progress towards self actualization.
Manjunath and Telles (1999) stated that another complex function which improved after following yoga was visual perception. Children aged between 12 and 17 years were studied as two groups, yoga and non-yoga (control), using two tests for visual perception viz., the critical flicker fusion frequency (CCF) and a test for optical illusion. After practicing Yogāsanas, Pranayamas, Kriyas, Meditation and Bhajans along with specially designed games. On experimental group, it was found that there was a significant increase in CCF (92%) and decrease in degree of illusion (24.89% for its trails and 31.05% out of trails), while the control group showed no change. It suggested that younger subjects can show better improvement in performance in a relatively short duration as compared to previous reports.

Manjunath and Telles (2001) undertook a study. In the study school girls from a residential school, between the ages of 10 and 13 years were randomized as two groups, yoga and physical training. The students practiced their respective techniques for one hour fifteen minutes per day, for the whole week, for a month test period. Both groups were assessed using a specific test for planning. Planning is one of the more highly evolved' cortical functions, which is a characteristic of the frontal lobe. The yoga group showed a significant improvement in their performance in the task specific for the assessment of planning (i.e. The Tower of London Test) especially with respect to a decrease in execution time, suggesting improved alertness and planning strategies.
Mridula and Sinha (2001) studied the effect of yogic practices on depression and anxiety on 25 adults (12 male and 10 female) in the age range of 22 to 70 years suffering from gastrointestinal problems and also hyper anxiety and depression. Tools: For anxiety-State trait anxiety inventory (STAI) by Spiel Berger (1970) and for depression Depression scales of symptomatic check list (SCL) by R.L. Derogatis (1981). Method practiced: Yogic practices of Asana, Pranayama, Mudra, Pratyahara, Dharana and Dhyana for 15 days. Results: Remarkable reduction in levels of both anxiety and depression.

Sabapathy, Sabapathy and Kaur (2002) in a study explored the effect of a composite therapeutic package, i.e., medical treatment and therapies used in clinical setting (counseling, CBT and RT) along with traditional Indian psychological methods, like Pranayama and Sudershan Kriya, to foster better mental health with a view to alleviate negative emotions, enhance academic performance and overall personality development. Findings indicated Pranayama, Sudershan Kriya and other yogic methods having a positive impact on the behaviour of the subjects suffering from depression and anxiety and showed a synergistic effect.

Singh and Prasad (2002) studied the effect of yogic meditation on hypersensitive patients for seven days with each control group and experimental group having 10 patients. Specific Vihangam Yoga meditation practices were used. The results showed a marked improvement in the experimental group.

Singh (2002) conducted study on the impact of one-year yoga on emotional maturity and level of anxiety on Hindu male
graduates from 17 to 19 yrs of age of Aligarh city. The study indicated that mean scores of experimental group was lower to control group in all areas of emotional maturity scale, viz. emotional strain, emotional depression, social distance, personality disorder and lack of ascendancy. In the level of anxiety the mean score of experimental group was lower than experimental group and all these mean differences were significant at 0.01 level of significance.

Vempati and Telles (2002) studied the effect of Shavasana on physiological arousal and stress, and it was found that Shavasana has been found to reduce physiological arousal and to be effective in helping practitioners to cope with stress manifestations.

Balasubramaniam (2003) in his article 'The Resonance of Mind' revealed that the collaboration between scientists and monks which has given insights into the study of Emotions. It has been stated through Functional magnetic resolution imaging' that monks attain the called "virtuous states" through meditation.

Barnes, Vernon, Lynnette, Buaza and Frank (2003) determined the effect of stress reduction via the Transcendental Meditation programme on school rule infractions in adolescents. Method: forty five African American adolescents (ages 15-18 years) with high normal systolic blood pressure (n=25) randomly assigned to either Transcendental Meditation (n=25) or health education control (n=20) groups. The meditation group engaged in 15 min. session’s t home and at school each day for 4 months. The control group was presented 15 min sessions of health education at school each day for 4 months. Primary outcome measures were changes in absenteeism, school rule infractions and suspension day during the four-month pretest period prior to
randomization compared with the four-month intervention period. Comparing the pretest and intervention periods, the meditation group exhibited a mean decrease of 6.4 absentee periods compared to an increase of 4.8 in the control group (p<0.05). The meditation group exhibited a mean decrease of 0.1 infractions over the four months compared to an increase of 0.3 in the control group (p<0.03). There was a mean reduction of 0.3 suspension days due to behavior related problems in the meditation group compared to an increase of 1.2 in the control group (p<0.04).

These findings demonstrate that the Transcendental Meditation program conducted in the school setting has a beneficial impact upon absenteeism, rule infractions and suspension rates in African American adolescents.

**Baker (2004)** found that Black adolescents at risk to be hypertensive adults can lower their blood pressure through daily transcendental meditation.

**Gordan, Staples, Blyta and Bytyqi (2004)** examined whether the practice of mind-body techniques decreases symptoms of post-traumatic stress in adolescents. Posttraumatic stress Reaction Index questionnaires were collected from 139 high school students in Kosovo who participated in a 6 week program that included meditation, biofeedback, drawing, autogenic training, guided imagery, genograms, movements, programme were held approximately 2 months apart. There was no control group. Post-traumatic stress scores significantly decreased after participation in the programmes. These scores remained decreased in the 2 groups that participated in the follow-up study when compared to pretest measures. These data
indicate that mind-body skills groups were effective in reducing posttraumatic stress symptoms in war traumatized high school students.

Srivastava and Sharma (2004) studied on 'The efficacy of yogic intervention techniques for academic stress among adolescent students of class XI and XII, found a significant decrease in the academic stress of the experimental group as compared with the control group. This clearly lays down the positive role of yoga in lowering down academic stress.

Swami Shirshnanda (2004) observed on a population of 25 students of Gurukul between 10-15 yrs of age. It was found that continuous meditation for about 20-25 minutes for a period of two months, the students showed better results in shlokas remembrance and recall.

Constantine (2005) practiced meditation with school students and found that meditation reduces stress and that the school system is very enlightened by allowing its students to learn meditation and yoga.

Fontaine (2005) practiced yoga in different school of USA and found that yoga helps to allow the children to collect their thoughts and tune them.

Jadhav and Havalappanavar (2008) studied the effect of yoga intervention on anxiety and subjective well-being. It was found that there was a significant decrease in both state and trait anxiety levels and positive change in the subjective wellbeing of the students.

On studying “Breakfast Eating Habit and its Influence on Attention-Concentration, Immediate Memory”, on 379 urban 11
to 13 years old school children studying in 6th, 7th, and 8th grade. It was found that regular habit of eating breakfast as opposed to irregular consumption or skipping breakfast altogether had beneficial influence on attention-concentration, memory, and school achievement (Gajre, Fernandez, Balakrishna and Vazir, 2008).

Bakshi and Kumari (2009) studied the effect of practicing yoga on subjective well being and academic performance among male and female adolescent age group 14-15 years of Jammu city. The sample comprised of 100 adolescents, 50 girls and 50 boys in two groups i.e. experimental group and control group of Govt. schools of Jammu city. The obtained results revealed that yoga has significantly affected the subjective wellbeing and also contributed towards enhancement of academic performance of the adolescents, irrespective of their gender differences.

Kauts and Sharma (2009) studied the effect of yoga on academic performance in relation to stress on 800 adolescent students; 159 high-stress students and 142 low-stress students were selected on the basis of scores obtained through Stress Battery. Experimental group and control group were given pre-test in three subjects i.e. mathematics, Science and social studies. A yoga module consisting of Yogasanas, Pranayama, meditation and a value oriented programme was administered on experimental group for 7 weeks and it was found that students, who practiced yoga performed better in academics. The study further shows that low-stress students performed better than high stress students, meaning thereby the stress affected students’ performance.
Gopal, Mandal, Gandhi, Arora and Bhattacharya (2011) studied the effect of integrated yoga practices on immune responses in examination stress on 60 MBBS students randomly assigned to yoga group and control group (30 each). The yoga group underwent integrated yoga practices for 35 minutes daily in the presence of trained yoga teacher for 12 weeks. Control group did not undergo yogic practice or stress management; Physiological parameters like heart rate, and blood pressure were measured. In yoga group, no significant difference was observed in physiological parameters during the examination stress, whereas in the control group, a significant increase was observed. Likewise, the indicators of psychological stress showed highly significant difference in control group as compared with significance difference in yoga group. During the examination, the increase in serum cortisol and decrease in serum IFN-Y in yoga group was less significant (P<0.01) than in the control group (P<0.01). Both the groups demonstrated an increase in serum EL-4 levels, the changes being insignificant of the duration of the study.

2.3 CONCLUSION

The literature has undoubtedly revealed two important observable facts. Firstly, there has been a wide spread of increase in cases relating to mental ill health like stress, anxiety, emotional imbalance, etc among the adolescents, students and general population, which has resulted to various kinds of psychological disorders, unrest, suicidal cases and ineffective coping tendencies. Secondly, it has established that yogic practices have an edge in improving, lowering-down and curing such ill health, mental states, emotional states and other
psychosomatic imbalances. But no study has been conducted on the “Effect of Yogic Practices on Emotional States, Concentration and Academic Achievement of Senior Secondary School Students”. The fact brought to light through this review has strengthened the very purpose for which the present study was initiated.