CHAPTER – V
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Yoga is a very ancient discipline. It is recognized as one of the most important and valuable heritages of India. Today, the whole world depends on yoga for the answer to various problems that modern man is facing. At one time in the past yoga had attracted very much attention of people in many places in the world.

The history of human being witnessed the fact that as long as man was busy in his day to day routine work in the absence of modern means of life, he did not have the problems being faced by the today’s man. The development in the field of technology has provided numerous comforts to the modern man as compared to the ancient one. There is an increased efficiency in the work and also increase in leisure hours. Remarkable increase in the production in the industrial as well as farming output, drastic changes in the communication system have taken place, much improved transport system is available. Unbelievable progress and development in the war gadgets, the advancement in the field of medicine and surgery have made possible for the nations to fight with dangerous diseases causing pro-longevity in life and reducing the death rate etc. On the other hand all these advancements have made man most inactive and lethargic, creating problems of obesity and over weight, decrease in immunity, life relying on drugs and so on. The problem of obesity and over weight alone is the root cause of many physical problems of human beings. However, the problem of obesity is not the byproduct of only one specific factor. There are many contributing factors, for example physical inactivity, comfortable life style, dietary habits, genetics, social and psychological attitude towards life and so on. In a nutshell, all these factors have contributed a lot to make man physically weak and responsible to attract diseases.

The natural course of life in terms of physical activity is affected by biological aging along with sociological constraints. If an active life style is to be continued in the later years, and a relatively high level of physical and physiological functioning is to be retained as compared to the physically inactive one has to do some physical
activity. As a result of continuous physical activity, one can be engaged in various activities safely and successfully.

Yogasana is a fundamental part of Hindu philosophy of life. It is a part of Raja Yoga which deals with psychological aspect of health independent of any religious adherence. When asana and pranayama are related to Hatho Yoga, they aim at physical health and longevity of life, i.e. psychosomatic aspects of health only. And as such Yogasana has a bearing on the functional disorders such as asthama, diabetes, insomnia, hypertension etc. That is to say, its aims at restructuring the disordered health to its normal status. It lays emphasis more on the prevention of any kind of ailments, than on a treatment of diseases and chiefly aims at stopping of the appearance of old age symptoms, or retardation of genetic diseases if these happen to set in earlier in human body. Modern medical science has yet to do little in this respect. However what it has done upto now is wonderful no doubt, but it is quite a therapy based on substitution technology which is beyond the reach of men. So women with moderate means of livelihood are at their disposal. Yoga aims to remove the root cause of all diseases, does not treat their symptoms as medical science generally attempts to do. Following the review of literature, it was quite evident that lot of lectures and discussions were held on subjects like diet and effect of Yoga exercises on human body and mind and conditions pertaining to development and treatment of asthama. It was hoped that many of these patients would get complete cure or at least a marked improvement if they followed this treatment sincerely and regularly for at least two or three years.

Today in modern society Yogic practices have become popular throughout the world. Inspite of that, there are great many misconceptions about these practices due to the lack of scientific information. Today Yogic practices are generally looked upon as pharmaceutical exercises and many a time interpreted in the light of exercise physiology. The physiology needs the basic understanding of the concept of Yoga and its relation with the techniques. The nature of every yogic practice is psychological and if this conceptual background is not clearly understood, the whole outlook towards yogic practices will be distorted. The rational yogic practices in terms of anatomy and physiology would remove many misconceptions. Yoga has become
popular all over the world because of its great potentiality in promoting and maintaining the physical as well as mental and moreover in the treatment of psychosomatic diseases, apart from its spiritual objectives. Yoga is being taught at various Yoga institutes and Universities as philosophy and also as a practical science. Various Yoga courses are being conducted by these organizations so as to prepare authorized yoga teachers and therapists. Modern life style suffers from ‘stress’. If one is properly integrated and balanced on physical and mental level, one will not be able to get on with the ‘stress’. The result is restlessness and conflict in the mind and disharmony in all the functions. Anxiety, depression, anger, worries can easily disturb the mind which leads to various psycho-somatic disorders. It has been observed that the hatha yogic practices help to promote a healthy state of body and mind which establishes a harmony amongst all the body functions. One feels relaxed and enthusiastic due to these practices. One is so balanced on all aspects of personality that he hardly feels any stress. Yoga has become popular mostly because of its potentialities to tranquillize the mind which is the main key in the management of stress disorders.

Yogic procedures maintain normal body functions. They affect higher functions of the Central Nervous System (C. N. S) like perception, planning, exertion of tasks, learning and memory. Yoga with breath control techniques increases the cerebral blood flow. Meditation or Dhyana trains the mind to concentrate on an inner or outer object, channelises the thoughts in an attempt to get beyond mental distractions. It improves coherence between the two cerebral hemispheres signifying synchronization of logical and intuitive function. It increases alertness, along with relaxation. Alertness decreases the reaction time of the brain. Twelve weeks of yoga is known to decrease the visual and auditory reaction times. Pranayama alone and Mukh bhastrika have shown similar effects.

Yoga is not restricted to any particular age group. It is therapeutic for patients but it is also practiced by normal individuals to stay physically fit. A study on reporting increased physical fitness in school children practicing yoga has been reported. It is thus advisable to start early. Yoga also slows down ageing as shown by a decrease in the reduction of baroreflex sensitivity with age in subjects who were
practicing yoga for five years. Yogic asanas are isometric exercises that involve a coordinated action of synergic and antagonist muscles in bringing about steadiness, flexibility and accuracy of movement.

The benefits of yoga are accompanied by biochemical changes. After three months of yoga, a significant increase in the level of creatinine phosphokinase and decrease in pyruvate to lactate ratio indicating increased muscular activity with anaerobic metabolism was noted. A decrease in lactate, catecholamine, dopamine beta hydroxylase, cholinesterase, monoamine oxidase, and cholesterol has been reported. A similar reduction in blood glucose, cholesterol, dopamine beta hydroxylase, monoamine oxidase, and increase in urinary ketosteroids has been reported in sports teachers after three months of training.

The cardiovascular system is controlled by the ANS. Yogic procedures differentially affect the ANS. Those that decrease the sympathetic activity are useful in controlling the diastolic blood pressure in mild to moderate hypertensives. Improvement in risk factors may benefit patients of coronary artery disease. Some of the asanas routinely recommended for improvement in cardiovascular function include Halasana, Paschimottanasana, Virasana, Siddhasana, Shavasana and nadi shodana pranayama (without breath holding). Yoga accompanied by breath control increases cardiac output, decreases the hepatic, renal blood flow and increases cerebral blood flow in the peripheral vessels. Yoga is also associated with a decrease in the heart rate and diastolic blood pressure (BP). Heart rate alterations in various types of pranayama and in single thought and thoughtless states have been described. Heart rate increases in Siddhasana and Virasana are likely due to increased metabolism.

Yogasanas have often been thought of as a form of exercise. They are not exercises, but techniques which place the physical body in positions that cultivate awareness, relaxation, concentration and meditation. Part of this process is the development of good physical health by stretching, massaging and stimulting the pranic channels and internal organs, so asana is complementary to exercise. Before the difference between the two can be understood, it is necessary to know that exercise imposes a beneficial stress on the body. Without it the muscles waste, the bones
become weak, the capacity to absorb oxygen decreases, insulin insensitivity can occur, and the ability to meet the physical demands of sudden activity is lost.

The mind and body are not separate entities, although there is a tendency to think and act as though they are. The gross form of the mind is the body and the subtle form of the body is the mind. The practice of asana integrates and harmonizes the two. Both the body and the mind harbour tensions or knots. Every mental knot has a corresponding physical, muscular knot and vice versa.

The aim of assana is to release these knots. Asanas release mental tensions by dealing with them on the physical level, acting somato-psychically, through the body to the mind.

On the basis of available research and findings it appears that if a planned yogic programme is given for 24 weeks, there will be improvement in physiological condition, motor ability variables and psychological parameters. The purpose of the present study was (a) to observe the influence of yogic training programme on physiological condition of middle aged male, (b) to observe the influence of Yogic Training Programme on Motor ability variables of the middle aged male, (c) to observe the effect of psychological parameters by the practice of Yogic Training Programme.

Details of related literatures, as far as the researcher was able to collect, have been reviewed extensively and are presented in Chapter–II of this thesis.

The subjects for the present study were 60 middle aged male of age between 45 to 55 years of Kandi, District Murshidabad, West Bengal. There were two groups viz. (a) experimental and (b) control group. To observe the effect of a planned yogic training programme on experimental group the physiological potentiality, motor ability and psychological parameters were considered as criteria.

The data on selected physiological parameters (heart-rate at resting condition, resting blood pressure (systolic and diastolic), blood sugar, blood cholesterol, body fat%), motor ability variables (static balance, trunk flexibility, hand grip strength, hand eye coordination) and Psychological parameters (anxiety – state and trait, anger – state and trait, depression) were collected twice, once before the onset of a planned yogic training programme of 24 weeks and once after the completion of yogic training programme for experimental group.
Experimental group of middle aged male underwent the common yogic training programme consisting of Suryanamaskara, selected Asanas, Kriya and Pranayamas for 30–80 minutes for alternative day of a week, of different sets and repetitions according to the suitability of particular age group for 24 weeks. The details of training schedule were depicted in Chapter – III in this thesis. The data were collected from various standard tests at two states; before onset of yogic training and after 24 weeks of training.

The data on the selected physiological Parameters, motor ability variables and psychological parameters were analyzed between pre-test and post-test. For comparison between two paired means t-test was computed. Results were discussed and analyzed under headings (i) Physiological Parameter, (ii) Motor ability, (iii) Psychological parameters.

The statistical result shows that the physiological parameters, i.e. resting heart-rate, resting blood pressure (systolic and diastolic), blood sugar level, blood cholesterol and body fat percentage, decreased significantly for experimental group following 24 weeks yogic training programme.

The statistical result reveals that the motor ability variables i.e. static balance and trunk flexibility increased significantly but there was no significant change in hand grip strength and hand eye coordination of experimental group.

Further the statistical result indicates that the psychological parameters viz. anger (State and Trait), anxiety (State and Trait) and depression decreased significantly in experimental group following planned 24 weeks Yogic Training Programme.

5.2 Conclusions

The findings related to physiological conditions, motor ability variables and psychological parameters are discussed in detail in the Chapter – IV of the present study. However, considering the limitations of the present study and on the basis of the findings, the following specific conclusions may be drawn.
5.2.1 Physiological Parameter :

i) Resting Heart Rate :

It reduces significantly for experimental group of middle aged male following 24 weeks of planned Yogic Training Programme.

ii) Resting Blood Pressure (Systolic and Diastolic) :

Following planned Yogic training programme of 24 weeks the experimental group of middle aged male shows significant decrease in systolic and diastolic blood pressure at rest.

iii) Blood Sugar (P. P.) :

Significant reduction in blood sugar for experimental group of middle aged male has been observed following 24 weeks of Yogic Training Programme.

iv) Blood Cholesterol :

There is a significant reduction in the blood cholesterol level for experimental group of middle aged male after 24 weeks of Yogic Training Programme.

v) Body Fat Percentage :

The experimental group of middle aged male shows significant reduction following 24 weeks of Yogic Training Programme.

5.2.2 Motor Ability Variables :

i) Static Balance :

In static balance test, experimental group of middle aged male shows significant improvement following 24 weeks of Yogic Training Programme.

ii) Trunk Flexibility :

Trunk flexibility performance increases significantly for experimental group of middle aged male following 24 weeks of Yogic Training Programme.
iii) Hand Grip Strength:
The hand grip strength for experimental group of middle aged male shows no significant change following 24 weeks of Yogic Training Programme.

iv) Hand Eye Coordination:
Following 24 weeks of Yogic Training Programme, no significant change in hand eye coordination occurs in experimental group of middle aged male.

5.2.3 Psychological Parameters:
i) Anxiety (State and Trait):
There is significant decrement in anxiety (state and trait) in experimental group of middle aged male following 24 weeks of Yogic Training Programme.

ii) Anger (State and Trait):
The experimental group of middle aged male shows significant decrement in Anger (State and Trait) following 24 weeks of Yogic Training Programme.

iii) Depression:
The experimental group of middle aged male shows significant decrement in depression following 24 weeks of Yogic Training Programme.

Considering all the findings it can safely be concluded that Yogic training programme planned for the middle aged male was conducive to their health benefits.

5.3 Recommendations
1. Similar study may be conducted on different age groups, i.e. for children, for young people and for elderly aged above 55 years, on different sex, on different classes of people such as office workers, housewives and other inactive classes.
2. A few more physiological parameters such as respiratory variables may be measured by conducting similar study.
3. Further similar study may be conducted on subjects suffering from acute diabetic condition, cardiac ailments, hypertension etc.