CHAPTER – V

SUMMARY, CONCLUSIONS AND SUGGESTIONS

A healthy nation is constituted by its healthy citizens. Thus for Indian population who is badly prone to cardiovascular disorders particularly Hypertension, owing to stressful life and neck cutting professional competition, Yoga and dietary modifications are mandatory for their better survival, and stress free life style that will eventually lead to their more efficient performance on all the social, domestic, economical and professional aspects of life, thereby scaling India to the new heights of being a developed country.

During the past 25 years in India, the morbidity associated with hypertension has increased, mostly due to changes in the socioeconomic environment and the lifestyle of the Indian people as they have least time today for their fitness and health. But as said Prevention is always better than cure, time has come now to understand the effects of yoga and naturopathy as a firm treatment of this silent killer, and to incorporate these traditional treatment modalities in our existing medical system for the better treatment of hypertension in Indian population.

Moreover hypertension using modern medication is not curable. Modern medicines just reduce the blood pressure and keep it under control. However due to a number of side effects and contraindications of these drugs, rest of the affected population should be treated with Dietary measures, Alterations in life style, Meditations. Thus, Naturopathy and Yoga comes out to be a definite, affirmative and permanent Adjunctive Therapy in Control and treatment of this systemic hypertension disorder.

Yoga is an ancient art form that has its roots in meditation, breathing, and movement. It is a way of life. It is predominantly concerned with maintaining a state of equanimity at all costs. Yoga therapy is a relatively novel and emerging clinical discipline within the broad category of mind-body medicine, whose growth is consistent with the burgeoning popularity of yoga in the West and East and is increasing worldwide as an alternative medicine. A number of studies have been carried out to establish relation between yoga and cardiac wellness as well as to prove the scientific basis of yoga in maintaining a healthy and stress free life.
Barnes, Vernon A., Frank A. Treiber, and Harry Davis in 2001, conducted a study to find out the Impact of Transcendental Meditation on cardiovascular function at rest and during acute stress in adolescents with high blood pressure concluded that the Meditation program appears to have a beneficial impact upon Cardio Vascular functioning at rest and during acute laboratory stress in adolescents at-risk for hypertension.

Ades, et al in 2003, evaluated the value of resistance training on measures of physical performance in disabled older women with coronary heart disease and found that overall physical performance had been increased in controlled subjects after yogic training program.

Similarly study conducted by Dr S.C. Manchanda at AIIMS, New Delhi in 2005 conducted a research study, where a comprehensive lifestyle training programme including Yogic training and dietary modifications was used to treat patients who had an angiography done and had multiple blockages (over 70 per cent), it was found that all the risk factors showed a marked improvement. These patients moved towards normalcy by the end of one year. During the research it was also highlighted that the technique of Preksha meditation is beneficial in improving the symptoms and exercise capacity, [and in] lowering weight, serum lipid levels and Systolic blood pressure. It also retards the progression of coronary atherosclerosis in patients with severe coronary artery disease and reduces revascularisation.

Decker Weiss (2005), emphasized management of hypertension by natural measure and changes in dietary pattern. He suggested Dandelion leaf extract, lycopene, Stevia extract, olive leaf extract and hawthorn extract are scientifically and clinically studied natural ingredients that lower high blood pressure separately, and work even better when they’re combined.

Chih-Hsien et.al (2006) published a paper on The Role of the ‘Eubiotic’ Diet in Intestinal Dysbiosis and hypertension. The following report discusses how a naturopathic approach employing the Eubiotic diet is hypothesized to be the major intervention responsible for improving the patient’s hypertension.

A study, done by Ohio State University researchers in 2010 reported that Yoga lowers down an inflammatory protein that is normally linked to aging and stress.
Numerous health and fitness benefits have been documented for both Yogic asana training as well as naturopathic diet modifications. If new model of “Yoga and naturopathy for hypertension” is to be constructed it is clear from the result of the present study that new model needs to include yogic asana training and dietary modification instructions with increase of computers and communication technologies the lives of individuals are becoming more mechanical and thus need of yoga and naturopathy becomes more and more indispensible. The technological revolution and sedentary life style has given birth to various diseases that risk the human life and increasing the morbidity in developing countries, among which the most serious and alarming is HYPERTENSION, as it mostly goes undiagnosed, hence named as Silent Killer.

Keeping in view of the present findings the study is titled as “EFFECTS OF SELECTED YOGIC AND NATUROPATHIC PRACTICES ON SYSTEMIC HYPERTENSION”

The objectives of the present study were as follows:

1. To find out the effect of Yogic practices on systolic blood pressure.
2. To find out the effect of Yogic practices on diastolic blood pressure.
3. To find out the effect of Yogic practices on BMI.
4. To find out the effect of Yogic practices on heart rate.
5. To find out the effect of naturopathic practices on systolic blood pressure.
6. To find out the effect of naturopathic practices on diastolic blood pressure.
7. To find out the effect of naturopathic practices on BMI.
8. To find out the effect of naturopathic practices on heart rate.
CHAPTER V: Summary, Conclusions And Suggestions

HYPOTHESIS

1. It is hypothesized that there would be significant reduction in systolic blood pressure through Yogic practices.

2. It is hypothesized that there would be significant reduction in diastolic blood pressure through Yogic practices.

3. It is hypothesized that there would be significant reduction in BMI through Yogic practices.

4. It is hypothesized that there would be significant reduction in heart rate through Yogic practices.

5. It is hypothesized that there would be significant reduction in systolic blood pressure through naturopathic practices.

6. It is hypothesized that there would be significant reduction in diastolic blood pressure through naturopathic practices.

7. It is hypothesized that there would be significant reduction in BMI through naturopathic practices.

8. It is hypothesized that there would be significant reduction in heart rate through naturopathic practices.

SAMPLE

To achieve the effects of yogic asana and naturopathic dietary modifications on hypertension fourt five (45) hypertensive female patients between the age group of 40-65 yrs and not currently taking any anti-hypertensive medications were selected by purposive sampling from the Sarvodya Bhawan Jalandhar considering their willingness and feasibility to undergo the trial and their faith and positive attitude towards the Yoga and Naturopathy and were divided into three groups, One Control (15 subjects) and Two Experimental Groups (15 subjects each). The Experimental group was further sub-divided into two groups of 15 subjects in each group .Group I was given (Yoga Group) and Group II (Diet Modification group).
TOOLS OF DATA COLLECTION

The purpose of this study was to assess the effects of yoga and naturopathy on systemic hypertension on middle aged females. Keeping in view the research criteria of availability, suitability, reliability and validity, the following tools are used to collect the data.

The following were the criterion measures:

1. SYSTOLIC BLOOD PRESSURE
2. DIASTOLIC BLOOD PRESSURE
3. BMI
4. HEART RATE

TRAINING PROGRAM

The training program had been finalized after the pilot study. The duration, load and intensity were based on the results of pilot study. The whole training program was divided into two parts i.e. yogic asanas training and naturopathic dietary modifications. The Yogic session were conducted at a peaceful place where no distraction or disturbances occurred. Before starting the trial the existing blood pressure of the entire subject will be recorded on average basis for 7 days. The Yogic session were scheduled from 6.00 a.m. to 7.00 a.m. and 6.00 p.m. to 7.00 p.m. per day for six days for experimental group-I and dietary modification will be recommended to group-II and were motivated and asked for to follow the dietary recommendations strictly. Control group continued their own lifestyle and dietary habits as usual.

STATISTICAL PROCEDURE

The data obtained was compiled and tabulated variables wise. At the initial stage the values of means and standard deviations and t-ratios of the variables are computed to know the level of significance between pre-test and post-test mean scores of all the groups of middle-aged female patients sample.

Analysis of covariance (ANCOVA) was applied to know the significance of difference among various groups against each variable and where the difference were
found significant at .05 level of confidence, the Scheffe’s post hoc test was applied to know the direction of differences.

FINDINGS

The result of present study depicts that yogic group of middle aged hypertensive female subjects significantly improved all the selected cardiovascular variables namely systolic blood pressure, diastolic blood pressure, BMI, Heart rate. So it is clearly evident that all cardiovascular parameters namely, systemic blood pressure, peripheral resistance, cardiac efficiency and cardiac output have improved by practice of yogic asanas. Similar results have also been achieved in experimental group on dietary modification, thereby proving our hypothesis that yoga and naturopathy, plays an important role in controlling systemic hypertension.

From the result of pre and post test scores of yogic group it is clearly evident that yogic asanas group had improved significantly on all the variables, namely Systolic blood pressure, diastolic blood pressure, BMI and heart rate. The significant improvement on all the above variables shows that yogic asanas play an important role in improvement of cardiovascular parameters as well as of Hypertension.

From the result of pre and post test scores of dietary group it is clear that dietary group also had improved significantly on all the variables, namely Systolic blood pressure, diastolic blood pressure, BMI and heart rate. However on comparative analysis between yogic and dietary group it was found that though both the groups show remarkable improvement on all the four variables, but BMI in contrast to rest of the three variables, was improved more in dietary subjects at the end of the trial as compared to yogic group. As far as Systolic blood pressure is concerned, it showed maximum improvement in yoga group, where it decreases from a mean value of 167.19 at pre trial to 143.14 at post trial. Though it also reduced through dietary modification but the fall was less significant i.e. from 168.18 to 159.40 in 8 weeks, whereas control group showed a slight increase in mean systolic blood pressure. Diastolic pressure, in similar fashion, showed a marked reduction in yogic group by about 16% from 98.34 to 82.59 at pre and post test records respectively; where as in dietary group it shows a marginal reduction of 5.3%.
BMI on the other hand showed reverse results, as it shows a remarkable reduction by dietary modification, where its mean value decreases from 23.20 to 21.51 (7.2% fall) as compared to that from 29.69 to 29.54 (0.5% fall) by yoga. Heart rate on the other hand showed significant reduction of almost equal magnitude in both yogic as well as dietary group. Whereas its mean value dips from 84.78 at pre test to 73.59 at post test in yogic group, it plunges in similar fashion in dietary group from 80.12 to 83.11.

From the results of present study it is indicated that yogic asanas and naturopathic dietary modifications have statistically significant difference on all the selected variables, whereas very less significant difference have been found in controlled group.

**CONCLUSION**

From the results of present study it is concluded that that both yogic practices as well as dietary modifications produced a remarkable reduction in over all blood pressure, and BMI of hypertensive patients. Yoga practice is consistent with Indian cultural philosophy, and data analysis indicates that practicing asana and naturopathic diet for 8 weeks reduces stress, BP, BMI, and HR among persons in with mild to moderate hypertension. This is an important finding because hypertension increases morbidity and mortality in this group. Further studies should focus on severe hypertensive cases. Combining medicine and yoga or other nonpharmacologic therapies such as natural diet on the basis of the individual’s preference is indicated to reduce drug use and more appropriately control BP. It is suggested that future studies explore the use of yoga on other populations with stress-related health problems.

Finally, medical faculty in community health system in India should encourage patients with hypertension for healthy, natural, unprocessed and nutritious food articles. They should also motivate them to participate in yogic asana and pranayama programs, which can lower BP and reduce the need for medication. By educating their patients regarding the effects of yoga and naturopathy and explaining them how these practices can be beneficial, doctors and para medical staff can help patients actively participate in their healthcare.