CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY

Middle-aged adults often show visible signs of aging such as loss of skin, elasticity and graying of the hair. Physical fitness usually wanes, with a 5–10 kg (10-20 lb) accumulation of body fat, reduction in aerobic performance and a decrease in maximal heart rate. Strength and flexibility also decrease throughout middle age. In developed countries, early mortality begins to increase more noticeably from age 40 onwards, mainly due to age-related health problems such as heart disease. Physical activity is beneficial for health, but about half of all middle-aged men do not take part in regular physical activity.

The team of researchers found that middle-aged people who maintained a reasonable level of physical activity were less likely to become unable to walk distances, climb stairs, maintain their sense of balance, stand from a seated position with their arms folded, or sustain their hand grip as they get older. (Iain Lang, et.al. (2007). This research showed that, among men and women aged 50 to 69 years and across all weight ranges, the rate of decreased physical ability later in life was twice as high among those who were less physically active. Findings showed, regardless of weight, people who engaged in heavy housework or gardening, who played sport or who had a physically active job, were more likely to remain mobile later in life.

``A number of researches have also advocated walking or jogging as most desirable physical activity among middle aged men. In recent researches, yogic practices are very much considered as most suitable physical activity for middle aged men. The research interest of this study was that, which of these physical activities, whether, walking or jogging or yoga or combined one has more influence on middle aged men cardio respiratory and
psychological parameters. To facilitate the study hundred and fifty middle aged men from Perithalmanna, Malappuram district in Kerala state were randomly selected as subjects and their age was between 40 and 50 years. They were assigned into five groups of which the first group served as yogic practice group, second served as walking, group third group served as jogging group, the fourth group served as combined and fifth group served as the control group.

The requirements of the experimental procedures, testing as well as exercise schedules were explained to them so as to avoid any ambiguity of the effort required on their part and prior to the administration of the study, the investigator got the individual consent from each subject. Taking into consideration of feasibility criteria, availability of instruments and the relevance of the variables of the present study, the cardio respiratory variables selected were resting pulse rate and VO$_2$ max. The psychological variables selected were, anxiety, aggression and self confidence.

The study was formulated as a true random group design, consisting of a pre test and post test. The subjects were randomly assigned to five equal groups of thirty middle aged men each. The groups were assigned as Experimental Groups I, II, III, IV and control group respectively. Pre tests were conducted for all the subjects on selected cardio respiratory and psychological variables such as resting pulse rate, VO$_2$ max, anxiety, aggression and self confidence. Table XIV shows the variables selected, tests conducted and the units of measurements.

Table XIV

**Showing Variables Selected, Tests Conducted and the Unit of Measurements**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Variables</th>
<th>Tests Conducted</th>
<th>Unit of Measurement</th>
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<tr>
<td>1</td>
<td>Resting Pulse Rate</td>
<td>Palpation Method</td>
<td>Beats/p.min</td>
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<td>2</td>
<td>VO₂ Max</td>
<td>Cooper’s Test</td>
<td>ml/kg/min</td>
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<tr>
<td>3</td>
<td>Anxiety</td>
<td>Spielberger’s Trait Anxiety Test</td>
<td>In Numbers</td>
</tr>
<tr>
<td>4</td>
<td>Aggression</td>
<td>Guru Pyari Mathur and Raj Kumari Bhatnagar (2004).</td>
<td>In Numbers</td>
</tr>
<tr>
<td>5</td>
<td>Self Confidence</td>
<td>Hardy &amp; Nelson Self Confidence questionnaire</td>
<td>In Numbers</td>
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The experimental groups participated in their respective yogic practices, walking, jogging and combined for a period of 24 weeks. The post tests were conducted on the above said dependent variables after a period of twenty four weeks treatment period. The obtained data was subjected to statistical treatments using ANCOVA to draw meaningful conclusions. In all cases 0.05 level was fixed to test the hypotheses set for the study.

The results on resting pulse rate showed that F value of 28.91 obtained was greater than the required table F value of 2.45 thus the differences among the experimental and the control group taking into consideration of pre test scores and post test scores was significant at 0.05 level (P<0.05). The post hoc analysis made through Scheffe’s confidence interval (Table V) proved that all the treatments, namely, walking, jogging, yogasanas and combined significantly altered resting pulse rate of the middle aged men comparing to control group. The comparisons among treatment groups proved that the yogasana group was significantly superior to other treatments, namely, walking, jogging and combined in altering resting pulse rate of the middle aged men.
The results on VO₂ max showed that F value of 16.22 obtained was greater than the required table F value of 2.45 thus the differences among the experimental and the control group taking into consideration of pre test scores and post test scores was significant at 0.05 level (P<0.05). The post hoc analysis made through Scheffe’s confidence interval (Table VII) proved that all the treatments, namely, walking, jogging, yogasanas and combined significantly altered vo₂ max of the middle aged men comparing to control group. The comparisons among treatment groups proved that the yogasana group was significantly superior to other treatments, namely, walking, jogging and combined in altering vo₂ max of the middle aged men.

The results on psychological variable anxiety showed the obtained F value of 28.71 was greater than the required table F value of 2.45 thus the differences among the experimental and the control group taking into consideration of pre test scores and post test scores was significant at 0.05 level (P<0.05). The post hoc analysis made through Scheffe’s confidence interval (Table IX) proved that all the treatments, namely, walking, jogging, yogasanas and combined significantly altered anxiety of the middle aged men comparing to control group. The comparisons among treatment groups proved that the yogasana group was significantly superior to other treatments, namely, walking, jogging and combined in altering anxiety of the middle aged men.

The results on aggression showed that the obtained F value of 62.49 was greater than the required table F value of 2.45 thus the differences among the experimental and control groups taking into consideration of pre test scores and post test scores was significant at 0.05 level (P<0.05). The post hoc analysis made through Scheffe’s confidence interval (Table XI) proved that the treatments, namely, walking, jogging, and combined failed to significantly alter aggression of the middle aged men comparing to control group. However, treatment yogasana significantly altered aggression of the middle aged men comparing to control group.
and other treatment groups, namely, walking, jogging and combined exercises. Thus the comparisons among treatment groups proved that the yogasana group was significantly superior to other treatments, namely, walking, jogging and combined in altering aggression of the middle aged men.

The results on self confidence showed that the obtained F value of 31.87 was greater than the required table F value of 2.45 thus the differences among the experimental and the control groups taking into consideration of pre test scores and post test scores was significant at 0.05 level (P<0.05). The post hoc analysis made through Scheffe’s confidence interval (Table XIII) proved that the treatments, namely, walking, jogging, and combined significantly altered self confidence of the middle aged men comparing to control group. The comparisons among treatment groups proved that the yogasana group was significantly superior to other treatments, namely, walking, jogging and combined in altering self confidence of the middle aged men. And combined group was better than walking group and jogging group in altering self confidence of the middle aged men.

**5.2 CONCLUSIONS**

Within the limitations and delimitations of the study, the following conclusions were drawn.

1. It was concluded that isolated walking, jogging, yoga and combined exercises significantly improved the cardio respiratory parameter; resting pulse rate of the middle aged men.

2. It was concluded that yogic practice was better than other experimental treatments considered in this study in improving the resting pulse rate of the middle aged men.
3. It was concluded that isolated walking, jogging, yoga and combined exercises significantly improved the cardio respiratory parameter; VO2 max of the middle aged men.

4. It was concluded that yogis practice was better than other experimental treatments considered in this study in improving the VO2 max of the middle aged men.

5. It was concluded that isolated walking, jogging, yoga and combined physical activities significantly reduced the psychological parameter; anxiety of the middle aged men.

6. It was concluded that yogic practice was better than other experimental treatments considered in this study in reducing the anxiety of the middle aged men.

7. It was concluded that isolated walking, jogging, and combined physical activities failed to significantly reduce the psychological parameter; aggression of the middle aged men.

8. It was concluded that yogic practice significantly reduced the psychological variable, aggression of the middle aged men and thus proved to be better than other experimental treatments considered in this study.

9. It was concluded that isolated walking, jogging, yoga and combined physical activities significantly improved the psychological parameter; self confidence of the middle aged men.

10. It was concluded that yoga was better than other experimental treatments considered in this study in improving the self confidence of the middle aged men.

5.3 RECOMMENDATIONS
The findings of this study proved that isolated yogic practices was significantly better than the other forms of physical activities, namely, walking, jogging and combined in influencing the cardio respiratory and psychological parameters of middle aged men. Hence, it was suggested to propagate the importance of yogic practice among the middle aged men to lead a healthy living.

Based on the findings of this study, it was recommended that Government authorities, Health departments, and local body authorities may start yogic practice centers for the benefit of middle aged men as a part of health care programme.

5.4 SUGGESTIONS FOR FURTHER RESEARCH

During the course of this study, the investigator came across new ideas and suggestions that could be taken care of by future researches. Some of them are suggested below.

1. Influence of isolated and combined physical activities like walking, jogging, yoga can be studied among the middle aged women.

2. A similar study comparing the effect of isolated and combined physical activities suggested in this study among middle aged men and women may be conducted.

3. In this research selected yogic practices were experimented. A research focusing more number of yogic practices under different packages may be tried to find out which one is more feasible and beneficial for the middle aged men.

4. Researches may be undertaken to find out the influence of each yogasana on selected physical, physiological and psychological variable of middle aged men, which would throw more light on the benefit of particular yogasana.