

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY

This study was undertaken to determine the influence of Select Asanas, Pranayama and combined practices on selected Physical, Psychological, Physiological and Hematological Variables among Degree College Students. In the present study, sixty degree college students were selected by random sample from S.S.R Government College, Andhra Pradesh. The subjects chosen for the study were divided randomly into four equal groups called Experimental Group – I (Asanas), Experimental Group - II (Pranayama), Experimental Group - III Combined practices (Asanas and Pranayama) and Group IV - (Control group, No training was provided) and their age ranged from 19 to 25 years. The investigator explained to them the purpose, importance of the experiment and the procedure to be employed to collect their Blood sample, instrument reliability, physiological tests and psychological questionnaire. Further the role of the subjects during the experimentation and the testing procedure was also explained to them in detail.

Twelve weeks of Asanas, Pranayama, and Combined practices (Asanas and Pranayama) were given to the experimental group. The control group was not allowed to participate in any of the training programmes, except in their regular physical education programmes. The experimental group underwent the training programme as per the training schedule prepared by the investigator. The training programme was held six days in a week for 12 weeks; the training was conducted by a yoga trainer and was personally supervised by the investigator.

The Physical Variables used in the present study were 1) Agility, 2) Flexibility and 3) cardiovascular endurance. The Psychological variables were 1) Anxiety, 2) Stress and 3) Aggression. The Physiological Variables used were 1) Resting Pulse Rate 2) Mean arterial Blood Pressure, 3) Vital Capacity. The Hematological variables used were 1) Red Blood Cell, 2) White Blood Cell and 3) Hemoglobin.

The tests selected for the study were standardized tests and most suitable for the present study. The investigator was present with the subjects of the control group and the experimental group during the experimentation of the pre test and the post test.

The assessments of the Physical variables were tested in the Department of Physical Education, S.S.R Government College of Physical Education, Gopannapalem, Andhra Pradesh. Sophisticated and standard equipments were used to assess the Physical variables.

The assessments of the psychological variables used in the present study are 1) Anxiety, 2) Stress and 3) Aggression which are the standard tools. All the subjects were motivated to give relevant data and co-operate to complete the psychological questionnaire. All the questionnaires were administered by the researcher in person in a face to face relationship and data were collected as per the programme fixed. The entire filled in questionnaire were collected from the subjects and scored according to the scoring key. The total scores obtained were tabulated and statistically treated to arrive at meaningful conclusion.

The physiological variables were tested in the Department of Physical Education, S.S.R Government college of Physical Education, Gopannapalem, Andhra Pradesh, Sophisticated and standard equipments were used to assess the physiological variables.

Estimation of hematological variables and the blood samples were analyzed with the help of lab technicians under the supervision of the biochemist and blood samples were analyzed in the laboratory of biochemistry, Ramnaidu Diagnostic Center, Andhra Pradesh, for the blood test standard equipments, reagents and chemicals were used.

5.2 CONCLUSIONS

Within the limitation and delimitations set for the present study and considering the results obtained, the following conclusion were drawn.

For the purpose of this study it was hypothesized that the experimental group underwent the training programme as per the training schedule prepared by the investigator. The training programme was held Six days in a week for 12 weeks, the training was conducted by a yoga trainer and was personally supervised by the investigator. The control group was not allowed to participate in any of the training programmes, except in their regular physical education programmes.

1. The Physical variable **Agility** was significantly improved (increase) due to Twelve weeks of Asanas (Experimental Group - I), Pranayama (Experimental Group - II) and Combined Training (Asanas and Pranayama) (Experimental Group - III) among Degree college students comparing to the control group.

2. The Physical variable **Flexibility** was significantly improved (increase) due to Twelve weeks of Asanas (Experimental Group – I), Pranayama (Experimental Group - II) and Combined Training (Asanas and Pranayama) (Experimental Group - III) among Degree college students comparing to the control group.
3. The Physical variable **Cardiovascular Endurance** was significantly improved (increase) due to Twelve weeks of Asanas (Experimental Group – I), Pranayama (Experimental Group - II) and Combined Training Asanas and Pranayama (Experimental Group - III) among Degree college students comparing to the control group.
4. The Psychological Variable **Anxiety** was significantly altered (decrease) due to Twelve weeks of Asanas (Experimental Group – I), Pranayama (Experimental Group - II) and Combined Training (Asanas and Pranayama) (Experimental Group - III) among Degree college students comparing to the control group.
5. The Psychological Variable **Aggression** was significantly altered (decrease) due to Twelve weeks of Asanas (Experimental Group – I), Pranayama (Experimental Group - II) and Combined Training (Asanas and Pranayama) (Experimental Group III) among Degree college students comparing to the control group.
6. The Psychological Variable **Stress** was significantly altered (decrease) due to Twelve weeks of Asanas (Experimental Group – I), Pranayama (Experimental Group - II) and Combined Training (Asanas and Pranayama) (Experimental Group - III) among Degree college students comparing to the control group.

7. The Physiological variable **Pulse rate** was significantly changed (decrease) due to Twelve weeks of Asanas (Experimental Group – I), Pranayama (Experimental Group - II) and Combined Training (Asanas and Pranayama) (Experimental Group III) among Degree college students comparing to the control group.
8. The Physiological variable **Mean Arterial Blood Pressure** was significantly changed (decrease) due to Twelve weeks of Asanas (Experimental Group – I), Pranayama (Experimental Group - II) and Combined Training (Asanas and Pranayama) (Experimental Group III) among Degree college students comparing to the control group.
9. The Physiological variable **Vital Capacity** was significantly improved (increase) due to Twelve weeks of Asanas (Experimental Group – I), Pranayama (Experimental Group - II) and Combined Training (Asanas and Pranayama) (Experimental Group III) among Degree college students comparing to the control group.
10. The Hematological variable **Hemoglobin** was significantly influenced (increase) due to Twelve weeks of Asanas (Experimental Group – I) & Pranayama (Experimental Group -I) and Combined Training (Asanas and Pranayama) (Experimental Group III) among Degree college students comparing to the control group.
11. The Hematological variable **Red Blood Cell** was significantly influenced (increase) due to Twelve weeks of Asanas (Experimental Group – I), Pranayama (Experimental Group II) and Combined Training (Asanas and Pranayama) (Experimental Group III) among Degree college students comparing to the control group.

12. The Hematological variable **White Blood Cell** was significantly influenced (increase) due to Twelve weeks of Asanas (Experimental Group – I), Pranayama (Experimental Group - II) and Combined Training - Asanas and Pranayama (Experimental Group - III) among Degree college students comparing to the control group.
13. The post hoc analysis of the results proved that Asanas (Experimental Group - I) was slightly effective than Pranayama (Experimental Group - II) in **Agility, Cardiovascular Endurance, Aggression, Stress, Mean Arterial Blood pressure, Vital Capacity, Hemoglobin, Red Blood Cell and White Blood Cell**. And Pranayama (Experimental Group-II) was slightly effective than Asanas (Experimental Group-I) differences in **Flexibility, Anxiety and Pulse rate**. The hypothesis was accepted at 0.05 levels.
14. Finally the post hoc analysis of the results proved that Combined (Asanas and Pranayama) (Experimental Group-III) was slightly effective than Asanas (Experimental Group - I) and Pranayama (Experimental Group - II) in **Agility, Flexibility, Cardiovascular Endurance, Anxiety, Aggression, Stress, Pulse Rate, Mean Arterial Blood pressure, Vital Capacity, Hemoglobin, Red Blood Cell and White Blood Cell**. The hypothesis was accepted at 0.05 levels.

5.3 RECOMMENDATIONS

Based on the results of the study, the following recommendations are made by the present investigator.

- 1) Similar study is necessary to examine the effect of Asanas, pranayama and combined (Asanas and Pranayama) on physical, psychological, physiological and hematological variables for the different age groups.
- 2) Further, similar research may be undertaken considering female students.
- 3) Similar study may also be conducted to find out the effects of Asanas, pranayama and combined (Asanas and Pranayama) on other variables of biochemical, physiological and psychological studies.
- 4) Similar study may be replicated with longer durations, different intensities of training other than mentioned in the present study.
- 5) A continuous and regular Asanas, pranayama, and combined (Asanas and Pranayama) programme, in an organized manner, has to be suggested for the occasional participants to obtain desired results in their health related fitness.

5.4 SUGGESTIONS FOR FURTHER RESEARCH

During the course of the research study, the investigator came across a number of ideas, based on which the following suggestions are made for further research in this area.

1. It was recommended that a similar study may be conducted with larger samples, which would support the findings of this study.
2. A similar study may be conducted on special populations.
3. It was suggested that a similar study may be conducted in different Asanas and Pranayama.