9.1 SUMMARY

On the night following CM practice the percentage of slow wave sleep (SWS) was significantly more than the night following relaxation in SR, the percentage of rapid eye movement (REM) sleep was less, and the number of awakenings per hour was also less. Following CM the self rating of sleep based on visual analog scales showed an increase in the feeling that sleep was refreshing, an increase in feeling ‘good’ in the morning, an impression of an overall increase in sleep duration, a decrease in the degree to which sleep was influenced by being in a laboratory, as well as any associated discomfort.

So, practicing cyclic meditation twice a day appeared to improve the objective and subjective quality of sleep on the following night.

When heart rate variability was taken into account, it was observed that the night following day time CM practice there were the following changes; a decrease in heart rate, LF power (n.u.), an increase in HF power (n.u.) and an increase in the total index of all NN intervals (TINN). No change was seen on the night following SR. Hence yoga practice during the day appears to shift towards the parasympathetic dominance during sleep on the following night.

9.2 CONCLUSION

Persons who were already experienced in yoga practice, including meditation, practicing cyclic meditation (CM)

i. increased the percentage of time spent in slow wave sleep (SWS)

ii. decreased the time spent in rapid eye movement (REM) sleep
iii. reduced the number of awakenings per hour.

iv. the participants’ subjective rating of sleep was also better following CM compared to the other recording day, after SR.

Therefore, it was concluded that the practice of Cyclic meditation during day time improved the objective and subjective quality of sleep on the following nights.

When heart rate variability was taken into account, it was observed that

i. there was a reduction in low frequency power (LF)

ii. Increase in high frequency (HF)

iii. increase in total index of NN intervals (TINN)

Hence, it was concluded that the cyclic meditation practice (CM) during the day appears to shift towards the parasympathetic dominance during sleep on the following night.

9.3 STRENGTH OF THE STUDY

The strength of the study is in the fact that it has attempted to derive a comprehensive model of a meditation technique based on both the psycho-physiology and sleep structure following the practice of cyclic meditation during day time.

Studies on states within states (3 types of Jagrat, etc.) would unravel mysteries about the 3 states of consciousness. Day sleeping recording can be compared to night sleep studies. Effect of CM on day sleep to be investigated. Sleep structures in different disease states to be investigated and standardized. Their structure to be compared to normal sleep structure.
9.4 WEAKNESS OF THE STUDY

The main weakness or limitation of the study is that the yoga trainees would probably have been aware of the previous published findings on the effects of cyclic meditation compared to supine rest. This could be expected to have influenced their subjective ratings of sleep on the nights following the practice of cyclic meditation or supine rest in shavasana and variations in the subjects' routine as well as inherent differences between individuals may have accounted for the fact the participants' baseline values differed widely, which is a weakness of the study in heart rate variability during sleep. Volunteers with no experience in yoga should have been recruited in the study.

9.5 APPLICATIONS OF THE STUDY

The applied value of this present research are the following

1. the present technique (CM) can be used as a tool for stress reduction as it appears to shift sympato-vagal balance in favor of parasympathetic dominance during sleep on the following night.

2. CM technique can also be used as a technique to alleviating the problems of acute as well chronic insomnia and other sleep related problems.
9.6 SUGGESTIONS FOR THE FUTURE

Further studies are required to understand the long term effects of practicing CM, and also to know whether the sleep architecture of long term practitioners differ from non-practitioners.

In the present study no attempt was made to correlate the HRV with the stages of sleep; as this presented certain technical difficulties. A future study with such a correlation would overcome this limitation and provide additional information.