

Chapter 8

Appraisal

8.0	Appraisal	138-140
8.1	Summary and Conclusion	138
8.2	Strengths of The Study	138-139
8.3	Limitations of The Study	139
8.4	Implication	139
8.5	Future Directions	139-140

8.0 APPRAISAL

8.1 SUMMARY AND CONCLUSIONS

The current study compared the immediate effects of a twenty-min intervention of yoga breathing with intermittent breath retention with breath awareness on autonomic and cardiovascular functions and response inhibition. We found an enhanced heart rate variability and baroreflex sensitivity following the practice of the intervention breathing. There was also an increase in the total peripheral resistance and LFnu, which is indicative of sympathetic shift in the autonomic activity. There was also reduction noted in heart rate, cardiac output and stroke volume. The results also demonstrate an enhanced response inhibition following the practice of intervention in the Stop-Signal paradigm. However, a similar effect was observed following breath awareness session. Thus, yoga breathing with intermittent breath retention leads to differential autonomic regulation, a gain in baroreflex sensitivity along with enhanced response inhibition. The results indicate the practice of intervention breathing to be safe in healthy volunteers with prior training in yoga.

8.2 STRENGTHS OF THE STUDY

- The current study was the first attempt to understand the physiological changes following the practice of YBH.
- This study was also the first attempt to explore the effect of YBH on higher brain functions such as response inhibition

- Use of Finapres System for assessment of NIBP and other cardiovascular variables.

8.3 LIMITATION OF THE STUDY

- The assessments were performed before and immediately following 20 min intervention period. We could not assess the changes in cardiovascular and autonomic variables during the intervention period.
- This being an exploratory study, the objective was to understand the immediate effects of YBH. Hence, it was not intended to understand the underlying mechanisms objectively.

8.4 IMPLICATION

- Yoga breathing with intermittent breath retention could be safely practiced by healthy volunteers to enhance cardiovascular health.

8.5 FUTURE DIRECTIONS

- The effects of YBH in yoga practitioners who are experienced in practice of YBH should be assessed.
- The longitudinal health benefits of YBH may be assessed.
- Future studies may be planned to integrate additional assessments such as lung volume and partial pressure of CO₂ (PaCO₂) in yoga breathing techniques, as the lung volume and PaCO₂ could influence the cardiovascular and autonomic variables.

- Future studies may also include neuroimaging techniques to understand the underlying mechanisms for the observed effects following the intervention.
- The differential physiological effects of internal and external yogic breath hold may be assessed
- The physiological changes following YBH with different durations as prescribed by yogic texts may be explored.