Chapter 8: Appraisal

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Appraisal

The present study was conducted to assess the role of Yoga practices on gene expression, biochemical and psychological changes in Indian Scientific Expeditioners undertaking sea voyage. Stay in Antarctica has been shown to affect hormonal regulation, metabolism, immunity and psychological wellbeing. In this study we have shown that Yoga practices are able to decrease the repetitive negative thinking and promote sleep quality in the expeditioners as compared to their fellow counterparts in the same expedition. Gene expression results in our study consistently had lesser number of regulated genes in the Yoga group and also showed the ability of Yoga practice to delay cell cycle by enabling cell cycle arrest; promote DNA repair mechanisms; enhance cell survival pathways; and regulate metabolic signaling pathways to facilitate better adaptation. Cardio-protective genes were expressed in yoga group in response to the elevated triglyceride values. Non-Yoga practitioners in expedition had multiple cross-talks between the pathways resulting in more stressful environment and apoptosis were indicated. The results suggest a beneficial role in adaptation at extreme environmental conditions. We propose a novel paradigm, that we call as *Intelligent Consciousness* that is facilitated by Yoga to achieve optimal and efficient regulation.

Strengths of the Study:

- This is the first study on Yoga to be conducted in the Antarctic continent. The study has demonstrated the efficacy of yoga at multiple levels. The findings of this study will pave avenue for further indepth understanding of regulatory mechanisms in human physiology.
- Novel molecular mechanisms following yoga practices have been explained

- A novel paradigm explaining the holistic nature of how Yoga works has been elucidated

Weakness of the Study:

- Follow-up assessments following returning from the expedition would have added strength to the study.
- Baseline serum samples were not available for biochemical assessments.
- Non randomization in recruiting the subjects in the yoga or control groups
- Less sample size
- No active intervention was offered to the control group