

CHAPTER 4

4.0 AIM AND OBJECTIVES OF RESEARCH

4.1 AIMS OF THE STUDY

To study the effect of the pattern of variation of EPI parameters using neural networks for the following:

- In diseased condition, specifically diabetes.
- Variation in EPI parameters with mudra practice
- Variation in EPI parameters with Meditation practice.
- Understand the impact of Body Mass Index on EPI parameters.

4.2 OBJECTIVES OF THE STUDY

- Noninvasive disease diagnostic using EPI and Neural network.
- Intervention detection/recognition.
- To unravel the mysteries of meridian theory with EPI parameters.

4.3 JUSTIFICATION OF THE STUDY

- To develop a framework to assess the impact of yoga, pranayama and meditation on human body.
- To explore the possible of detecting patterns of EPI parameters in healthy and diseased condition for disease diagnosis.
- Study of effect of intervention on various meridians

4.4 RESEARCH QUESTIONS

1. Will there be a statistically significant change in the EPI parameters for Diabetic and Non-diabetic subjects using neural network?
2. Can neural network detect the pattern of variation in EPI parameters for Anapanasati meditation as intervention?
3. Will there be a statistically significant change in EPI parameters after performing Prana Mudra? Can neural network based analysis distinguish differences?

4.5 NULL HYPOTHESIS AND ALTERNATE HYPOTHESIS

STUDY I: Classification of a Diabetic Condition

H_0 : The EPI parameters do not differ significantly and neural network will not be able to classify a diabetic condition from a non-diabetic condition.

H_a : There is a significant difference in EPI parameter patterns for diabetic condition in comparison to healthy condition and neural network will be able to classify diabetic and non-diabetic conditions

STUDY II: EPI and Prana mudra

H_0 : There is no change in the EPI patterns for Prana Mudra as intervention.

H_a : There will be a detectable change in the EPI patterns for Prana Mudra intervention.

STUDY III: EPI and Meditation

H_0 : There is no change in the EPI patterns for Anapanasati Meditation.

H_a : There will be a significant change in the EPI patterns for Anapanasati Meditation.