Chapter 1 Psychophysiology of Yoga Postures: Ancient and Modern Perspectives of Asanas

Ananda Balayogi Bhavanani Sri Balaji Vidyapeeth University, India

Meena Ramanathan Sri Balaji Vidyapeeth University, India

ABSTRACT

Asana (posture) is usually defined as a body posture held with stability and ease by Patanjali. Hathayoga Pradipika emphasises that asana helps bring about stability in health and suppleness of body. As intrathoracic, intra-abdominal pressure-volume changes affect internal organs and systems, it is plausible that asanas produce changes through mechanisms both local as well as general. This chapter takes a look at various studies that have explored human physiology in relation to asana. Some examples are glucose metabolism, changes in energy expenditure, ventilatory responses, oxygen consumption as well as respiratory, neuromuscular and cardiovascular parameters. It also explores the neuromuscular reflex arcs dynamics that position asana as an excellent system to restore psychosomatic harmony and balance. It needs to be stressed that the actual efforts being made in asana are of a somato-psychic nature while benefits that accrue are of a psychosomatic nature. It is suggested that Hathayoga helps us evolve out of our primitive sub-human tendencies thus developing human and humane qualities.

INTRODUCTION

Yoga considers that every individual is not merely limited to only the physical level of existence but is made up of a multi-fold universal nature. Concepts of *pancha kosha* (five-fold aspects of our existence) and *trisharira* (threefold aspect of our bodily nature) helps understand the multi-dimensional real nature of the individual, where health results from a dynamic interaction at all levels of existence.

DOI: 10.4018/978-1-5225-2788-6.ch001

The sister sciences of Yoga and Ayurveda consider the human body to be made up of seven substances, the sapta dhatus which are rasa (chyle), rakta (blood), maamsa (flesh), medas (adipose), asthi (bone), majjaa (marrow) and sukra (semen). Both these ancient health sciences understand the importance of tridosha (three humors) whose balance is vital for optimal health and functioning. Health is also further understood as harmonious balance of prana vayus and upa prana vayus (major and minor energies of physiological function respectively), coupled with stability of nadis (subtle energy channels) and harmonious flow of energy through all chakras (major energy centres correlated to the psycho-neuro-immuno-endocrine axis).

The *Hathayoga Pradipika* echoes these qualities when Yogi Svatmarama says, "Slimness of body, lustre on face, clarity of voice, brightness of eyes, freedom from disease, control over seminal ejaculation, stimulation of gastric heat and purification of subtle energy channels are marks of success in *Hathayoga*" (vapuh krsatvam vadane prasannataa naadasputatvam nayane sunirmale arogataa bindujayogni diipanam naadiivishuddhir hatha siddhi lakshanam- Hathayoga Pradipika II-78) (Bhatt, 2004).

Figure 1. Definition of Asana according to Maharishi Patanjali

Maharishi Patanjali provides a most concise definition of *asana*, the means to attain it and benefit of doing so in *Sadhana Pada* of his *Yoga Darshan*. (Bhavanani, 2011; Bhavanani, 2014)

He defines asana as sthirasukhamasanam, a state of wellbeing wherein one is established in a steady state of ease. (PYS II: 46)

The methodology is given as prayatnashaithilya anantya samaapattibhyaam, loosening of effort and contemplation of the infinite. (PYS II: 47)

The resultant benefit is explained as *tato dvandvanabigath*, meaning thereby that one grows beyond duality and the pairs of opposites (pain/pleasure, praise/blame etc) cease to have any effect. (PYS II: 48)

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