

Research Article

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Corresponding Author

Niti Sharma

Patanjali Natural Coloroma Pvt. Ltd.,

Haridwar, Uttarakhand - 249404,

India

Email: nitivinay@yahoo.co.in



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Spirituality and Science of Yogic Chakra: A Correlation

Acharya Bal Krishna^{1,2*}, Hemanth Kumar Manikyam², Vinay K. Sharma², Niti Sharma²

¹University of Patanjali, Haridwar, Uttarakhand - 249402, India

²Patanjali Natural Coloroma Pvt. Ltd., Haridwar, Uttarakhand - 249404, India

Abstract:

The *Chakras* are considered to be the energy centers or levels of awareness located within the body, situated throughout the spinal cord from below the base of the spine up to the brain. The state of each *Chakra* not only reflects the health of a particular area in the body but also is closely related to the psychological, emotional and spiritual well-being. The relation between the *Chakras* and the endocrine glands in the body clearly reveal the existence of these energy centers in the body which can be activated to achieve perfect mental and physical health. In addition, scientific proofs are also available based on which we can prove the presence of *Chakras* in human system and correlated them to the conscious of human being.

Key words: Chakras, Energy centers, Consciousness, Spiritual well-being, Endocrine system

INTRODUCTION:

The *Chakras* have a special place in Eastern philosophy and these days are also popular in the West, as they are considered to be the energy centers or levels of awareness located within the body. They cannot be seen by physical senses as they are known only by extra sensory knowledge. These power centers help the body to obtain the life force. These centers distribute life force in each tissue and nerve originating from them. The flow of *Prana* (life force) in nerves is bidirectional. These *Chakras* are situated throughout the spinal cord from below the base of the spine (*Filum terminale*) upto the brain. This unquestionably proves that ancient sages had an extensive knowledge of physiology and anatomy and the invisible power centers in the body compared to the modern medical science. They not only identified the energy centers of the body but also discovered various techniques to awaken these invisible energy centers by various *yogic* activities (*sadhana*, *pranayam* and meditation) to get free from disease and to reach self-refinement.

The earliest known mention of *Chakras* is found around 1700 BCE - 1100 BCE in the *Brahma Upanishad*, *Yogatattva Upanishad* and *Vedas* (Fenton, 2009). These *Vedic* models were adapted in Tibetan Buddhism as *Vajrayana* theory, and in the *Tantric Shakta theory of Chakras* (Gordan, 2003; 2011). The translation of two Indian texts, the *Sat-Cakra-Nirupana*, and the *Padaka-*

Pancaka, by Arthur Avlon, in a book entitled *The Serpent Power* presented the idea of seven main *Chakras* in the West (Avalon, 1974).

Though the all studies on chakras are based of theoretical assumption however, some scientific proofs are also available based on which we can prove the presence of *Chakras* in human system and correlated them to the conscious of human being (Deshpande et al., 2013).

Therefore, in the current review we try to conclude that the *Chakras* play a central role at both physical and spiritual level.

Scientific Approach to Chakra

If *Chakras* are present in a body, they must influence physiological activity which can be subjected to analysis. As the *Chakras* are not visualized by naked eye, various instruments and software systems have been developed so far to capture the electromagnetic activity around a living system. In the mid-nineties Korotkov *et al.* studied the graphical chart alignment of human *Chakras* in various emotional states and developed a scientific device, GDV, based on the ancient Chinese system of energy meridians. It measures the bio-energy of living organisms and the related environment. The device provides a simple assessment of health (physiological and psycho-emotional). In the GDV programs a particular part of every finger is associated with particular Chakra (Pehek et al., 1996; Jakovleva and

Korotkov, 2012; Korotkov, 2012). This is based on the principles of Indian traditional medicine system and investigated by many Ayurvedic doctors around the world. The balance between corresponding parts of left and right fingers allows calculating the shift of the particular *Chakra* from the central line in as per the following equation:

$$\text{Symmetry} = 0.56 \cdot \text{delta}^3 + 1.68 \cdot \text{delta}^2 - 0.12 \cdot \text{delta}$$

Where, delta is the numerical difference between the correspondent parts of the left and right fingers. Coefficients are selected based on a large volume of experimental data.

With new BioWell software, it is now possible to quantify the energy of *Chakras* and represent it graphically; the most important evaluation is *Chakra* distribution (Deshpande et al., 2013). To confirm the above findings study was conducted with 100 volunteers. The results indicated that the subjects under calm, relaxed and nourished conditions displayed aligned *Chakras*, while under stress they are imbalanced. In the experiment, fingertip of subject was attached energetically with specific organs and organ systems. With the data obtained from ten individual BIO-grams an image of the entire body energy field was generated. The study revealed that each *Chakra* vibrate at a different frequency level. A healthy and balanced emotional state is associated with positive emotions while negative emotions were linked to an unhealthy and emotionally unbalanced state. It was observed that meditation increases energy associated with the *Chakras*, which increases consciousness in the body and also *Chakra* energy does not depend on hemo-dynamic parameters (Chaturvedi et al., 2015). Meridian Energy Analysis Devices (MEAD) is frequently used in Taiwan hospitals for diagnosing various diseases. It is also cited in the literature that *Chakra* energy is directly proportional to the consciousness (Chaturvedi and Arya, 2013). In one of the research energy levels of Heart *Chakra* were measured using using Biofield Viewer and Electro Scanning Method (Joshi et al., 2014). The Biofield Viewer™ software is a real-time imaging system that is able to detect and visualize the subtle layers of electromagnetic activity around living systems. It evidently displays the aura, *Chakra*, and meridian systems in clear colors and patterns. Thus, it is easy to determine healthy and pain free areas which ultimately gives a clear understanding about physical, emotional and psychological levels of a person (www.biofieldsciences.com).

One of the most interesting aspect related to *Chakras* are assumed to be intercellular gap junction connections (www.wellicious.com). It is a well-known fact that gap

junctions enable intercellular communication and increase electric conductivity in the body (Bergsman and Wooley-Hart, 1973; Lo, 1996). Gap junctions are hexagonal protein complexes that form channels between adjacent cells. Meditation works by boosting the frequency of gap junctions and incorporating compartments within the glial network, eventually amalgamating the spine and the brain (www.coachangiebusiness.wordpress.com). Three physical aspects of *chakras* are distinguished that are integrated through gap junction mechanisms and are proposed to have arisen during embryological development. Furthermore, electrical conductance associated with a high concentration of gap junctions could generate radiant qualities attributed to *Chakras* (Maxwell, 2009).

Spiritual Approach of *Chakras*

According to the traditional text there are 88,000 *Chakras* in the human body. Most are exceptionally small and play a minor role in your energy system but eight are regarded as the most important ones. The first reference of the nine doors and the eight lotuses was in *Atharvaveda* (10.2.31) which states: “*AstaChakra navadvvara devanam purayodhya. Tasyam hiranyayah kosah svargo jyotisavrtah.*” It means that the body symbolizes God’s city, *Ayodhya*, which has eight *Chakras* (power centers) and nine gates (eyes, both nostrils, ears, the mouth, the anus and the urethra). In this city there is golden treasure which is filled with infinite bliss, peace and divine light (*Atharva veda*, 2015). Also in *Gorakha Bani* eight *Chakra* are described as: “*E asta kamala ka janau-bhesa. Pai karata apai deva. Iti astaChakra kathanta jafi Gorasanath sampurna*” (Badshwal, 2004).

The life force (*prana*, *chi*, or simply energy of the subtle body) flows through the *Shushumna Nadi* which corresponds to the spinal cord in body. *Nadis* (nadi =flow) are not nerves but rather channels for the flow of consciousness. An early version of the *nadi* system is mentioned in the *Katha Upanishad* (Thomas, 2002), which says: “A hundred and one are the arteries of the heart, one of them leads up to the crown of the head. Going upward through that, one becomes immortal.” (CU 8.6.6). To the left of *Shushumna* is the *Ida* channel (*Chandra nadi*) which carries the feminine or lunar energy. It corresponds to the left side of the body and the right hemisphere of the brain. The *Pingala* channel (*Surya nadi*) is towards the right of *Shushumna* and corresponds to the right side of the body and left hemisphere of the brain. As the negative and positive charges flow together in an electrical circuit, the *prana* (life force) and *manas* (mental force) energies flow through all parts of the body *via* these *nadis*. They twist

around the *Shushumna* in a vertically upward direction and the point of intersection generates a *Chakra* (Figure 1). In a healthy body, the energy flow is undisturbed and thus all the *Chakras* are in equilibrium. The physical manifestation of each *Chakra* is through specific glands/nerve ganglia (also known as "plexuses") along

the spinal cord (Figure 2). The different hormones secreted by these glands certainly have a significant effect on human psychology, and an imbalance in the *Chakra* is expressed through these systems resulting in physical and mental illness (Table 1).

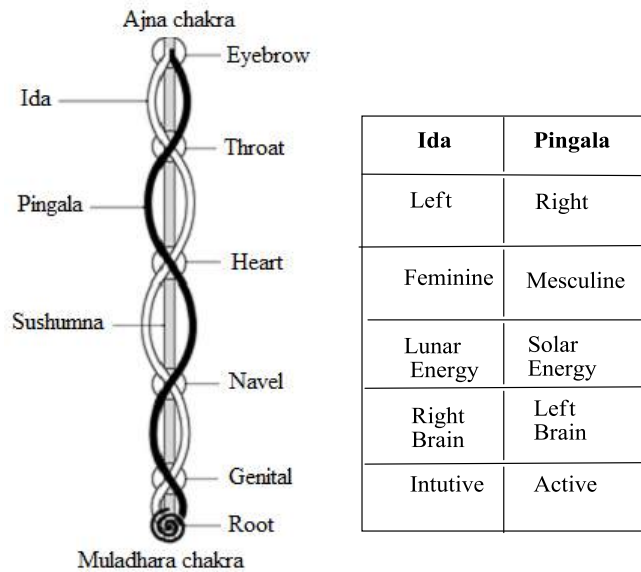


Figure 1: The Three Main Nadis (Energy channels)

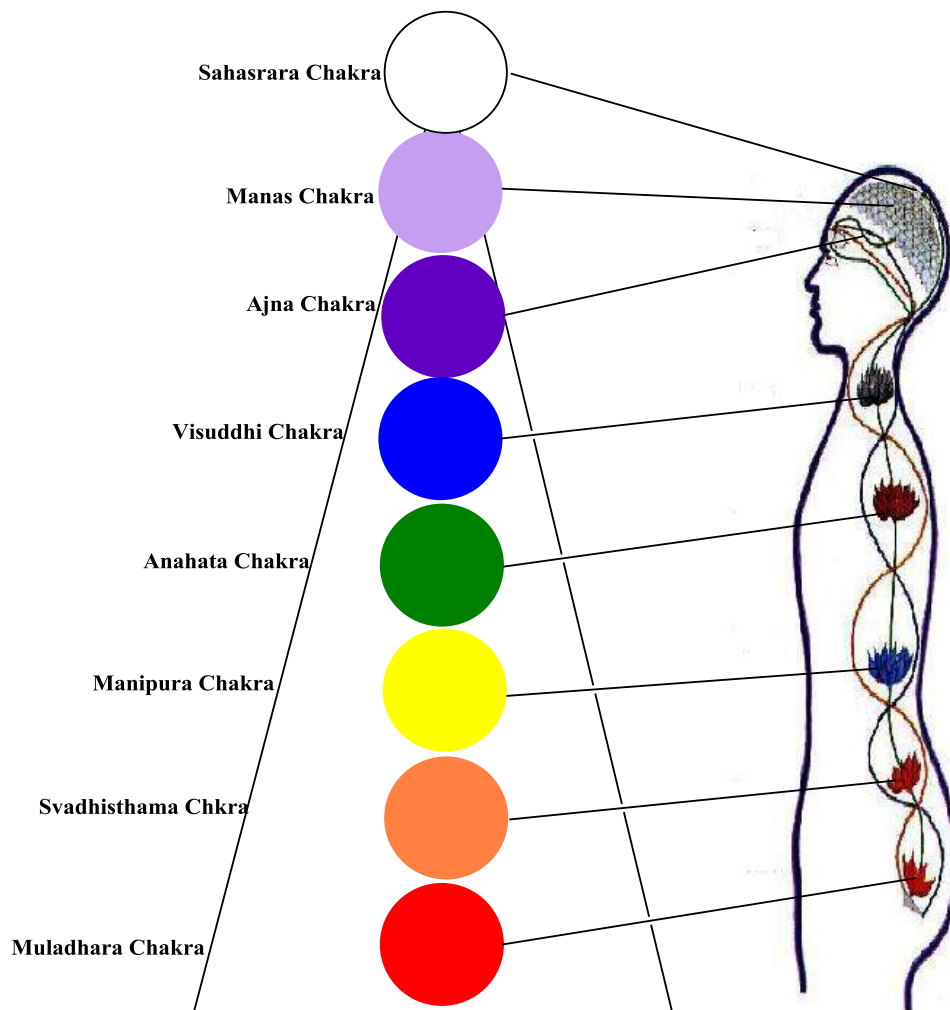


Figure 2: Position of Chakra's in human body

Table 1: *Asta Chakra* their Anatomic Location, Associated Glands and Related Disorders (Balkrishna, 2013).

S. No.	Chakra	Gross form	Location	Body parts and controlled functions	Diseases due to deactivation or non-awakening of <i>chakras</i>	Action on Endocrine gland	Physiological system concerned
1.	<i>Muladhara</i>	Root <i>chakra</i> or pelvic plexus or coccyx center	Base of spine	Rectum, urinary bladder; excretion and reproduction	Urinary diseases, kidney disorders, calculi, genital disorders	Adrenal gland	Excretory system, Urino-genital system
2.	<i>Svadhithana</i>	Sacral <i>chakra</i> or sexual center	Below the navel	Genital organs; procreation	Infertility, tissue disease, genital disorders	Adrenal gland	Reproductive system
3.	<i>Manipura</i>	Solar plexus <i>chakra</i> or lumbar center or epigastric sciatic plexus	Below the chest	Stomach, intestine; digestion, assimilation, secretion	Digestive system disorders, diabetes, low immunity	Islets of Langerhans (endocrine cells) in pancreatic gland	Digestive system
4.	<i>Anahata</i> or <i>Hridaya</i>	Heart <i>chakra</i> or cardiac plexus or dorsal center	Center of the chest (Thoracic vertebra)	Heart, lungs, diaphragm; circulation, immune regulation	Heart diseases, hypertension	Thymus gland	Circulatory system, respiratory system, Auto-immune system
5.	<i>Visuddha</i>	Throat <i>chakra</i> or carotid plexus or cervical center	Thyroid and para thyroid	Neck, throat, vocal cords; all oral communications, growth in children, metabolism, temperature regulation	Bronchial asthma, lung disorders, thyroid, goiter	Thyroid gland	Respiratory system
6.	<i>Ajna</i>	Third eye or medullary plexus	Center of the forehead	Brain; all functions corresponding to the brain, concentration, will power	Epilepsy, fainting, paralysis	Pineal gland	Nervous system
7.	<i>Manas</i> or <i>Bindu</i>	Mind <i>chakra</i> or lower mind plexus or point <i>chakra</i>	Below the thalamus	Brain and heart; regulation of all endocrine glands and autonomic nervous system, sleep, emotions, memory, overall homeostasis	Psycho-somatic and neurological disorders	Pituitary gland	Sensory and motor system
8.	<i>Sahasrara</i>	Crown <i>chakra</i> or cerebral gland	Top of the skull, the vertex	Seat of the soul; synthesizes information, gathers all information from other sites	Hormonal imbalances, metabolic syndromes	Pituitary gland	Central nervous System (CNS) via hypothalamus

The Base or root *Chakra*, *Muladhara Chakra*, mentally it governs security, survival and basic human potentiality while physically, it governs sexuality (John, 1995; Patricia, 2007). It is said the *kundalini* lies coiled here, ready to uncoil and bring man to his highest spiritual potential in the crown *Chakra*. It is located in the region between the genitals and the anus. It is said to relate to the inner adrenal glands.

The Sacral *Chakra*, *Svadhithana Chakra*, is located behind the sexual organs in the spinal cord, and is

related to subconscious mind, emotion, sexuality and creativity (Patricia, 2007). This *chakra* is said to correspond to reproductive organs that produce various sex hormones involved in the reproductive cycle.

The Solar plexus *Chakra*, *Manipura Chakra*, is situated behind the navel in the spinal cord. It regulates the digestive system thus have important role in the conversion of food matter into energy for the body. *Manipura* is believed to correspond to Islets of

Langerhans (Patricia, 2007), as well as the outer adrenal glands and the adrenal cortex.

The Heart or cardiac plexus *Chakra*, *Anahata Chakra*, is situated in the spinal cord behind the heart's right side, in the center of the chest. It is related to the thymus and regulates blood circulation, heart and lung functioning. Also, it is associated with the immune system besides being part of the endocrine system. It is the site of maturation of the T cells which plays a central role in cell-mediated immunity and may be adversely affected by stress.

The Throat *Chakra*, *Vishuddhi Chakra*, is located in the throat (behind thyroid and parathyroid glands) in the spinal cord. It regulates vocal cord and is responsible for communication, growth and development, hunger, thirst and temperature regulation. Mentally, it governs confident thought and a sense of security (Patricia, 2007).

The Third eye or medullary plexus, *Ajna Chakra*, is linked to the pineal gland behind the center of eyebrows above the spinal cord. At this point the two side *nadis* (*Ida and Pingala*) unite with the central *Sushumna*, signifying the end of duality. This is associated with will-power and progressiveness (Patricia, 2007). This is the center of materialistic knowledge and *Astavidya* on the intuitive level. The pineal gland is a light sensitive gland that produces the hormone melatonin, which regulates the circadian rhythms of physiological functions including sleep timing, blood pressure regulation etc. It also produces trace amounts of the psychedelic chemical dimethyltryptamine (DMT), the only known hallucinogen endogenous to the human body. Some have sought spiritual breakthroughs including out of body experience and astral travel by consuming DMT. Therefore, it is also called the spirit molecule (Strassman, 2000).

After awakening of the six *Chakras* the two *Chakras* in the brain (*Manas Chakra* and *Sahasrara Chakra*) are thought to be the two higher centers of awakening, to reach higher realms and the base source or termination centers of vital energy. It is beyond doubt that the knowledge of awakening of these power centers by means of meditation and spiritual practices helps a person to reach from *Muladhara* to *Sahasrara Chakra*, achieve a disease-free life and experience eternal bliss.

The Mind *Chakra* or lower mind plexus or point *Chakra*, *Manas* or *Bindu Chakra*, situated below the thalamus and is linked to pituitary gland. It regulates all the endocrine glands and autonomic nervous system, sleep, emotions, memory and overall homeostasis.

The highest crown *Chakra* or cerebral gland, the *Sahasrara Chakra*, located at the top of skull and is

linked to pituitary gland. The pituitary gland secretes hormones to control the rest of the endocrine system, and also connects to the central nervous system via the hypothalamus. The thalamus is thought to have a key role in the physical basis of consciousness. Thus it is said to be the *Chakra* of consciousness, the master *Chakra* that controls all the others (Patricia, 2007).

Conclusion

In short, it can be concluded that the state of each *Chakra* not only reflects the health of a particular area in the body but also is closely related to the psychological, emotional and spiritual well-being. The existence of *Chakras* is scientifically proven. Also the relation between the *Chakras* and the endocrine glands in the body clearly reveal the existence of these energy centers in the body which can be activated to achieve perfect mental and physical health. Therefore, we can ascertain the presence of *Chakras* in human system and correlated them to the conscious of human being.

Author Contributions

Conceptualization, A.B.; Investigation, H.K.M. Writing – Original Draft, V.K.S. and N.S. Writing – Review & Editing, V.K.S. and N.S.; Resources, H.K.M., V.K.S. and N.S.

Conflict of Interest

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

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