

SPIRITUALITY, MEDITATION AND LONGEVITY

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Abstract

Meditation, health and longevity have been perceived together since long. The age old spiritual traditions have set an exemplar of increasing spiritual health which in turn entails greater physical health and longevity through practice of meditation as a natural outcome. Individual health is the summation of one's physical, mental, emotional and spiritual health which is reflected on one's "Telomeres". Since the telomeres signify longevity and overall health, different interventions of lifestyle have been responsible to modulate its length aided by the enzyme telomerase. The mind-body pathways hold the subjective mind states and emotions and decipher them according to the state of an individual. Being a spiritual practice, meditation aims for the merger of the soul with the Ultimate along with improvement of mental and emotional states. Meditation as a spiritual intervention can be considered to reach the larger goal of human life which also improves one's physical health along with improved telomere length and hence support longevity.

Key words: Meditation, Spiritual practice, Wellbeing, longevity

INTRODUCTION

"And occupying that seat, concentrating the mind and controlling the mind and functions of the mind and senses, he should practice yoga for self-purification" (Gita press, 2014, 6:12). "The unwavering firmness by which man controls through the yoga of meditation the functions of the mind, the vital airs and the senses-that firmness arjuna is sattvic" (Gita press, 2014, 18:31). The repeated practice of meditation thus, brings the mind under control which is otherwise restless and difficult to conquer (Gita press, 2014). Meditation is a necessity for correct orderly built of mind, intellect and wisdom (Chandra, 2015).

"The mind= thoughts + emotions" has a mirror effect on one's health. Therefore building up a sense of control is well associated with health and longevity (Jacobs, 2001).

The context of scientific interest in meditation can be partly proved by placing the understanding of meditation and its effects in an objective way with the help of science and also owing to one of the few ways represented by scientific method in which one culture can peer into the depths of the other culture (Murphy, 1997). Many studies have been attempted to measure the resulting effects of meditation in an objective way through application of biological and psychological sciences. Among these the various objective results that point the differences suggesting betterment of health and longevity has gained attention. One such outcome is the lengthening of telomeres and presence of telomerase which reflects on overall health of an organism and longevity..

RELEVANCE

During the past few years, spiritual perspectives into medical practice and research have been increasingly encouraged with urgency in the medical journals of mainstream (Li et al., 2005). Meditative practices have been well studied for its benefits on the human psychological and biological systems. But there still exists a gap between its spiritual dimension and its philosophy.

OBJECTIVE

Objective of this paper is to enquire on the spiritual perspective and biological evidences that portray the influence of spiritual practice in particular meditation, on longevity.

METHODOLOGY

This paper is based on fundamental research using both primary and secondary sources of data involving books and articles obtained from internet and library.

SPIRITUAL PRACTICE

Spiritual practice is a bunch of intentional activities that concern or relate to the sacred. For spiritual enrichment, growth or increase of one's spiritual awareness, one engages into relative activities of spiritual practice. Spirituality implies one's state of being which is transcendent or an indefinable facet of reality and spiritual practice intends to be a form of behaviour which is more active or intentional such as prayer or reading of religious books, meditation, chantings, or participating in group rituals (Wuthnow, 2003).

“Spirituality teaches us to feel ourselves in our Self, by tuning our attention inwards, imagining the Divine presence in the heart as brilliant light, divine light. Slowly by meditation, repeated meditation, deeper and deeper meditation, we can become merged in that presence” (Rajagopalachari, 2013, p. 79-80). Thus spirituality is the teacher of one's goal and the spiritual practice is the way towards the attainment of that goal.

MEDITATION, TELOMERE & TELOMERASE

When reflecting on aging, one agonises about losing energy, vigour, mental functions, sexual capacity, independence, as well as one's ability to deal with stress be it physical or emotional. “Yoga breathing and meditation have been an integral part of the spiritual practices used for thousands of years by Eastern cultures to deal with these concerns” (Brown & Gerbarg, 2009). Spiritual practices list meditation as the pedestal to reach the ultimate which generates overall wellbeing as a natural effect through changes in the mind-body patterns. All the meditative practices employ the mind to reach the larger goal and it is the mind which is ultimately tamed in the process. it is only the process of meditation which brings in regulation and control of the mind further leading to overall wellbeing.

Meditation is a –“family of practices that train attention and awareness, usually with the aim of fostering psychological and spiritual well-being and maturity” (Shapiro et al., 2003). Meditational approach differs with respect to the mental faculties (e.g., attention, feeling, reasoning, visualisation, memory, bodily awareness) being used, the way they are used (e.g., actively, passively, effortlessly, forcefully) and the objects to which the faculties are directed (e.g., thoughts, images, concepts, internal energy, aspect of the body, love, God) (Sedlmeier, 2012). There exists a reasonable amount of literature suggesting the effects of mind-body activities on amelioration of stress-based symptoms of many diseases like psychological disorders, inflammatory diseases, aging and as well cancer (Venditti et al., 2020). Correlation between improved psychological distress, eating behaviours, and metabolic health with increase in telomerase activity were reported suggesting its regulation in part by levels of psychological and metabolic stress both (Jacobs et. al., 2011).

Telomeres are specialized DNA-protein structures at chromosomal terminal regions which are unique DNA sequence repeats (TTAGGG) provides protection against chromosomal degradation, protects the genome from nucleolytic degradation, irrelevant recombination, repair, and inter-chromosomal fusion preserving the genomic information (Brown, 2007; Das, 2010; Shamma, 2011). Telomeres therefore play a vital role in preserving the information of our genome. Telomere length shows heritability, high variability and strong inverse correlation with age (Benetos et al., 2001; Nettleton et al., 2008). Loss of telomeric base pairs takes place because of the ‘end replication problem’ as well as damage caused by reactive oxygen species and potentially links with oxidative stress (Barrett & Richardson, 2011; Shalev, 2012). Because of the long life span of humans and short telomere, telomeric attrition may be directly related to aging at the cellular as well as the organ and the systemic levels (Benetos et al., 2001). The rate of telomere shortening is determined by the balance in its cellular environment and probably the environmental factors influencing oxidative and inflammatory responses (Nettleton et al., 2008).

The enzyme telomerase addresses telomeric shortening via addition of telomeric repeats (Cerone et al., 2001) and the absence of telomerase reverse transcriptase (TERT) gene expression in dividing cells causes loss of telomere therefore leading to its shortening (Boccardi et al., 2013). The active telomerase through expression of human telomerase reverse transcriptase (hTERT) adds the TTAGGG sequences to the telomere to lengthen up. It is the telomerase enzyme that enables telomeres to become long and preserve its length thus eliminating the negative effects of stress from internal and external environment maintaining cellular health in turn.

Life style parameters and the events in an individual’s life significantly influence cellular aging (Lin et al., 2012). Differences in the rate of epigenetic aging have been observed between advanced and naive meditators wherein the control group reported increased intrinsic epigenetic aging acceleration. This shows a protective effect of a continuous

meditation practice continual adept meditators indicating a healthy aging pattern along with physiological benefits (Chaix et al., 2018). It has been well established that the telomere length is influenced by genetics, prenatal conditions, early adversity and also by current stress and lifestyle (Epel, 2012). The studies till date depict the association of telomere length with varied factors and the changes in telomere length brought about by lifestyle interventions, there have been fewer longitudinal studies than the cross-sectional studies on telomere length and more studies are demanded to establish a clear cause-effect relationship between lifestyle factors, telomere length and health outcomes (Lin et al., 2012).

The presence of a balanced telomerase activity for cellular health and successful aging has been reported in clinical as well as animal studies (Muneer & Minhas, 2019). Due to its effect on Telomere length, Telomerase enzyme has been correlated with health and death (Schute & Malouf, 2014).

Interventional and or follow up studies have reported positive effects of meditation/ lifestyle modification on telomere length and or telomerase activity (Conklin et al., 2015; Hoge et al., 2013; Jacobs et al., 2011, Lavretsky et al., 2012; Ornish et al., 2013; Rao et al., 2015). An analytic review on the effects of mindfulness meditation on telomerase activity by Schute and Malouf (2014) revealed that consistent practice led to increase in mindfulness and reduction of anxiety, depression and stress and also brought positive immune function changes including increased monocytes overtime. Some studies have also shown the association of short telomere length with psychiatric disorders, stress and poor immune function. As observed, telomere length was subject to change on removal of stressing agents suggesting that the change in telomere length were physiological and not genetical (Romano et al., 2013).

Literature till date supports the increase of telomere length aided by telomerase activity through the various practices of meditation/mind-body practices which are known to elicit relaxation response.

The concept of improvement of telomere regulation ultimately leading to healthy aging with meditation training has been supported in theoretical and empirical studies, however, the mechanisms i.e. psychological and biological that underlie these changes remain under-defined, along with the changes occurring as per conditions in contexts and boundaries (Conklin et al., 2019). Development of further explicit theories and measurement devices is mandated for attaining a broader understanding on the working of the why and how of meditation (Sedlmeier, 2012).

SPIRITUAL PERSPECTIVE

Spirituality bestows us with the responsibility of our spiritual evolution. Instead of seeking in the places of worship, it brings us to the way to evolve by finding the one residing within through meditation (Rajagopalachari, 1992). In reality, Spirituality guides one to lead a

worldly life in a way that leads to contentment and peace of mind (Vinoba Bhave, 2019). Because spirituality provides meaning and purpose in life, it could be beneficial to health in whichever way it is defined either through transcendence, value guidance or religiosity. It has been suggested that spirituality with a base of transcendence or religious commitment breeds a positive, calm, peaceful, harmonious state of mind and a belief in oneself through divine connection which has rendered meaning, purpose and hope to one's life. A transcendental approach arguably provides a mental attitude promoting health by the way of calmness or balance or acceptance of adversities and coping amid change with spirituality (Coyle, 2002). It also implies a holistic approach of an understanding of a human person in unison where spirit, mind, body and environment describe the interrelated manifestation (Burkhardt, 1989).

A man is comprised of three bodies i.e. (i) Gross/ physical body- formed of sense organs, skin, flesh, bones, etc. (ii) Subtle body- formed of mind, intellect, consciousness and ego (iii) Causal body or the soul- formed of happiness, joy and bliss (Chandra, 2010; Chandra, 2018; Daaji, 2022). The physical body corresponds to growth and movement and has its limitations pertaining to its evolution whereas the causal body/ soul, is absolute. Only the subtle body which corresponds to thinking and understanding carries the consciousness, mind, intellect and ego, is capable of evolution. In purpose the spiritual practice removes emotional and mental baggage along with taking one towards his "Soul: the centre of being, source of one's spiritual intelligence" (Chandra, 2018; Daaji, 2022).

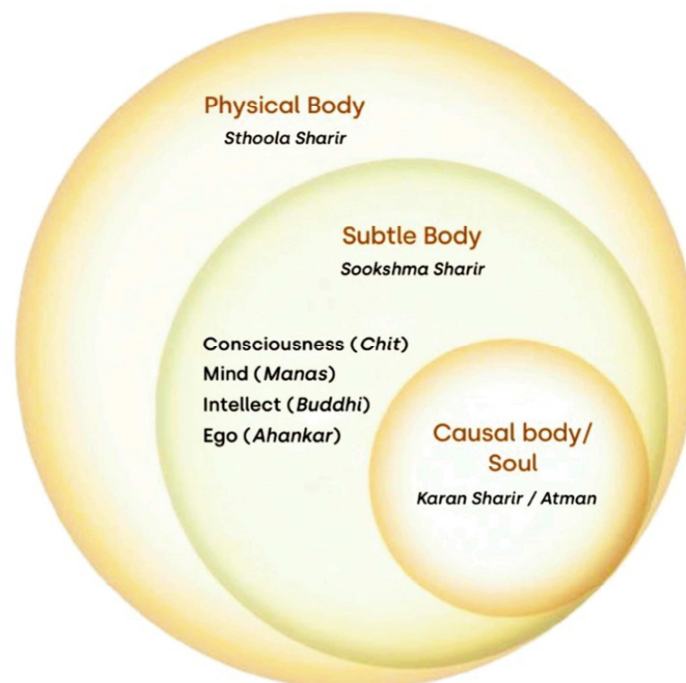


Figure. 1. The three bodies
Daaji. (2022, October). Emotional Wisdom. Heartfulness advancing in love, 10, 24-29.

The subtle body which is formed of consciousness, mind, intellect and ego, bears the highest potential along with the highest capacity to evolve. The purification of subtle body by removal of the layers surrounding it determines one's spiritual destiny (Patel, 2016). The mind is stilled to very deep levels, allowing for the expansion of consciousness through the conditions created by one's spiritual practice. The subtle levels of existence i.e. manas, buddhi and ahankar need to be exercised for the expansion of consciousness and evolution of the mind which can be attained through meditative practices (Patel, 2019). It is with the spiritual practice that one can regulate, purify and simplify this field and bring in clarity, stillness and peace.

Separate pieces of a whole do not make an individual. There is uniqueness to each aspect of an individual. All the pieces of the whole intertwined in complexity, operate together so as to produce the complex functioning of the body, mind and soul (Elliot, 2002). The interconnection between the spirit, mind and body implies that spirituality can be achieved from various intervening programs and techniques that deal with the dynamic mind-body equilibrium (Chan et al., 2006). The environment resulting from the spiritual practice is capable of percolating at the mental and physical plane. The mind and body are both interconnected and work in coalition. It is this relationship which proves to be beneficial on the spiritual en-route taking one towards the Ultimate.

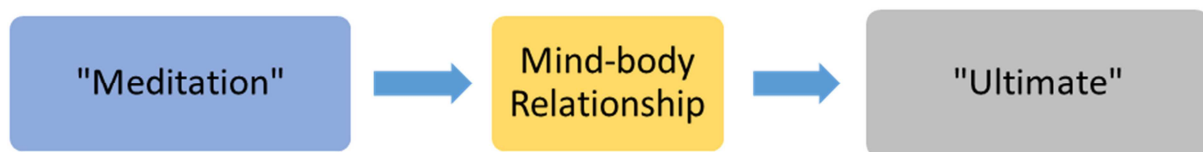


Figure.2. Journey from Meditation to the Ultimate includes the mind-body relationship

If one's mind is brought to a harmonious state, circumstances and environments tend to have no effect on it thereby removing disturbance within leading to peace and tranquillity under all circumstances (Chandra, 2009). Both theoretically and practically meditative practices aim to reduce and/or nullify the internal clutter of one's mind by making the being peaceful and therefore establish harmony inside producing deep relaxation at a physical level even so with changing circumstances leading to increase of one's resilience and adapting capabilities.

As given in the yoga aphorisms of Patanjali, "yoga" the "mystic union of man's true self with the world soul"- represents the most direct and well formulated method for achieving that goal. It is appealing to the modern world for two reasons- it combines a system of physical regime that has a link with physical and mental health coupled with a mystical search for inner stability and for psychical depths of one's soul which seemingly underlies broader and deeper modern life undercurrents (Yutang, 1966).

"Yoga"- in reality means the union of one's individual soul with the ultimate. It implies culmination of all the spiritual practices aimed to arriving at this union and not an activity

(Mehrotra, 2016). The age old religious/spiritual systems/traditions of the world have described various ways of reaching God or the Ultimate, of which “yoga” is the most popular. Yoga also identifies with physical health apart from its the ultimate aim of union with the Ultimate and prescribes the practice of meditation which also entails wellbeing in a greater sense. Practise of meditation applying the mind to an exercise of bearing the mind on one subject and letting the intruding or disturbing thoughts drop off by non-attachment serves as the primary step in strengthening of the mind up to a stage that can enable one to make its complete utilization for achieving one’s purpose (Wullemier, 1997). Silent meditation practice by Shakyamuni Buddha led to the attainment of enlightenment (Bukkyo Dendo Kyokai, 1982).

The teachings of Buddha guides one to break the sieve of selfish, impure thoughts and desires of evil and take the path towards Buddhahood to enjoy the purity of both the body and the mind (Bukkyo Dendo Kyokai, 1982). The meditational practices speak of increasing inner purity while dropping off the impurities which are present in one as negative attributes of emotions and thoughts that have been depicted to lead to sickness. As per the Taoist manual, eradication of the damaging effects of senses and emotions on the body can bring one back to the ultimate mind (Wong, 1992). Improvements of psychological conditions have been reported to increase telomerase activity and lengthen telomeres bringing longevity proving a potential influence of emotions on individual health. The lesser the negative emotions, lesser internal stress, more of internal peace and harmony ultimately leading to greater wholesome health and therefore increased life span.

DISCUSSION

The spiritual practice makes one’s mind focused towards the ultimate and brings forth a dimension of peace, clarity, purity, oneness and contentment therefore negating the inner clutter. With practice of meditation the impurities of the mind are dropped off creating void and inculcating positivity making the individual’s evolution possible towards the ultimate with a seemingly similar effect in the body enabling one to radiate the essence of the soul thus making the spiritual journey conducive at both physical and spiritual level.

Meditation and meditation-based techniques have a possible role in decreasing oxidative stress which might further assists in prevention and/or alleviation of deterioration of associated diseases (Mahagita, 2010). Mind-body methods have been explicated to work via mechanisms that decrease oxidative stress produced during stressful conditions both from internal and external environments and hence reduce the probability of stress induced damage following a subjective mechanism of translating the peace felt through meditation to an objective mechanism felt as a relaxation response within one’s entire body reaching all organs and systems. The elimination of the inner clutter brings in a mirror effect in the entire human system also observed by the cellular to systemic levels of the human body hence improving one’s physical functionalities which would eventually tend to build a protective

shield against the age and/or stress associated damages. When the cellular levels are shielded against degeneration and provided with an optimal living environment, the resultant effect can be seen as increased lifespan due to the active enzyme telomerase and longer telomeres.

CONCLUSION

The meditative practices when followed, breed changes from subtler (mind) to grosser (body) levels by increasing one's mental purity which is eventually felt in every cell of the human body leading to improved cellular functioning, networking and eventually addresses longevity on the way towards the greater goal of one's life.

“If a person's mind becomes pure, his surroundings will also become pure. A pure mind soon becomes a deep mind, a mind that is commensurate with the Noble Path, a mind that Building a Buddha Land loves to give, a mind that loves to keep the precepts, an enduring mind, a zealous mind, a calm mind, a wise mind, a compassionate mind, a mind that leads people to Enlightenment by many and skilful means. Thus shall the Buddha's Land be built.” (Wong, 1992, p. 234-235).

Spirituality- the path of meditation is meant to be followed by all which can lead to longevity and wellbeing at all levels thereby encompassing everyone and everything in one's vicinity leading towards worldly wellbeing.

FUTURE STUDIES

Our spiritual practices hold the key to the present world crisis. Exploring the spiritual practices and literature from scientific perspectives might help bridge the gap between spirituality and science effectively.

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