

# Rajyoga Meditation and Effects: A Comprehensive Review

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**Abstract** - Stress, result of acute demand of enhanced performance throughout the work period in this highly competitive world. Stress causes a variety of physiological changes in the human body namely hypertension, angina, insomnia and impotency etc.. The practice of meditation may offer a way to relieve that stress. Meditation has a number of positive effects on physiology of human body. The Raja Yoga meditation, a technique of mediation, has been showed very effective results on vital health parameters. This paper presents a comprehensive review of various meditation techniques, practice of Rajyoga meditation and its effects on various health parameters.

**KeyWords** - Rajyoga meditation, Cardiovascular, Psychosomatic disease, Emotional Intelligence, Hyperacidity, Psychoactive abuse/dependence, Cancer, Affective and cognitive functions, Chronic Headache, Schizo-affective disorder.

## I. INTRODUCTION

As we know our life is based on thoughts, as our thoughts so our actions in terms of values, personality, character and integrity for the benefit of self, family, nation and universe. The meditation is nothing but, the attention to the mind that is thought. It empowers us in a positive manner to deal with any kind of situation. It gives correct understating of self nature and God's nature so that we can plan ourselves for a good cause. It gives subtle understating of suffering of human kinds. Joel M. Evans defines, Meditation involves trying to train your thoughts to stay in the present moment, because in the present moment there is true peace. Thoughts of the future (what can/might/will happen, leading to fear or anxiety) or of the past (what did or might have happened, leading to sadness, depression, anger, or jealousy) prevent us from feeling the peace that is in the present moment [1]. According to "Meditation and Values" [2], Meditation is a deep and purposeful thought that dwell on the landscape of your mind with understanding and a means to access your sub-conscious. It teaches you to have concentration, single track thinking and instant recognition of deviations from your intended focus.

Venkateswara Rao, Nunna [3] explains Meditation is a state (awareness); it is not a work which you do for some fixed time every day. Meditation is not a doing. It is a state of our being. So, there is nothing like doing meditation, there is only being in meditation – Being in a meditative state. Meditation is our natural state. It is always there in us. We just need to realize and recognize it. Mindfulness meditation is defined simply as "moment-to moment awareness" by Jon Kabat-Zinn [4], (founder of the Center for Mindfulness at the University of Massachusetts Medical School in Worcester, Massachusetts) . He stated that mindfulness meditation is about paying attention to the senses, thoughts, and body in a way that people do not usually do.

### 1.1 History of meditation: spirituality to science

Dr. Benson popularized meditation in secular society via the relaxation response—which is elicited via a meditative approach that involves stilling the body in a quiet environment and repeating a word or a phrase quietly to oneself. Noting that the relaxation response "has been experienced throughout history," he stated that, for thousands of years, people, largely in spiritual or religious settings, have evoked a type of relaxation response via essentially all religions and other contemplative and meditative practices [5]. In fact, Bonadonna noted that Buddhist texts offer insight into *thousands of years* of "observation of inner experience" of meditation [6]. Calling on or contemplating the name of God, repetitions of praise to God, contemplating the name of God or quiet prayer, are all examples of ancient meditative techniques. In contemporary society, an emergence of research on the practice of meditation generally began in the 1960s when Dr. Benson, in his laboratory at Harvard Medical School, began studies of practitioners of TM, monitoring their heart and respiratory rates and core body temperatures. Dr. Benson and other U.S. researchers were intrigued by reports from other countries of people who regularly meditated being able to bring bodily functions under voluntary control although these functions were previously thought to be only under autonomic control [5].

The Maharishi Mahesh Yogi also helped popularize meditation with his TM technique in the 1960s, and current estimates cite that at least 4 million people having learned TM during the last 40 years [6]. But, during this same time period, numerous important researchers and scholars in this country and around the world were uncovering the effects of meditation on the mind and the body [5-9].

One such researcher was Jon Kabat-Zinn, Ph.D., who founded the Center for Mindfulness at the University of Massachusetts Medical School in Worcester, in 1979. Dr. Kabat-Zinn popularized mindfulness meditation and Mindfulness-Based Stress Reduction, or MBSR [10]. Dean Ornish, M.D., founder of the Preventive Medicine Research Institute in Sausalito, California, also raised awareness of the potential benefits of using meditation to address chronic disease via his multi-interventional programs

for people with cardiovascular disease (CVD). Dr. Ornish recommended significant lifestyle behavior changes in this population in the realms of nutrition, exercise, and stress reduction, including meditation, and demonstrated that such an approach can have a positive impact on the experience of chronic illness among patients with CVD [11]. In 2003, the Dalai Lama convened meditators and scientists in the field to explore the interface between Buddhism and neuroscience [12].

In 2005, a conference entitled “Investigating the Mind 2005: The Science and Clinical Applications of Meditation” was held in Washington, D.C. This conference offered communication among the Dalai Lama, Buddhist contemplatives, and neuroscientists in the continued quest to understand meditation’s role in health and disease [12]. Clinical applications for meditation have been suggested widely in the literature. Researchers and proponents of meditation have suggested that meditation could be used to ameliorate disease states by reducing symptoms, reducing blood pressure, lowering heart-disease risk, providing stress reduction, and affecting other factors involved in illness. Programs for learning relaxation techniques, such as meditation, in hospitals and other health facility settings, are becoming more common place. Slowly, health care professionals are recommending meditation and other similar techniques to their patients as adjunctive CAM or behavioral treatments for a variety of health disorders.

## II. CLASSIFICATION OF MEDITATION

Meditation has been classified by several authors based on practitioner’s belief system. Review of classification of meditation described by various authors is being presented in this paper.

### a. Joel M. Evans [1] and “Meditation and Values” [2], classifies the meditation under the five headings:

#### (A) Concentrative techniques

They all involve active concentration, consciously focusing the mind on something specific. Examples of this type of meditation include staring at the dance of a candle flame, continuously repeating a word to yourself (such as *peace*, *love* or *God*) or simply following your breath. The goal is to concentrate and try to ignore the other thoughts that will unfortunately pop into your head [1].

##### (i) Mantra meditation

It is a sacred word believed to come from Divine Intelligence is usually given by a guru to his followers upon their initiation and they are supposed to chant it internally or externally believing that it is a step towards consecrating your life to the Divine, desiring that the Divine essence and your own essence become merged. This mantra advises you to be conscious of your essential spiritually, to be stable in peace and to become free from the influence of the ephemeral nature of your material existence [2].

##### (ii) Japa meditaion

Repetition of mantra aloud or internally which makes awareness stronger and creates momentum. Emphasis is on the number of times a mantra is repeated. A typical rosary contains 108 beads and the mantra is chanted once for each bead. The intention behind this is to develop a spiritual awareness while doing day-to-day activities [2].

##### (iii) Dhyana meditation

Concentration on the sacred object, Meditative pose is generally the half lotus or full lotus poses or Asana, to sit straight so that all the subtle physical energies are unrestricted, then meditation will be more successful. Attitude is very important for effective outcome. With half closed eyes, the meditator then focuses his or her attention upon the figure of the divinity assuming it is sacred for and internal state of sacred awareness [2].

##### (iv) Variations on the theme

There are many variations to this most basic script. It can be done in silence or with music that you find relaxing. If you find your focus drifting from your breath to the music, allow it to happen — it is just another form of meditation. An example would be the phrase “soft belly,” thinking of the word “soft” on the in breath and “belly” on the out breath [1].

##### (v) Focus on the Breath

Simply focus on your breath as it comes in and out of your body. By keeping your focus on the breath you prevent other thoughts from coming in. If they do, simply let them go as best you can, and return to concentrating on your breathing. In breath represents taking in the purifying energy of the divinity. Out breadth expel impurities of the body. Its impact is on awareness, faith and health [1].

#### (B) Movement / Positioning

Positioning means that you should be sitting comfortably, not lying down. Sitting in a chair is fine; just keep your feet on the floor. Sitting on the floor works just as well, with or without a cushion, but try to keep your back as close to straight as you can

without pain or a lot of effort. Some mediator's create a special place to meditate and feel they benefit from sitting in front of things that have special meaning, such as pictures of loved ones, sacred objects, or crystals (amethyst is reported to enhance meditation) [1].

**(i) Settling in to the meditative movement:**

If sitting and thinking seems quite difficult for you, then you might be best served by first trying a movement meditation, where there are no instructions other than to move! That's correct: all you have to do is just move. That means you can shake your body wildly, or dance (modern or ballroom or tribal or ethnic) around the room to loud music that you really like. This is probably best done with no one else around (one might be self-conscious, as this could look quite silly to an observer). See how you feel after 5 minutes . . . if you want to continue, do so. Afterwards, try to keep still for a few minutes, paying attention to your breath. Don't be surprised if emotions come up while you are shaking or dancing. This is not an uncommon occurrence, especially if you have emotions just below the surface that have not yet been addressed. Becoming emotional during vigorous movement is a healthy way to move through and clear emotions. Of course, if this technique brings up powerful emotions that affect you throughout the day, working things through with a professional is far better than hoping that you can just shake the discomfort away. Finally, movement meditations are a wonderful choice for those who feel stuck, either emotionally or elsewhere in their lives [1].

**(ii) Movement Meditation through Martial Arts**

A discussion of movement meditation would be incomplete without mentioning **yoga, tai chi, qigong and other martial arts**, which, in their pure form, are not only a meditation but also a way of life. All are ancient disciplines that blend controlling thought (primarily by focusing on breath) with movement (through postures or detailed choreographed routines) in order to achieve harmony between mind and body [1].

**(C) Expressive meditation: creating an outlet for meditating**

It involves creating an outlet for your creative side, which neuroscientists believe lies in the right cerebral hemisphere. Examples are journaling, drawing, or even working with sand, sticks and small stones, allowing your hands to create whatever they desire while you listen to relaxing music and fully concentrate on the task at hand. Some structure this by writing about the important events of the day and their associated thoughts and feelings. Others write about a particular topic, such as writing daily about all the issues surrounding a chronic illness. Many people find that when they write exactly what they think or feel without letting their mind get in the way (by judging their grammar or deciding if a topic is off limits) they gain important insights into their situation, in addition to feeling less stressed and more relaxed [1].

**(D) Discipline (Yama and Niyama)**

It's a discipline which enhances and complements a meditation practice. They refer to hygienic practices and include refraining from using intoxicants like alcohol and cigarettes, following a vegetarian or sattvic (pure) diet and sleeping and rising early. It enables you to be in balance and harmony with yourself and consequently your dealings with others become more harmonious and sensitive [2].

**(E) Rajyoga**

It includes all the above techniques but interprets them in a more symbolic way. It is a deep realization about it and reminds you to stay in the awareness of the meaning of the mantra. It is a process of shifting again and again from body-consciousness to soul-consciousness so that one can commune with God, the Supreme Soul, which is the sacred focus of attention. This requires stillness of mind, focus and purity of thoughts. For that, the Asana is to sit in the metaphorical lotus pose of detachment and balance. The practice of Raj yoga also keeps you alert and aware of the different traps and illusions of material consciousness so that you notice when you drift into false ego. Raj yoga enables you to accumulate the inner powers to perform pure karma.

Eventually Raj yoga takes the form of a preparation for leaving this world. It frees you from the fear of the unknown and gives you clarity and certainty about what lies beyond the immediate perceivable world, so that when your time comes you can move on easily and comfortably, knowing how and where to go [2].

**b. Travis and Shear classifies the meditation**

Travis and Shear have identified three types of meditation practices, classified according to their EEG signatures and the corresponding cognitive processes they entail [13].

**(i) Focused attention technique**

The first type, which includes focused attention or concentration techniques, is characterized by EEG in the beta-2 (20-30 Hz) and gamma (30-50 Hz) frequency bands, which are associated with voluntary sustained control of attention to keep it focused on the object of meditation.

### (ii) Open monitoring technique

The second type includes open monitoring or mindfulness-based techniques, which involve dispassionate non-evaluative monitoring of ongoing experience and are characterized by frontal theta (5-8 Hz) EEG, and perhaps occipital gamma (30-50 Hz) EEG [14].

### (iii) Automatic self-transcending technique

The Transcendental Meditation technique falls within the third category, automatic self-transcending meditation, which is associated with alpha-1 (7-9 Hz) EEG, characteristic of reduced mental activity and relaxation. Whereas concentration and open monitoring meditations both require some mental effort (i.e., holding attention on its object or maintaining a stance of open monitoring, respectively), automatic self-transcending meditation is the effortless transcending of the meditation process itself [15,13]. It is said to automatically lead to the experience of “consciousness itself”, the screen of awareness without any objects of awareness, a low-stress state called transcendental or pure consciousness [16].

## III. MEDITATION PROCEDURES

According to Jonathan Shear [17] "One common misconception, often found in popular books and articles, and even sometimes in textbooks and research articles, is that all meditation procedures are more or less “the same.” But this is simply incorrect, for major meditation procedures often differ in important ways.

- i. Zen Buddhist practices are likely to use concentration, whether directed perceptually towards one’s breathing, or conceptually towards paradoxes (koans) that defy intellectual resolution.
- ii. Taoist practices emphasize circulation of energy throughout channels of the body.
- iii. Transcendental Meditation (TM) uses relaxed attention to special sounds (or mantras) repeated silently within the mind.
- iv. Yoga adds many other procedures and objects, such as concentration on energy centers in the body (chakras), the “light” of the mind, and attributes of God.
- v. Theravada Buddhism emphasizes dispassionate observation of the impermanence of sensations, thoughts, and whatever else is meditated on, including the self itself. Tibetan Buddhist Tsonghakapa emphasizes reasoned deconstruction of the reality of objects experienced in meditation, as well as concentrative practices to quiet the mind.
- vi. Integral Yoga emphasizes attending to a sense of seeking, and remembering calmness and divinity both during and after meditation.
- vii. Kriya yoga uses techniques of concentration on breath, and on God. Sufism follows the inner feeling of love for God.
- viii. And Christian Centering Prayer uses a word of love to stimulate receptiveness to God within.

Thus traditional meditation procedures can differ with regard to the mental faculties they use (attention, feeling, reasoning, visualization, memory, bodily awareness, etc.), the way these faculties are used (effortlessly, forcefully, actively, passively), and the objects they are directed to (thoughts, images, concepts, internal energy, breath, subtle aspects of the body, love, God). They also often differ strongly with regard to how they relate to questions of belief. Some systems emphasize the need to hold particular philosophical, metaphysical and/or religious views; others emphasize complete independence of all matters of belief. Different meditation traditions also often have very different goals, ranging from physical health and mental well being, to harmony with nature, higher states of consciousness and experience of God. In short, even cursory knowledge of the many different mental activities, objects, contexts and attitudes used by the world’s major meditation procedures makes it clear that it is a mistake to regard all these diverse procedures as being essentially the same [17].

Transcendental Meditation TM (TM), the relaxation response, mindfulness based meditation, breathing meditation, and walking meditation are just a few of the common types of meditation available to meet patients’ interests and needs. Today, meditation is also recognized as a practice that is used as a popular complementary and alternative medicine (CAM) therapy [5]. The National Center for Complementary and Alternative Medicine (NCCAM) survey published in 2002 on the use of CAM in the United States showed that meditation was in the top 10 most commonly used practices used for CAM therapies [6]. People may practice meditation for a wide variety of reasons, including stress reduction, health promotion, relief of symptoms caused by chronic medical conditions, enhancement of spirituality, and other goals [5]. There is much that remains unknown about meditation, but what is known is that science is only beginning to understand all of the potential clinical applications in medicine, psychology, and spirituality. Researchers are discovering that meditation has the potential to affect physical, emotional, mental, and spiritual wellbeing [5].

## IV. RAJYOGA MEDITATION AND ITS EFFECTS ON VARIOUS HEALTH PARAMETERS

## (A) Rajyoga Meditation

Rajyoga is one of the oldest meditation techniques, it does not involve any physical postures or exercises – rather it concern with re-orientating thought patterns and feelings so one can live with greater harmony and contentment. Raj-Yoga Meditation is awareness of the metaphysical self and absorption of one's mind in loveful and purposeful consciousness of God and his divine attributes. The word 'Yoga' means 'to unite'; Yoga is, therefore, the practice or art of uniting or linking the mind with God by focusing attention on him as an incorporeal being-of- light and thinking of nothing but his divine qualities. This takes one into a state of absorption in bliss and peace through positive thinking. It recharges one's self or soul with light and might and fills one with creative energy [18].

In the name 'Raj-Yoga' the word 'Raja' means the king, the sovereign or the supreme. This yoga is called Raj-Yoga because it is the supreme or the highest yoga, being true and most effective. Another reason for calling it 'Raj-Yoga' is that t it is related mainly to mind and mind is considered as the 'King that rules the sense-organs and the body. Moreover, the term Raj-Yoga also implies that even such a person as a kin, who is very busy and has so much to do, can practice it, there is no need to practice breath-control, physical postures, or use a mantra, or an image nor does it require one to stop all thoughts, but stop only, worldly or negative thoughts and concentrate our mind on God.

The word 'Meditation' means 'to think'. As we all know, man's mind is, ordinary, occupied with hundreds of thoughts of the world; in Raj-Yoga meditation, one withdraws one's mind from all the worldly thoughts, including the thoughts of one's own body, and one collects ones, consciousness, at least for sometime, and thinks of the shining and peaceful self as a point of divine and conscient light and, then, focuses one's attention on god as supreme soul, who also is a point of conscient light and is the ocean of peace. The inhibition of worldly thoughts and the recollection or recapitulation of thoughts of the luminous self is attained by directing the flow of thoughts towards god i.e. the supreme soul in his supreme adobe or Paramdham which is the world of divine light. In this sense, this meditation is withdrawal or reversal of one's consciousness, from the body and its world to the soul and its silent world, or from the dark lanes of negative thoughts on the bright path of contemplation on god. Raj- Yoga meditation may therefore, be defined as a disciplined exercise of awareness, utilizing such processes as creatively thinking, intuitively perceiving and silently reflecting and concentrating on the metaphysical truths of self and god which lead to comprehension and realization of the subject. This practice involves the turning of one's mind and the flow of his love in the direction of god, giving him the hot-link to communicate with him [18].

Seema Maini etl. [19] explains, Rajayoga meditation involves concentration but no physical object is involved. The object of concentration is the inner self. Instead of repeating one word or a phrase as in a mantra, a flow of thoughts is encouraged, thus using the mind in a natural way. The positive flow of thoughts is based on an accurate understanding of the self and so it acts as a key to unlock the treasure trove of the peaceful experiences which are lying within one-self. (Practical Meditation, Brahma Kumaris, Ishwariya Vishwa Vidyalaya).

Vyas etl. [20] and Telles S etl. [21] describe, Rajyoga meditation of the Brahmakumaris is a behavioural intervention. In this form of meditation the individual sits in a relaxed & comfortable position with their eyes open, and with gaze fixed on a meaningful symbol (a light) & then uses visual or auditory images for concentration. At the same time they actively think positive thoughts about a Universal force pervading all over, as light and peace.

M Santhi etl. [22] defines, the word Raj means the king, ruler or the supreme. Raj Yoga is the supreme or the highest yoga that empowers the self to ruling the mind, sense-organs and the body. Raj-Yoga also imply that even a person who is a king and who is very full of activity can practice it, as this practice does not involve any acts of austerity or penances or renounce ones family circle. Raj-Yoga meditation is different from all other forms of meditation; although deliberation, expression, imagination, attentiveness, etc. are engaged in its practice.

Raj-Yoga is based on the perceptive that every person has two aspects of personality – body (outer sheath) and a conscient entity which is a metaphysical or spiritual being or soul. It is this which thinks, understands, reflects and has emotions. Brain is one of its mechanisms and its switchboard or control machinery. However, in the course of time, definite factors have led the conscient entity to identify itself with the brain or the body. This wrong recognition has caused suffering in various forms and has led the society to the path of great effort for survival and peacelessness. The practice of Raj Yoga results in attentiveness and consciousness of the mind and illusions of material consciousness, frees one from panic of the unidentified, gives clearness and confidence about what lies beyond the immediate perceivable world. It can also be practiced for maintaining sound health, improving attentiveness for better performance in any field, overcoming character defects, developing personality, etc. [22].

## (B) Effect of Rajyoga on Health Parameters

### WHO's definition of health:

Health is a state of physical, mental, social & Spiritual well being & not just the absence of diseases or infirmity. Today more than 90% diseases are *stress – related or psychosomatic disease*. Stress (mind) affects badly on every dimension. Psychological stress can affect the individual and in turn the society in a number of ways.

- i. **Subjective Effects:** Are anxiety, aggression, apathy, boredom, depression, fatigue, frustration, guilt, shame, inability, bad temper, moodiness, low self- esteem, threat, tension, nervousness, loneliness etc.
- ii. **Cognitive Effects:** Are inability to make decisions and concentrate. Frequent forgetfulness, hypersensitive to criticism and mental blocks.
- iii. **Behavioural Effects:** are accident proneness, drug taking, emotional outburst, excessive eating or loss of appetite, excessive drinking and smoking, excitability, impulsive behavior, impaired speech, nervous laughter, restlessness and trembling [60].

#### Effects of Rajyoga are listed below:

- (a) **Seema Maini et al**, Effect of Rajyoga Meditation on the Heart Rate, Blood Pressure and ECG, 2011, shows that the mean heart rate in the meditators was  $69.39 \pm 5.26$  and in the non meditators, it was  $81.96 \pm 3.53$ . The mean value for heart rate in the meditators was lower than the value in the non-meditators and it was statistically highly significant. The mean value of systolic blood pressure in the meditators was  $118.37 \pm 7.25$  and in the non-meditators, it was  $128.15 \pm 10.05$ . This difference was also statistically highly significant. Similarly, the diastolic blood pressure in the meditators was  $78.62 \pm 4.71$  and it was lower than the values in the non meditators, ie  $84.50 \pm 4.83$ . This difference was also statistically highly significant. In the standard 12 lead ECG which was recorded in case of the meditators and the non meditators , except for the heart rate as was stated earlier, it did not show any significant difference. So they concluded that the mean heart rate, systolic blood pressure, diastolic blood pressure, heart rate were significantly lower in subjects who practised meditation regularly than in subjects who did not. ECG did not show any significant change except for decreased heart rate in meditators [19].
- (b) **Patel Girish (1984)**, “Effect of Rajyoga Meditation on vital parameters” A preliminary study on 25 Raja Yogis, including both males and females, practicing meditation regularly, in October 1984, by the medical wing of Raja Yoga education and research foundation to observe the effect of meditation to the vital parameters. This showed an overall decrease in the mean values of heart rate, systolic & diastolic blood pressure and respiratory rate within 6 months [23].
- (c) **Team, Medical wing, Mt. Abu (1985)**, “effect of Rajyoga Medtation on patients of sleeplessness” In 1985, medical wing of Raja Yoga education and research centre has done one research study on sleeplessness. In this study 824 patients examined and taught Raja Yoga meditation for one month 507 of them got complete benefit [24].
- (d) **Patel Girish (1986)**, “effect of Rajyoga Medtation on patients of addiction” Medical wing has done one more research on smoking & alcohol addiction patients for one month. 183 patients were taught Raja Yoga meditation. 74% patients became completely free of smoking addiction. After one year 93% smokers left smoking [25].
- (e) **Patel Girish (1989)**, “effect of Rajyoga Meditation on patients of Hyperacidity” For 3 months, 66 patients of hyperacidity were studied. After doing Raja Yoga meditation for 3 months, 56.1% patients got complete relief. 34.8% patients got good relief and 9.1% little relief [26].
- (f) **Ushakiran (1989)**, “effect of Rajyoga Meditation on patients of headache” In 1988, in one research study 121 patients who were suffering from headache have been taken & taught them Raja Yoga meditation for 3 months. After 3 months 53.9% patients got very good relief, 91.2% patients got very good relief and 9.4% patients got little relief [27].
- (g) **Patel Nikhil (1995)**, “Effect of Rajyoga Meditation on Substance Abuse Disorder and Neurotic Disorder” : A group of three hundred and eighty foreigners including two hundred and sixteen Europeans, having a maximum of eight kinds of substance abuse/dependence for a duration ranging from two months to forty years were interviewed. Data was collected using a structured questionnaire. The majority of the meditation practitioners (93%) abstained completely from all the substances within one month period of practice of Rajyoga Meditation, without taking concurrent psychiatric treatment. This emphasizes the use of Rajyoga Meditation as an effective method to overcome substance abuse/dependence [28].
- (h) **Surya, Balakishore (2000)**, “effect of Rajyoga Medtation on patients of depression” One research study was done by B.K Suryji (M.T ABU) & B.K Balakishoreji on depression management through Raja Yoga meditation (power of thought) in 2000. They used TAT test & symptom list . He also found good results in many cases [29].
- (i) **Gupta Satish (2004)**, “effect of 3D Heart Care on CAD patients” To combat the menace of epidemic of CAD J. Watumull Global Hospital & Research centre, Brahma kumaries, Mount Abu joined hands with defense institute of physiology and allied sciences (DRDO), New Delhi and various other prestigious heart institutes in collaboration with CCRYN, ministry of health and family welfare, Govt. of India in early 1998, During last six years more than 800 angiographically documented CAD patients referred from all over India have participated in an unique user friendly HEALTHY LIFE STYLE program for

CAD Regression (Mount Abu Open Heart Trail) in groups of 20 to 30 patients with their spouses at Brahma Kumaris, Shantivan, Complex, Abu Road. Almost all the patients who have sincerely followed the program experienced highly impressive improvement in symptoms eg: angina, breathlessness etc. Various tests Carried out have shown highly significant decrease in bad cholesterol (LDL), increase in good Cholesterol (HDL) levels, better control of diabetes, high blood pressure, impressive decrease in weight, freedom from smoking, alcohol etc. Repeat coronary angiography have shown opening of coronary blockages. Some patients who followed the program strictly have been able to open even calcified 100 % blockages. Highly significant decrease in number of anginal episodes and heart attacks was observed in patients, who adapted this program as compared to control group in this randomized controlled study [30].

- (j) **Team, SpARC, Mount Abu(2011)**, “effect of positive thoughts positive vibrations on cancer patients”The service through positive thoughts and positive vibrations were tested on group of patients in a state government run cancer hospital in Karnataka by spiritual applications research centre of Brahmakumaris. Many topics on self-respect and effect of positive vibrations were experimented. It was found that Raja Yoga brought about many positive changes among the patients and others who attended classes. Each participant had a new and unique experience: Each felt that there was a self progress, increase in will power and concentration, weightlessness and flying stage. Patients and their accompanys were automatically attracted to the meditation rooms were meditations were being conducted. They readily expressed their feelings to attended the free Raja Yoga course. So far up to 125 patients and 400 accompanys who came with the patients have attended the course. The hospital staffs have expressed their feelings that the disturbances of evil souls have reduced. The hospital authorities desired to conduct training to their staff too. Raja Yoga has brought about many positive changes among the patients. The patients and the hospital staff who practiced Raja Yoga feel that the meditation and the philosophy is very much essential to overcome anxiety, tension and worries that engross the man [31].
- (k) **Sukhsohale Neelam D et al**, Does Raja Yoga meditation bring out physiological and psychological general well being among practitioners of it?[32], Emphasizes the declining effects of Brahmakumaris Raja Yoga meditation on physiological variables like heart rate, respiratory rate, systolic and diastolic blood pressure during meditation as compared to the pre-meditation period. Decrease in the physiological variables indicates a shift in the balancing components of autonomic nervous system towards the parasympathetic state. Sympathetic arousal is expected to be reduced during Raja Yoga practice. Hence the load on the heart due to sympathetic arousal is also minimized resulting in an improvement in cardiovascular parameters. Similar findings as in our study were observed in 23 subjects by Gupta S et al.[33] attributing decline in pulse rate, respiratory rate and blood pressure to the reduction in the level of sympathetic arousal. Meditation is believed to gradually reduce the sympathetic dominance resulting in better balance between sympathetic and parasympathetic. This should bring about a hypometabolic state resulting in decreased heart rate and blood pressure [34]. The reduction of lactic acid brought about by meditation is supposed to be a sign of tension free and peaceful state of mind [35].
- (l) **Vyas R et al**, [34] observed that diastolic blood pressure was significantly lower in both short term and long term meditators of Raja Yoga meditation as compared to non-meditators. Lipid profile showed a significant lowering of serum cholesterol in short and long term meditators as compared to non-meditators. However contradictory results have been observed by Telles S et al [21], who conducted study in 18 males with 5-25 years of meditation (mean  $10.1 \pm 6.2$ ) showing that heart rate during the meditation period was increased when compared to the baseline period, as well as compared to the value during the non-meditation period of control sessions. No significant change was observed during meditation, for the group as a whole, in palmar GSR, finger plethysmogram amplitude and respiratory rate. Hence, a single model of sympathetic activation or overall relaxation may be inadequate to describe the physiological effects of a meditation technique. Findings of their study suggest that dual model exist i.e. quietening of sympathetic system and activation of parasympathetic system during the meditation practice as indicated by the shift from sympathetic to parasympathetic resulting in decrease in physiological variables. Thus, meditation by modifying the state of anxiety reduces the stress induced sympathetic over activity resulting in a lowering of respiratory and cardiovascular variables. It relaxes the subject and thereby decreases arterial tone and peripheral resistance. This may be another reason for a fall in blood pressure [35]. This implies that Raja Yoga meditation confers significant benefits in respiratory functions, cardiovascular parameters which continued to improve further with long-term meditation which justifies the fact that long term meditators have greater parasympathetic control.

Parasympathetic cholinergic impulse response through vagus nerve on SA node causes a decrease in heart rate. Whereas reduced sympathetic output decreases nor-adrenaline impulses on beta 1, beta 2 receptors of SA node leading to further fall in heart rate. Parasympathetic cholinergic dilatation of arterioles decreases peripheral resistance leading to reduction of diastolic blood pressure. Decreased sympathetic activity reduces vasoconstrictor effect through alpha receptors leading to fall in diastolic blood pressure. Parasympathetic cholinergic response resulting in negative inotropic action reduces contractility of heart, decreased cardiac output and thus resulting in decreased systolic blood pressure. Reduced sympathetic response adds to decreased contractility. The decreased respiratory rate following meditation appears to be due to progressive increase in vagal impulse to respiratory centre [36].

In addition to physiological parameters, our study also stresses the beneficial effects of meditation on mental well-being of subjects practicing Raja Yoga meditation like overcoming anger, mental stress, negative/waste thoughts and irritability and also freedom from addictions like tobacco chewing, alcoholic drinks and smoking after learning and practicing Raja yoga meditation. The benefits seem to have improved with longer duration of meditation.

Focus on emotion-related brain activity is important because meditation (other than Raja Yoga) has been found in numerous studies to reduce anxiety and increase positive affect [37,38,39]. Several other studies have shown that subjects with anxiety, irritability and mental stress could benefit from Raja Yoga meditation [33,35]. Findings of other studies also corroborate the present results. In a research study, medical wing of Raja Yoga Education and Research Foundation examined 181 persons who were addicted to tobacco before they were introduced to Raja Yoga meditation. Out of 181 persons, 74 % were able to get rid of addiction to tobacco within a month. Another 19% were free from the addiction just within 3 months. Thus 93% were free from the addiction just within 3 months. This strongly implies the use of Raja Yoga for de-addiction [33].

In another study, 1500 people practicing Raja Yoga for variable duration were surveyed. It was found that, out of 1500, 824 people were suffering from sleep disturbances before learning meditation. 82% experienced over 50% benefit just within a period of one month. Among the 1500, 183 persons were smokers. 75% got rid of the unhealthy habit within one month, 93% stopped smoking within 1 year, out of 80 alcoholics, 98% were alcohol free after one month. It is interesting to note that 80% got more than 50% improvement in their general health [35]. Activities of sympathetic and parasympathetic system are regulated by the respective centers located in hypothalamus. Mental tension creates an imbalance in these two components of autonomic nervous system. Anger, mental stress, hatred, irritability etc stimulate sympathetic nervous system, leading to high blood pressure, angina pectoris and heart attack whereas negative emotion like fear stimulate parasympathetic nervous system leading to acidity, peptic ulcer and diarrhea. It is caused due to the over activity of parasympathetic nervous system. Thus the balance between sympathetic and parasympathetic nervous system, which is essential for health, is disturbed due to various negative feelings. This imbalance leads to many physical diseases, ranging from diarrhea to heart attack. This balance has, therefore, to be maintained in the interest of health [35].

The negative emotions like worries, nervousness, anger, suspicion, hatred, fear etc can disturb the normal functioning in several ways. Raja Yoga meditation is the most promising technique for transforming attitudes towards stressful situations and to elicit the relaxation response [40]. It helps to get rid of dependence on tobacco, alcohol and drugs in a number of ways. First of all, a practitioner experiences an immediate sense of tranquility and relaxation during Yoga. This natural feeling of wellbeing removes the intense craving for the artificial alternative. Secondly, by turning his mind to God, who is the ocean of all spiritual powers, the subject is able to increase his own will power and thus to reduce the dosage of medicines and regularity of his addiction. Thirdly, the deep experience of peace, love and purity as the original attributes of the soul results in a natural aversion therapy and creates a real and inwardly felt emotion of repulsion towards the unhealthy habit. Lastly, when a person reduces the dose of the drug with the help of meditation and his general habits and ways of thought are changed, his inner power keeps on increasing and in due course, he is able to overcome the unhealthy habit completely [41].

- (m) **Kiran, Harsh Chalana et al**, 'Effect of Short Term Rajyoga Meditation on Anxiety and Depression; Shows that there were 17 (34%) males and 33 (66%) females in Group 1 with mean age  $34.12 \pm 9.05$  years. In Group 2 there were 21 (42%) males and 29 (58%) females in Group 2 with mean age  $33.68 \pm 10.78$  years. The patient with anxiety and depression in both groups showed significant improvement following 6 weeks of intervention as suggested by significant reduction in scores of HAM-A ( $p < 0.001$ ), and HAM-D ( $p < 0.001$ ). Further, the percentage reduction in HAM-D and HAM-A scores is significantly more in intervention group as compared to control group. The percentage relief of anxiety was 82.29% after 6 weeks in the intervention group. The control group also showed highly significant improvement in anxiety scores with medication alone but the percentage of improvement after 6 weeks was merely 29.83%. Percentage relief in depression was 75.51% in intervention group as compared to controls 29.17%. In this study, significant improvement was seen in subjects with anxiety after 6 weeks of meditation compared to controls. This analysis reflects that Rajyoga meditation plays a significant role in reducing anxiety in patients.
- (n) **Nishi Misra et al**, Effect of Raj Yoga Meditation on Affective & Cognitive Functions, suggests that [42]. The group practicing raj yoga for longer duration had significantly less neurotic symptoms in comparison to the group practicing raj yoga for shorter duration. These findings are consistent with the findings of other studies revealing that normal healthy volunteers practicing yoga show reduced neuroticism, anxiety and hostility [43,44]. There is an increase in expressiveness or catharsis, indicating decreased emotional complexes [44,45]. Others have reported that yoga exercises help to release muscle tension [46] and improve muscular efficiency as seen in enhanced strength, tone, flexibility and work output [47,48]. Due to improved functions of the entire muscular system, build up of chronic muscle tension is avoided, thus helping to promote a state of mental relaxation.

Comparative studies have shown meditation and yogic therapeutic techniques to be better and more efficacious than psychoanalysis or behaviour therapy. Yoga practices serve as effective therapy to cure hypertension, anxiety and psychoneurotic symptoms [43,49]. The differences between both the groups scores were also found to be significantly different for hope and happiness scales. These findings suggest that the group practicing raj yoga for longer duration had significantly more amount of hope and happiness in comparison to the group practicing raj yoga for shorter duration. These findings are consistent with the findings of other studies revealing that practicing yoga improves mood [50], increases subjective well-being of the individuals [51], increase self-acceptance and self actualization, increases social adjustment [52,53]. However, no significant differences were found between both groups scores on quality of life scale.



This result might also have been obtained because of the complexity of the concept of quality of life for normal individuals. The concept of quality of life has many more domains than only hope and happiness and is determined by many other moderator variables like age and other socio-demographic variables in normal population. Studies controlling the moderator effects of other sociodemographic and psychological variable will be needed in future to exactly find out the status of quality of life in different groups of normal yoga practitioners. In visual and verbal memory, no significant difference was found between groups and neither was there any difference on errors of omission or commission. These findings are consistent with the findings of **Oken, et al.** [54] who found no effects from either of the active interventions on any of the cognitive and alertness outcome measures. Whereas the difference between the two groups for the error of omission is negligible, the difference between the two groups for the error of commission is comparatively large showing that the people practicing raj yoga for 10 or more years have falsely hit only few targets in comparison to the people who have been practicing raj yoga for 0-2 years. This is also a very significant finding indicating that there has been a large although not statistically significant difference in one aspect of attention in favor of people practicing raj yoga for a longer time. This finding is also supported by findings of the previous studies indicating improvement in some aspect of attention with raj yoga [55]. The reason for the differences not becoming statistically significant may be the nature of task used in the study.

- (o) **Kiran et al.**, Effect of Rajyoga Meditation on Chronic Tension Headache, found that Rajyoga meditation along with pharmacological treatment for patients of CTH produced 91% to 99% relief in headache variables following regular meditation sessions. The limitations of this study were, firstly the sample sizes for the study and control group were small and the assessment was done after a short duration of time which limited the statistical power and reliability of effect size estimates. The age of the patients ranged from 18-58 years. Mean age of the patients was  $32.06 \pm 9.43$ . The male to female ratio was 11:39. The duration of headache was ranging from 6 months to 6 years and the mean duration of the headache was  $2.06 \pm 1.53$ . There were more females than males and more married people than unmarried ones in both the groups. The parameters between meditation and control group are compared. Severity of headache as assessed by VAS scale showed highly significant reduction in severity of pain ( $p < 0.001$ ) in Group 1. The percentage relief of headache was 94% after 8 weeks. The control group also showed highly significant improvement in severity of headache with medication alone but the percentage of improvement after 8 weeks was merely 36%. Percentage relief in frequency of headache was 91% in study group as compared to controls (36%). 97% improvement in duration of headache was observed in study group, in comparison to just 49% in controls. Mean headache relief as calculated by Headache index (severity of headache multiplied by frequency of headache per week) was 99% in subjects practicing meditation, whereas it is almost half (51%) in the control group.

The most striking observation was that most of the patients experienced considerable improvement in the condition over the course of 8 weeks of their training program of Rajyoga meditation. There improvement was highly significant ( $p < 0.001$ ) in all the parameters at the end of 4 weeks in study group whereas the control group showed improvement only after 6-8 weeks. The mean value of the severity of headache dropped highly significantly during the first 4 weeks of meditation practise in study group ( $p < 0.001$ ) as compared to control group ( $p = 0.008$ ). Similar trend was observed in frequency of headache in study group ( $p < 0.001$ ) as compared to control group ( $p = 0.003$ ) and also in duration of headache in study group ( $p < 0.001$ ) as compared to control group ( $p = 0.006$ ). Headache index also dropped in study group ( $p < 0.001$ ) as compared to control group ( $p = 0.003$ ) [56].

- (p) **Maini S et al.**, Effect of Rajayoga Meditation on Serum Cholesterol and HDL, IJMD [57], Concluded that *Person's practising Rajayoga Meditation regularly are at a lower risk of developing cardiovascular diseases as compared to those who do not perform any meditation at all.* They found the mean value for serum cholesterol in meditator males was  $160.12 \pm 11.90$  and in meditator females was  $165.97 \pm 13.45$ . In case of non meditators, in males it was  $189.52 \pm 7.53$  and in females it was  $187.17 \pm 8.03$ . This data shows that mean value of serum cholesterol in case of meditator males and females was significantly lower than in non meditator males and females. Similarly, the mean value of serum HDL in meditator males and females was  $48.92 \pm 3.112$  and  $49.18 \pm 2.15$  respectively. In contrast their values in non meditator males and females were  $43.02 \pm 3.11$  and  $42.98 \pm 2.66$  respectively and these values were significantly lower than those in meditators. Also, the mean values for the S.Cholesterol/HDL ratio were also significantly lower in meditators and non meditators. Mean values of S. Cholesterol /HDL in meditator males was  $3.28 \pm 0.19$  and in non meditators was  $4.43 \pm 0.34$ . The difference was found to be statistically significant ( $p < 0.001$ ). Similarly, on comparing meditator females and non meditator females ( $3.38 \pm 0.32$  and  $4.36 \pm 0.21$ ), it was found to be statistically significant. ( $p < 0.001$ ). In meditators heart rate was  $67.72 \pm 3.95$ , Systolic blood pressure was  $114.78 \pm 4.95$  and diastolic blood pressure was  $77.67 \pm 3.72$  whereas in non meditators, heart rate was  $82.17 \pm 3.29$ , systolic blood pressure was  $126.67 \pm 6.20$  and diastolic blood pressure was  $84.22 \pm 3.23$ , it was found to be statistically significant. ( $p < 0.001$ ).

In the present study, the mean value of serum cholesterol was significantly lower and HDL was significantly higher in meditators than in non meditators. The practice of meditation brings about a significant reduction in serum cholesterol levels. This was attributed to a reduction in the sympathetic nervous activity which has been implicated as a factor capable of lowering and maintaining low serum cholesterol levels independent of dietary measures. High density lipoprotein is a protective factor against coronary heart disease and it had an inverse relationship with the incidence of coronary heart diseases in both men and women [58]. Low HDL levels predict coronary heart disease mortality and occurrence of new coronary heart disease events in persons older than 70 years. Higher values of serum HDL cholesterol in meditators lower the risk of developing coronary heart disease than non meditators [59]. In the present study the ratio of total cholesterol and HDL was

significantly lower in meditators than in non meditators. It has been reported that the lower values of cholesterol/ HDL ratio are associated with reduced risk of cardiovascular disease and persons with even elevated total cholesterol levels may not be at high risk for cardiovascular disease owing to the favourable cholesterol/HDL ratio [60]. Various other studies also support this [59, 61]. Meditation causes alteration in autonomic balance and well being. There is a trend of gradual shift of autonomic equilibrium towards relative parasympathodominance because of the reduction of sympathetic activity. This modulation of autonomic nervous system activity might have been brought about by the conditioning effects of yoga on autonomic functions. Yoga and Omkar meditation has positive effect on cardio respiratory performance, psychological profile and melatonin secretion [62].

The improvement in lipid profile parameters after yoga could be due to increased hepatic lipase and lipoprotein lipase at cellular level, which affects the metabolism of lipoprotein and thus increase uptake of triglycerides by adipose tissues [63]. Better ability to overcome stress can be cited as possible mechanism for improvement in lipid profile [20]. Because of ability of HDL to retard the oxidation of LDL, it can prevent the proinflammatory effects of oxidized LDL on the endothelium. Thus HDL can prevent oxidized LDL induced production of monocyte chemotactic protein I, this retards monocyte endothelium interaction, the first stage in the inflammatory process in atherosclerosis. Lower values for mean serum cholesterol and total cholesterol/ HDL ratio and higher value for mean HDL cholesterol in meditators indicate that persons practising Rajayoga Meditation regularly are at a lower risk of developing cardiovascular diseases as compared to those who do not perform any meditation at all. So it can be safely conclude that meditation has a positive effect on cardiovascular system and with regular practice of meditation reduces the risk of developing cardiovascular diseases.

- (q) **Dr. Bhupendra Singh et al**, Spiritual Healing and Rajyoga meditation in Schizo- Affective Disorder, Depressive Type – A Case Report :[64] Spiritual healing in this case, was based on the principles of Brahmakumaris, particularly Self Realization and Rajyoga Mediatation. The sessions of spiritual healing started with the introduction of self “Who am I”, basically to realize oneself. The healer make the lady realize that you are a soul and that the soul never dies. She was explained that the soul was considered as immortal. Further she was explained that it could be understood as a form of energy, which can be transformed. She was also made to understand of how the mind works through intellect that takes the shape of habits. Mind was defined to her as her thoughts and feelings. Intellect was told to be the product of judgment and decision-making. Habits were defined as nothing but due to repeated actions it becomes “sanskars”.(Fig:1).

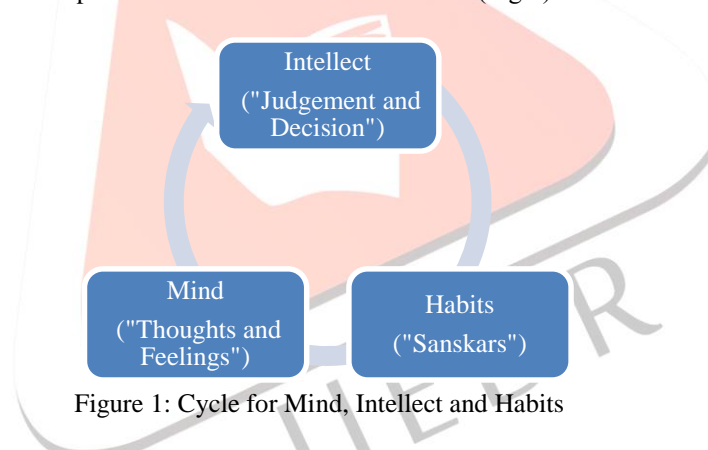


Figure 1: Cycle for Mind, Intellect and Habits

She had been explained that if one is sad and angry one starts blaming the people or circumstances, but actually it could not be so. She was sad because of her own and thoughts and attitudes and this could be changed through conscious efforts. So she had to take charge of herself and stop blaming others. She had to take her own responsibility because the solution lies within her and not someone else. Then further she was asked to look inwardly, check her thoughts and feelings and purify her thoughts if something was going on negative or hostile against anyone. She was explained further that if anyone had done anything wrong against her it was the reaction of the energy that she had spread in the past due to her deeds or actions that she was paying back to the person. She was explained further to check her thoughts continuously and when she would become conscious that she was thinking negatively about someone, she must change it towards positive. She was told that she could apply different techniques to make it easier to be her habit like either she could write it down and then change it towards positive or she could do it in her mind as well. When she would become aware of the thoughts, she need to be aware of dealing with her guilt as she did not need to waste more of her time on feeling guilty rather she had to correct herself. Further, she was told to learn how to forgive and forget others and move ahead in the remembrance of the “Supreme Soul”, which is the ocean of love, energy and forgiveness (Fig 2). She was also taught how to connect with the supreme soul through her mind and intellect to increase her mental power. Then, she was taught meditation with guided imagery in the form of commentary.



Fig 2 : Cycle of Spirituality and Meditation

**Results:** The patient stopped crying and her depressive symptoms improved considerably. Her anxiety and stress due to the psychotic symptoms also improved reasonably. She also improved in her occupational and work functioning. The sessions lasted for 15 days and she used to meditate with guided imagery for the first two months at home. Later she started meditating on her own without guided imagery. She used to come for regular follow ups. These follow ups lasted for two months for every days. At the end of two months her mood was better, though she was still having mild hallucinations but it could not distract her any more. The scores improved from 93 to 19 (79.56%) on Depression Anxiety and Stress Scale; from 72 to 19 (73.61%) on Scale of Positive Symptoms; 30 to 12 (60.00%) on Scale of Negative Symptoms; on Global assessment of functioning (GAF) and Social and Occupational Functioning Scale (SOFAS) the score improved from 60 to 80 (33.33%). As we could see that, the case has improved much on the symptoms of psychological distress, upset mood and negative thoughts and ruminations by her involvement in the process of self realization process, bringing a significant change in her attitude. She stopped blaming her husband for what she has not got in her marriage and accepted the reality. She understood that she had been reacting on the basis of the law of action and reaction. She could also forgive the family and in-laws for what they have done as she realized that this attitude would not be hurting herself, more than anyone else. She also realized that the voices that she was hearing were not real, rather those were false sensations. Hence, she realized that these voices cannot harm her and the only thing that could harm her is her own thoughts and ruminations of the mind. Therefore, she changed her perceptions towards her thoughts and attitude regarding voices. The negative and fearful-anxious attitude towards voices reduced after she understood that the voices heard were not the problem, but it had been her own attitude for the voices that was causing problems. The impact of voices had reduced after realizing that it was not only the voices that were causing problems but her attitude towards the voices that was causing harm. This brought insight into her attitude, behaviour and self. She remained analytically self focused checking her thoughts and thereby changing her feelings from sad to happy as a result of which shortly, she started remaining, calm, cool and happy being.

- (r) **Rupal Shah et. all**, Enhancement in the Emotional Intelligence level of students through practicing Raj yoga meditation, [65]. It is concluded that Raj yoga meditation definitely enhance the emotional intelligence of the students. It has been observed that through the knowledge of spirituality the students became aware about the self, supreme and matter in a manner that what are the actual function of all these in the world drama. Through the understanding of various laws that governing world drama, students can easily able to judge their level of emotional intelligence. The attitude of the students becomes positive through spiritual perception. They can obtain power by connecting the self with the supreme. Through practicing meditation, they learn how to talk with the self, how to do the positive programming of subconscious mind so that it will be more helpful to them for their further progress in life. It has been observed that by developing the Spiritual perception and realization they are able to deepen understanding, compassion and empathy in the self towards the life. It promotes positive emotions like self-confidence, patience, and satisfaction in them. They find peace of mind in their daily life by practicing meditation. Their concentration power increases. Their capacity to remain stable in difficult situations increases through developing power of acceptance. It has also been observed that, the Raj Yoga Meditation helps students to - control the negative emotions and increase the positive attitude, increase the patience, increase the level of self-confidence, increase the level of benevolence, increase compromise level, decrease the depression level when experiencing some down time. Through the knowledge of laws governing the world drama, they become aware about their karma. They are able to compromise the self for the happiness of others. This tendency decreases the stubbornness attitude of their life. They developed a confidence that they have an ability to

get control over emotion like impulsiveness, angeriness, nervousness etc. Their understanding level and attitude towards the life changes, which makes them free from various negative emotions like jealousy, false pride, blaming to others for their unfavorable situations etc. So, their level of happiness in life increases. They understood that the decisions which are taken after thinking properly and in a peaceful mind gives better result rather than a decision taken without proper understanding the situation, or taken in a hurried manner.

Through practicing meditation their ability to accept the bitter truth, weaknesses or faults of themselves increases. They increase their ability to see a person who shows them their weaknesses or faults as a well wisher. Through developing the close relationship with the Supreme, the feeling of insecurity, disapproval, rejection etc. decreases. The ability to oblige the unobliged increases. They are able to use their emotions as energy source rather than temper tantrums. Emotional Intelligence links strongly with concepts of love and spirituality. In the last decade or so, science has discovered a tremendous amount about the role emotions play in our lives. Researchers have found that even more than IQ, your emotional awareness and abilities to handle feelings will determine your success and happiness in all walks of life, including family relationships. It has been observed from the data obtained and from the practical experience of the students that practicing meditation and implementing spiritual knowledge in life can make a person emotionally intelligent. People in good moods are better at inductive reasoning and creative problem solving. Through practicing meditation the students increase their ability to evaluate and to manage the emotions [65].

(s) **Dr.M.Santhi et, all**, Research Based Benevolent Summary of Rajayoga Meditation: gives Summary of effects in the tabular form [22]

<b>Effect on Cognitive Functions</b>	These conclusions suggest that the group practicing raj yoga for longer duration had significantly more quantity of hope and happiness in comparison to the group practicing raj yoga for shorter duration.
<b>Effect on sympathetic reactivity</b>	It can be concluded that Rajayoga meditation may affect the autonomic activity significantly by falling sympathetic activity but the effects require a long term continuation of the technique.
<b>Effect on Healthy Adults</b>	Meditators, who were practicing Raja-yoga meditation for more than 5 years, showed lower levels of total cholesterol (TC), triglycerides (TG), high-density lipoproteins (HDL), low-density lipoprotein (LDL), and higher level of HDL than non-meditators.
<b>Effect on Anxiety and Depression</b>	Rajyoga Meditation is a very appealing way to better manage symptoms of depression and anxiety. Yoga may give out as an effective substitute or complement to biological treatments in anxiety and depression. Rajyoga meditation is found more effective and long lasting than the expensive drugs.
<b>Effect on physiological and psychological</b>	The study findings indicate that Raja Yoga meditation provides important improvements in cardio-respiratory functions by tilting of autonomic balance from sympathetic in favour of parasympathetic. Also, it has been proved that the study subjects particularly long term meditators improved significantly in the areas of wellbeing, anxiety and mental stress by learning and applying a program based on Raja Yoga meditation.
<b>Effect on Head Ache</b>	Hence relaxation therapy by spiritual based Rajyoga meditation was found to be highly effective for patients of chronic tension type headache. Associated somatic symptoms were also relieved. In addition they developed a higher self-esteem, positive thinking and improved work efficiency. The results of this combined clinical and biochemical study indicates some co relation of plasma cortisol with duration of chronic type of headache, as most of the patients suffering over 5 years had significantly lower blood cortical level. Modulation of cortisol levels in blood by relaxation technique gives a clue towards the effective role of spirituality-based meditation, positive attitude for treatment of chronic tension headache. This would prove to be very cost effective.
<b>Effect on Stress</b>	The stress in day to day life, hurry and worry of modern life, mental stress due to studies in the student age group, work related irritations can be partially relieved by practicing meditation. The body's natural relaxation response is a powerful antidote to stress. Meditation practice decreases sympathetic discharge and helps to achieve a stable autonomic balance. During the last few decades yoga has got incorporated into modern medicine. <sup>14</sup> Yoga is one of the best lifestyle ever devised by mankind.
<b>Effect on short term and Long term practice</b>	Raja Yoga meditation confers important benefits in respiratory functions; cardiovascular parameters which continued to improve further with long-term meditation. Moreover, the findings of our study also show greater and significant decrease in physiological variables among long-term meditators, which justifies the fact that long-term meditators have greater parasympathetic control.

## V. CONCLUSION

Based on the review of various papers and in-depth survey on meditation and its effect on physiology of human body, it can be concluded that the practice of Rajyoga meditation gives positive effect on various vital health parameters (body and mind) such as heart attack where improved mean heart rate, systolic and diastolic blood pressure, angina episode are observed.

It has also been observed that patients get complete relieve from sleeplessness and could able to enhance his/her internal strength to overcome psycho active abuse/dependence.

One major breakthrough has been observed in case of Cancer patients in Govt. hospital of Karnataka and considerable improvement in Schizo-Affective disorder due to reduced anxiety and depression level. Enhancement in emotional intelligence has also been observed in students.

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