



# Effect of Meditation on Mental Health and Physical Health

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## **ABSTRACT:**

Meditation as an alternative mind-body therapy. It is a popular intervention to improve mental and physical health. People have been meditating for thousands of years, often as part of a spiritual practice. But in more recent years, meditation has become a popular way to help people manage their stress and improve their overall well-being- and a wealth of research shows it's effective. Psychologists have found that meditation changes our brain and biology in positive ways, improving mental and physical health. This paper is an attempt to provide a comprehensive view of the present state of the research in meditation and health. Effects of meditation on human physiology (physical health) such as heart beat, blood pressure, metabolism, cortical activity, skin resistance are discussed. Impact of meditation on human mental health such as relaxation, systematic desensitization, release of repressed memory, perception, memory, stress, depression, anxiety, sleep disturbance, un-stressing and so on are also discussed. Finally, major conceptual and issues that needs serious attention from researchers in this area for future research is addressed.

**Key words:** Meditation, mental health, physical health, stress, depression, anxiety, brain activity. heart rate, perception, memory

## **Introduction:**

Meditation is a mental practice where an individual exercises their mind to have a state of focus, to train attention, and to create self-awareness. The goals of meditation are to attain a state of consciousness that is mentally clear and emotionally calm. Meditation practices mainly changes functions through autonomous nervous system, which links brain and body.

The word “meditation” is derived from the Latin *meditari*, which means “to engage in contemplation or reflection.” The word meditation comes from the same Greek and Latin root as the word medicine. Manocha (2000) described meditation as a discrete and well-defined experience of a state of “thoughtless awareness” or mental silence, in which the activity of the mind is minimized without reducing the level of alertness. Walsh and Shapiro (2006) defined meditation from cognitive and psychological perspective, as a family of self-regulation practices that aim to bring mental processes under voluntary control through focusing attention and awareness. Other major descriptions of meditation emphasize components such as relaxation, concentration, an altered state of awareness, suspension of logical thought processes, and maintenance of self-observing attitude (Craven, 1989). Thus, meditation has been conceptualized in many ways and there exists no consensus definition. It is very difficult to capture its essence in one definition. However, Cardoso et al. (2004) developed an operational definition encompassing both traditional and clinical parameters. They defined any practice as meditation if it:

1. utilizes a specific and clearly defined technique,
2. involves muscle relaxation somewhere during the process,
3. involves logic relaxation (i.e., not “to intend” to analyse the possible psychophysical effects, not “to intend” to judge the possible results, not “to intend” to create any type of expectation regarding the process),
4. a self-induced state, and
5. the use of a self-focus skill or “anchor” for attention.

### Types of meditation

Meditation is an umbrella term for the many ways to a relaxed state of being. There are many types of meditation and relaxation techniques that have meditation components. All share the same goal of achieving inner peace. Ways to meditate can include:

1. **Guided meditation:** Sometimes called guided imagery or visualization, with this method of meditation you form mental images of places or situations you find relaxing. You try to use as many senses as possible, such as smells, sights, sounds and textures. You may be led through this process by a guide or teacher.
2. **Mantra meditation:** In this type of meditation, you silently repeat a calming word, thought or phrase to prevent distracting thoughts.
3. **Mindfulness meditation:** This type of meditation is based on being mindful, or having an increased awareness and acceptance of living in the present moment. In mindfulness meditation, you broaden your conscious awareness. You focus on what you experience during meditation, such as the flow of your breath. You can observe your thoughts and emotions, but let them pass without judgment.
4. **Qi gong:** This practice generally combines meditation, relaxation, physical movement and breathing exercises to restore and maintain balance. Qi gong (CHEE-gung) is part of traditional Chinese medicine.
5. **Tai chi:** This is a form of gentle Chinese martial arts. In tai chi (TIE-CHEE), you perform a self-paced series of postures or movements in a slow, graceful manner while practicing deep breathing.

6. **Transcendental Meditation:** Transcendental Meditation is a simple, natural technique. In Transcendental Meditation, you silently repeat a personally assigned mantra, such as a word, sound or phrase, in a specific way. This form of meditation may allow your body to settle into a state of profound rest and relaxation and your mind to achieve a state of inner peace, without needing to use concentration or effort.
7. **Yoga:** You perform a series of postures and controlled breathing exercises to promote a more flexible body and a calm mind. As you move through poses that require balance and concentration, you're encouraged to focus less on your busy day and more on the moment.
8. **Focused attention:** Focusing your attention is generally one of the most important elements of meditation. Focusing your attention is what helps free your mind from the many distractions that cause stress and worry. You can focus your attention on such things as a specific object, an image, a mantra, or even you're breathing.
9. **Relaxed breathing:** This technique involves deep, even-paced breathing using the diaphragm muscle to expand your lungs. The purpose is to slow your breathing, take in more oxygen, and reduce the use of shoulder, neck and upper chest muscles while breathing so that you breathe more efficiently.
10. **A quiet setting:** If you're a beginner, practicing meditation may be easier if you're in a quiet spot with few distractions, including no television, radios or cell phones. As you get more skilled at meditation, you may be able to do it anywhere, especially in high-stress situations where you benefit the most from meditation, such as a traffic jam, a stressful work meeting or a long line at the grocery store.
11. **A comfortable position:** You can practice meditation whether you're sitting, lying down, walking, or in other positions or activities. Just try to be comfortable so that you can get the most out of your meditation. Aim to keep good posture during meditation.
12. **Open attitude:** Let thoughts pass through your mind without judgment.

### **Effect of Meditation on Physical Health**

With meditation, the physiology undergoes a change, and every cell in the body is filled with more prana (energy). This results in joy, peace, enthusiasm as the level of prana in the body increases. On a physical level, meditation:

- Lowers high blood pressure
- Lowers the levels of blood lactate, reducing anxiety attacks
- Decreases any tension-related pain, such as tension headaches, ulcers, insomnia, muscle, and joint problems
- Increases serotonin production that improves mood and behaviour
- Improves the immune system
- Improves sleep

Even though meditation is a mental activity, its effects on human physiology has received much attention. Few Indian studies have attempted to examine and establish the neurological correlates of yogic practices, including meditation, (Bhushan, 2002, 2004; Ramamurthi, 1977; Varma, 1979) the development of brain imaging technique has thrown the ball in the Western court. The unavailability of adequate infrastructure and needed scientific

temperament within the country has made very few centres move parallel to the Western labs. Some of physiological effects are summarized here.

### **1. Meditation Provides More Energy & More Efficiency:**

Meditation clears one's mind and increases one's energy levels. Meditation can stimulate the vagus nerve, which promotes positive emotions and relaxation. A recent study shows that meditation reduces exhaustion among entrepreneurs as it reduces workplace stressors, bringing you calmer and energy. Efficiency naturally increases as you feel more energized and have more clarity of mind.

### **2. Heart Rate:**

Meditation activates our bodies, "rest-and-digest" functions, which counteracts our "flight-or-fight" responses. Integration the practice into a daily routine has been linked to lower heart rate. which may lower your risk of heart disease. Studies have indicated that heart rate slows down during quite meditation and quickens in the moments of ecstasy during meditation (Tamini, 1975). Meditations like TM, Zen, relaxation response and other calming forms of meditation generally decrease the rate of heart beat (Bono, 1984; Delmonte, 1984). However, very pronounced decrease in heart rate is found among long term practitioners only.

### **3. Reduce Aging:**

Meditation can slow the aging process. One of the main reasons meditations slows the aging process is because it reduces stress. Studies show that meditation keeps you young and improves longevity. One of the main reasons for this is its diminishing effects on stress, a factor that has a negative impact on the body.

### **4. Blood pressure and hypertension:**

Meditation techniques appears to produce small yet meaningful reduction in blood pressure either as monotherapy or in conjunction with traditional pharmacotherapy. Transcendental meditation and mindfulness-based stress reduction may produce clinically significant reductions in systolic and diastolic blood pressure. Blood pressure is one of the easiest measurable physiological variables. There is strong evidence that meditation lowers blood pressure for the people who are normal or moderate hypertensive (Sears & Raeburn, 1980; Swami Karmananda Saraswati, 1982; Wallace et al., 1983). However, most studies indicate that the benefit disappears once practice is discontinued (Patel, 1976).

### **5. Reduce neural activity:**

Meditation reduces pain-related neural activity in anterior cortex, insula, secondary somatosensory cortex, and thalamus. Evidence from many studies indicates that during meditation alpha activity increases significantly (Delmonte, 1984a; Daniels & Fernhall, 1984). Alpha waves are slow and high amplitude brain waves with frequency

ranging from eight to thirteen cycles 442 © International Journal of Psychology & Psychological Therapy, 2010, 10, 3 <http://www.ijpsy.com> HUSSAIN and BHUSHAN per second. Alpha activity is generally indicator of deep relaxed state of mind. Long term meditation practitioners also exhibit theta brain wave activity (five to seven cycle per second) during which they report peaceful and pleasant experience with intact self-awareness (Jacobs & Luber, 1989; Delmonte, 1984a). Research also indicates that during meditation right brain activity increases (Pagano & Frumkin, 1977). Delmonte (1984b) reported that meditation practice may begin with left-hemisphere activity, which then shifts towards the right hemisphere, while in advanced meditation both left- and right hemisphere activity are largely inhibited or suspended.

Litscher, Wenzel, Niederwieser, and Schwarz (2001) used TCD (Transcranial Doppler Sonography) and nearinfrared spectroscopy to measure oxygenation levels in the cerebral tissues of two QiGong (a Chinese meditation exercise) experts. During meditation the mean blood flow increased in the right posterior cerebral artery and decreased in the left middle cerebral artery. A simultaneous increase in oxyhemoglobin and total hemoglobin was also recorded. During QiGong predominant EEG activity was witnessed in the anterior half of the brain while it silently occurred in the posterior <http://www.ijpsy.com> © International Journal of Psychology & Psychological Therapy, 2010, 10, 3 MEDITATION AND HEALTH 443 half. This can be considered the cerebral ying and yang. Attempts are also being made to understand the relationship between neurotransmitters and meditation. The dopaminergic system seems to play an important role in the suppression of executive system during relaxation meditation.

## 6. Metabolism and respiration:

Many studies have shown that during meditation oxygen consumption is reduced (sometime up to 50%), carbon dioxide elimination is reduced (sometime up to 50%) and respiration rate is lessened (Sudsuang, Chentanez, & Veluyan, 1991; Kesterson, 1986).

## 7. Skin resistance:

Low skin resistance (measured in terms of galvanic skin response) is a good indicator of stress. As expected, high skin resistance has been documented by many researchers especially among TM practitioners (Bono, 1984; Bagga & Gandhi, 1983).

## **Effects of Meditation on Mental Health**

Many perceptual and cognitive abilities are associated with meditation practices. These abilities may range from normal to paranormal. Many scientific investigations have been conducted to measure various psychological and behavioural effects of meditation.

### **1. Help overcome depression and Anxiety:**

Meditation has been shown to be as effective in relieving symptoms of anxiety and depression as antidepressants. It increases the prana level (life force) in the body. According to Ayurveda, as prana level increases, anxiety decreases automatically. The Art of Living's Sahaj Samadhi Dhyana, a meditation technique has been shown to alleviate symptoms of late-life depression.

### **2. Perceptual ability:**

Brown, Forte, and Dysart (1984a, 1984b) conducted experiments on visual sensitivity among Buddhist meditation practitioners using before-after and control group design. Post test was conducted after three months of rigorous meditation practice. Visual sensitivity was measured by detection threshold and discrimination threshold using simple light flashes. They reported significant improvement in visual sensitivity after the meditation retreat. Other studies also reported similar decrease in visual threshold and increased auditory acuity after the meditation (McEvoy, Frumking, and Harkins, 1980; Keithler 1981). Other studies reported increased visual imagery abilities (Heil, 1983), enhanced attentive ability (Linden, 1973), reduction of perceptual noise (Walsh, 1978), increased reaction time (Robertson, 1983), and enhanced perceptual motor speed (Jedrczak, Toomey, & Clements, 1986).

### **3. Improves Focus, Attention, and Memory:**

Meditation improves concentration and helps one to be in the present moment. If you observe, the mind vacillates between the past and the future. We are either angry about the past or anxious about the future. Meditation helps bring the mind to the present. As that happens, focus and attention span improves. Meditation also improves gray matter in the brain, which improves memory.

### **4. Helps in Healing and Managing Pain:**

Studies show that meditation helps manage chronic pain effectively. Regular meditators with chronic pain are able to live with a pain that is manageable. Experiences also show that meditation can help heal from chronic conditions.

### **5. Memory and intelligence:**

Jedrczak et al. (1986) reported that number of months of TM practice predicted the higher performance on nonverbal intelligence test. Other researchers also reported similar results of improvements in cognitive abilities (Verma, Jayashan, & Palani,

1982). Studies on TM practitioners generally reported to have positive impact on intelligence, school grades, learning ability, short- and long-term memory (Cranson et al., 1991). 444 © International Journal of Psychology & Psychological Therapy, 2010, 10, 3 <http://www.ijpsy.com> HUSSAIN and BHUSHAN Creativity and self-actualization Mixed results have been reported regarding creativity and meditation. TM researchers in particular reported enhanced creativity with TM practice (Ball, 1980; OrmeJohnson & Granieri, 1977). However, other researchers could not find any relationship between meditation and creativity (O’Haire & Marcia, 1980; Domino, 1977). Self-actualization is thought to be the major goal of dedicated meditation practitioner. Various studies have measured several aspects of self-actualization and experiences in meditation. Alexander, Rainforth, and Gelderloos (1991) performed a meta-analysis on 42 studies on the effects of TM and other forms of relaxation on self-actualization. Their measure of self-actualization included three independent factors: affective maturity, integrative perspective on the self and world, and resilient sense of self. They found effect size of TM on self-actualization is approximately three times larger than other forms of meditation and relaxation practices. Other studies also reported increase in various dimensions of self-actualization with meditation (Gelderloos, Walton, Orme Johnson, and Alexander, 1990).

## **6. Improves relationships:**

As you meditate and your awareness improves, you are less likely to blame others and indulge in negative emotions like anger. Your hold onto events reduces, and you become the person who let’s go of that small squabble easily. Now, who does not like that person? You also feel more love in your relationships as techniques like Sudarshan Kriya also help release more oxytocin, the hormone that promotes feelings of love and social bonding.

## **Conclusion:**

Meditation improves mental health and physical health. Effects of meditation on health are based on the principle of mind-body connection. During the past four decades, research in meditation has developed a strong foundation, demonstrating significant psychological, physiological effects.

Meditation is not only a technique, but also an art. Some people are predisposed towards it while others are not. Some can delve deep into the meditation and acquire all benefits while others may come out more disturbed. Such individual differences should also be considered while making any conclusion regarding the benefits of meditation. It appears that meditation may have therapeutic value, but limited to those who are psychologically healthy, well integrated and may have mild neurosis or psychosomatic disorders. These issues need serious attention from researchers in

future to get firm conclusion regarding the efficacy of meditation as an adjunct to mind-body therapy.

## **References:**

1. Alexander CN, Rainforth M, & Gelderloos P (1991). Transcendental Meditation, Self-Actualization, and Psychological Health: A Conceptual Overview and Statistical Meta-Analysis. Special Issue: Handbook of Self-Actualization. *Journal of Social Behavior and Personality*, 6, 189-248.
2. Ball OE (1980). The Effect of TM and the TM-Sidhi Program on Verbal and Figural Creativity (TTCT), Auditory Creativity (S and I), and Hemispheric Dominance (SOLAT). Unpublished doctoral dissertation, University of Georgia.
3. Brown D, Forte M, & Dysart M (1984a). Differences in visual sensitivity among mindfulness meditators and non-meditators. *Perceptual and Motor Skills*, 58, 727-733.
4. Brown D, Forte M, & Dysart M (1984b). Visual sensitivity and mindfulness meditation. *Perceptual and Motor Skills*, 58, 775-784.
5. Bhushan B (2002). The neuropsychology of consciousness. Paper presented at Mind and Consciousness: Various approaches, January 9-11, IIT Kharagpur, India.
6. Bhushan B (2004). Current trend in cognition & consciousness research: Integrating science and spirituality in neuropsychological perspective. National Conference on Indian Psychology, Yoga, and Consciousness, December 10-13 Pondicherry, India.
7. Cranson RW, Orme-Johnson DW, Gackenbach J, et al. (1991). Transcendental Meditation and Improved Performance on Intelligence-Related Measures: A Longitudinal Study. *Personality and Individual Differences*, 12, 1105-1116.
8. Delmonte MM (1984a). Physiological Responses during Meditation and Rest. *Biofeedback and Self-Regulation*, 9, 181-200.
9. Delmonte MM (1984b). Electrocortical Activity and Related Phenomena Associated with Meditation Practice: A Literature Review. *International Journal of Neuroscience*, 24, 217-231.
10. Delmonte MM (1986a). Expectancy and Response to Meditation. *International Journal of Psychosomatics*, 33, 28-34.
11. Gelderloos P, Walton K, Orme-Johnson D, & Alexander C (1991). Effectiveness of the Transcendental Meditation Program in Preventing and Treating Substance Misuse: A Review. *International Journal of the Addictions*, 26, 293-325.

12. Jacobs GD & Luber JF (1989). Spectral Analysis of the Central Nervous System Effects of the Relaxation Response Elicited by Autogenic Training. *Behavioral Medicine* 15, 125-132.
13. Jedrczak A, Toomey M, & Clements G (1986). The TM-Sidhi Program, Age, and Brief Tests of Perceptualmotor Speed and Nonverbal Intelligence. *Journal of Clinical Psychology*, 42, 161-164.
14. Keithler MA (1981). The influence of the transcendental meditation program and personality variables on auditory thresholds and cardio-respiratory responding. *Dissertation Abstracts International*, 42, 1662-1663.
15. Cardoso R, De Souza E, Camano L, et al. (2004). Meditation in health: an operational definition. *Brain Research Protocols*, 14, 58-60.
16. Craven JL (1989). Meditation and psychotherapy. *Canadian Journal of Psychiatry*, 34, 648-53.
17. Linden W (1973). Practicing of meditation by school children and their levels of field dependence independence, test anxiety, and reading achievement. *Journal of Consulting and Clinical Psychology*, 41, 139-143.
18. Litscher G, Wenzel G, Niederwieser G, & Schwarz G (2001). Effects of QiGong on brain function. *Neurological Research*, 23, 501-505.
19. Manocha R (2000). Why meditation. *Australian Family Physician*, 29, 1135-8.
20. O'Haire TD, & Marcia JE (1980). Some Personality Characteristics Associated with Ananda Marga Meditators: A Pilot Study. *Perceptual and Motor Skills*, 51, 447-452
21. Pagano RR, & Frumkin LR (1977). The Effect of Transcendental Meditation on Right Hemispheric Functioning. *Biofeedback and Self-Regulation*, 2, 407-415.
22. Robertson DW (1983). The Short- and Long-Range Effects of the Transcendental Meditation Technique on Fractionated Reaction Time. *Journal of Sports Medicine*, 23, 113-120.
23. Taimni IK (1975). Patanjali's "Yoga Sutras," Book I, verses 2-4. In *The Science of Yoga*. Wheaton, IL: Theosophical Publishing House.
24. Walsh RN (1978). Initial Meditative Experience: Part II. *Journal of Transpersonal Psychology*, 10, 1-28.
25. Walsh R & Shapiro SL (2006). The meeting of meditative disciplines and Western psychology: a mutually enriching dialogue. *American Psychologist*, 61, 227-39.