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Effects of yoga on mental and physical health: a short summary of reviews

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Abstract

Yoga as a discipline and as a practice has been there for around thousands of years as known from the ancient evidence. It has been empirically proven to be helpful to lead a healthy and stress free life. Thus yoga helps in maintaining both physical and mental health. This research paper is the outcome of such observations when contemplated with scientific studies and empirical research. Here we will review more than 30 research papers categorically based on the positive effects of yoga on physical and mental health. Also it will help us to prove how yogic intervention can be helpful in curing various diseases from diabetes to hypertension, sometimes when coupled with medical doses. Based on the review of all these studies then the conclusion is drawn which is not only included at the end of each head but also overall at the end of the paper. It is sought to bring about a change in perspective of the people and various authorities in bringing yoga, meditation, Pranayam and other yogic practices in the mainstream and emphasis as a semi-cure for the disease and a natural and cost saving technique which is accessible to nearly everyone in every part of the world. It can be branded not only as a health and disease curing product but also as a wellness and lifestyle product which can help us lead a happy and peaceful life. It is also sought to act as a unifying technique which can unify the world in one string.

Keywords: yoga, meditation, pranayama

Introduction

Yoga as it is understood in its original form is a physical cum spiritual process of coordination or unison between the mind, body and the soul. This Alignment leads to various psychological and mental benefits. It is sought to be invented in ancient Bharatvarsh now India by various Yogis (Yoga masters), who sought to establish connection with the divine for sake of self-realization. There are many types of Yoga they used to practice like Gyan Yoga- Yoga of Knowledge where by speculation of philosophy and deep research lead one to self-realization, then there was Karma Yoga- Yoga of action which implicated fulfillment by working by use of mental and physical energy, again there was Dhyana Yoga- Meditation, in this the Yogis used to focus on the mind on an object or void or on a deity of god & sometimes simply on hearing of mantra, this was sought to bring the purification of the mind, body and soul which would ultimately lead one to the higher truth. There was a final and widely practiced form of Yoga called Bhakti Yoga- Yoga of devotion to god, this was and still is practiced across India as a sought after religious practice, It involved channelising one's life system in service of God, where god became the focal point of life and end which is to be sought through the end of our life. It was considered highest among all forms of Yoga in terms of its ability to provide self-fulfillment and self-realization. Often small deities were installed as a form of god and many aspects & rituals were performed. People practicing this were called Bhakt or devotees. There was a form of Yoga developed by Maharshi Patanjali- an ancient sage in India- who compiled the Yoga systems from the ancient scriptures into the form of yoga sutras. Yoga as we know today in popularized form was developed in this form. It involves various Asanas or physical posture practices and Dhyana i.e. Meditation practices like focussing on our breath, then there is Pranayama which is a breathing practice which is believed to reduce stress, anxiety and other diseases and strengthen longevity or prana. The ultimate end of all of this has to be liberation or freedom from the endless cycle of birth and death.

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There are many e research papers and studies that came that yoga has ability to cure stress and anxiety and few diseases related to biological and psychological processes like Swami Ramdev to popularize the modern yoga system in India and internationally and also established medicinal benefits of ancient medicine form called ayurveda claims that regular yoga practice coupled with the ayurvedic medicines and lifestyle changes has power to cure large number of disease. There are claims of Yoga curing diabetes, asthma, Tuberculosis etc and even cancer but as of now no solid clinical study or research has backed the claim, although there is a direct relation between the yoga practice and increased well-being.

In this research paper we will study the clinical effect of the yoga and meditation practices on increased well-being and physical & mental health improvement.

Diseases	Studies indicating their dissolution on Yogic intervention
Depression	4, 5, 6, 7, 8
Fatigue	1, 9
Anxiety and anxiety disorders	6, 7, 8, 10
Stress	11
Post-Traumatic Stress Disorders	12
Physical Fitness	13
Sympathetic/Parasympathetic activation	14
Cardiovascular Endurance	15
Blood Pressure and Hypertension	14
Pulmonary Function	15
Glucose regulation	14, 16, 17
Menopausal Symptoms	18, 19
Musculoskeletal Functioning and Pain	20, 21, 22, 23, 24
Cancer	25, 26, 27, 28
Epilepsy ⁴	29, 30

Yoga and mental health

Depression

There are several ways people of all ages and all domains can be caught in depression like college, work, relationship, debt or trauma. Depression is a major serious illness which affects how one thinks, acts and behaves socially in a negative manner. It causes serious sadness and leads to lack of interest in activities in things one usually enjoys. It also hampers one's ability to work and our emotional well-being. We feel less energy and lower motivation, we feel changes in appetite, which leads to difficulty in thinking, concentrating and making decisions. Often it is accompanied by suicidal thoughts.

It affects 1 in 15 adults all over the world and nearly 17% of people would have experienced it at some point of time in their life.

There are four relevant studies which we have found of the effects of yoga on depression 4 and 5 and a descriptive study on Yogic breathing in 6 and summary study in 8. There has been no clear demarcation of whether the asanas or the pranayama or a combination of both were more effective in curing the depression.

Anxiety and anxiety disorders

Anxiety refers to the feeling of fear, dread and uneasiness which might cause sweat, restlessness, tension and a rapid heartbeat. It may or may not be a normal reaction to stress for example while going on the stage before performing a person may feel stressed besides there may be many metabolic reasons. It may be a panic disorder, phobia, social anxiety

disorder, obsessive compulsive disorder, separation anxiety disorder, illness anxiety disorder and post-traumatic stress disorder. Its symptoms are increased heart rate, rapid breathing restlessness, trouble concentrating or difficulty falling asleep.

There is one systematic review on effects of yoga on anxiety in ^[1], and effects of meditation therapy on anxiety disorder ^[10], a systematic study on yogic breathing ^[6] and summary has been given in ^[8]

Most of the above studies favor yogic intervention as a tool to help reduce anxiety and its related ailments.

Fatigue

It refers to the extreme tiredness one feels due to mental or physical exertion or illness. It results in an overall lack of energy, feeling drowsy or sleepy. It may also result from poor diet or lack of exercise. Normally it can be cured by proper diet and sleep in a few times but if it does get cured then medical intervention is needed.

There is one systematic review that has been found which involved a meta-analysis or review of a variety of patients from dialysis, cancer, asthma, fibromyalgia, pancreatic diseases. The yoga was found to be positively correlated with reduction of the patients fatigue levels when coupled with the medication part.

Stress

Stress refers to the feeling of physical and emotional tension, it can come from a thought or an event that makes one feel frustrated, angry and nervous. It is a natural response of a body to the challenge or a demand that it faces over time. It can be both positive and negative in the sense that it can either help one to meet our targets or break one to knees and lose our performance rate and caliber. Some of the ways yoga can help us in eliminating stress is being discussed in ^[11]. Although the studies did not use much of adequate or consistent instruments, they directly or indirectly confirm a positive effect of yoga intervention on levels of stress and anxiety.

Post-Traumatic Stress Disorder

PTSD or Post Traumatic Stress Syndrome is a mental condition which is triggered by an event that terrifies a patient (person). There are few symptoms that are faced by patients like flashbacks, nightmares and severe anxiety or uncontrollable thoughts about an event or a person. This disorder can be caused by a horror like event like war crime or a person attack or may be even due to getting haunted. There is a single study which has been reviewed here ^[12] which includes study of victims of a Hurricane and Tsunami (Natural disasters) including a set of 8 studies. The studies revealed a better state of the victims after the yoga intervention, including reduced levels of stress, anxiety, fear and trauma with the patient. A similar levels of improvement was also seen in patients who suffered trauma due to combat, war and terrorism.

The timing of intervention varied from 1 month to six months and displayed a positive role of yoga intervention however some long term studies showed that a greater rigour is needed for the necessitated outcome.

Yoga and Physical Fitness

Physical Fitness

There was a critical review found ^[13] which showed a positive correlation between the older adults and through the yoga

practice on a regular basis. The studies reported moderate symptoms of betterment of gait, balance, increased body fitness and body strength and lowered weight. However still adequate studies are needed with the adequate interventions to verify the finding which are promising. (Age group 69 on an average).

It is often expected that maintaining physical fitness and health can have a positive impact in maintaining the functional autonomy and self-autonomy in older adults.

The studies should also have addresses whether or not maintaining physical fitness may help to retain the self-esteem and self-confidence. It may also have addressed whether or not attending regular classes may help to improve one's social competence and involvement. There are also issues in involving the older subjects because it gets very difficult to maintain the compliance with the study protocols. A better and comprehensive study is needed which not only addresses above issues but also involves yoga postures suitable for the older adults.

Sympathetic/Parasympathetic activation

There were 42 studies that showed effects of yoga on sympathetic activation and cardiovagal functioning. ^[14] Most of the studies mention a reduction in parasympathetic activation and increased cardiovascular wellness and enhancement of autonomous nervous system functioning.

The problem is that there are very few accurate studies catering to the catecholamine levels and most of them are being obsolete.

Cardiovascular endurance

Raub's literature review, which includes 7 controlled studies, reported significant improvements of overall cardiovascular endurance of young subjects which were given various levels of yoga sessions over a period of time. The outcomes or the parameters which were measured are oxygen consumption, anaerobic threshold, blood lactate during exercise, work output etc. As was expected the physical fitness and cardiopulmonary endurance increased in the group treated with yoga intervention over a period of time versace the other group.

Yoga and cardiopulmonary conditions

Blood Pressure and Hypertension

The blood pressure is measured in two ways the first is the systolic which is the pressure with which the heart contracts when the blood flows out in the body through the arteries and the veins and the second is the diastolic or the pressure with which the blood leaves. High blood pressure or hypertension is diagnosed when the systolic pressure reading on both days is more than or equal to 140 mmHg and diastolic pressure reading on both the days is more than or equal to 90 mmHg.

A direct correlation was found between the practice of yoga and enhanced and regulated blood pressure in the studies ^[14] & ^[30].

However the effect of a particular yoga on the pulmonary functions could not be detected.

Pulmonary function

In his descriptive literature review, Raub also examined studies evaluating yoga's effects on lung function in healthy volunteers and patients with chronic bronchitis and asthma ^[15]. In healthy volunteers practicing yoga, there are reported improvements of various parameters of lung function with breathing control techniques, specific postures, and/or

relaxation techniques ^[15]. However, these improvements were "not consistent and dependent upon the length of yoga training, the type of yoga practice used (e.g., breathing exercises and yoga postures), and the type of subject" ^[15]. Raub also cited some studies on patients with asthma describing improvements in peak expiratory flow rate, medication use and asthma attack frequency. In a double-blinded RCT with placebo-control, ^[35] there were only a few small and insignificant improvements in lung function variables. Thus, more rigorous trials are needed to clarify the value of yoga breathing practices for patients with asthma.

Yoga and metabolic endocrine diseases

Glucose regulation

There were three systematic reviews found which showed the positive effect of yoga on insulin secretion dysfunction ^[14], risk profiles in type 2 diabetes ^[16] and curing process of type 2 diabetes ^[17].

The AHRQ cites two studies comparing yoga versus medication which reported a large and significant reduction of fasting glucose in individuals with type 2 diabetes in one study, and a smaller but still significant improvement in the other study ^[30]. The authors discussed differences in the study populations, and interventions as possible explanation for the observed heterogeneity of results.

Menopausal Symptoms

Although some studies have found positive symptoms but there is a lack of evidence found to directly assess yoga intervention having direct positive impact and curing capacity for patients of menopausal symptoms.

Yoga and musculoskeletal conditions

Musculoskeletal Functioning and Pain

There were 3 systematic reviews ^[20-22] and 2 other reviews on the effects of yoga on musculoskeletal function, chronic pain conditions, and pain-associated disability ^[23, 24]. Two reviews specifically addressed low back pain ^[22, 24] or arthritis ^[23], while the other reviews summarized studies on various chronic pain conditions, most with a focus on musculoskeletal conditions and associated disability.

Yoga and other diseases

Cancer and Epilepsy

Some studies quote positive effect of yoga in healing process of Cancer, Epilepsy and other diseases but there is a need of high quality research required to establish any direct correlation and to draw reliable observations and conclusions.

Conclusion

These evaluations propose some regions wherein yoga may be beneficial, however extra research is required for surely all of them to more definitively establish advantages. However, this is not surprising given that research on yoga as a therapeutic intervention has been performed most effectively over the past 4 many years and are highly few in range. Typically, personal research on yoga for numerous conditions are small, poor-first-rate trials with a couple of times for bias. In addition, there's considerable heterogeneity within the populations studied, yoga interventions, length and frequency of yoga exercise, contrast groups, and final results measures for lots of conditions (e.g., despair and ache). Disentangling the effects of this heterogeneity to higher understand the price of yoga interventions below various circumstances is challenging. For many situations, heterogeneity and negative

quality of the unique trials indicated that meta-analyses couldn't be as it should be carried out. Nevertheless, some RCTs of higher quality located useful effects of yoga on mental fitness (see Uebelacker *et al.*'s important review [5]). Further investigations in this vicinity are advocated, mainly because of the plausibility of the underlying psychophysiological intent (consisting of the efficacy of frequent physical sporting events, deep respiratory practices, mental and bodily relaxation, healthful weight loss program, and so forth.).

While it isn't always sudden that physical health may be improved with the aid of education, the usage of either yoga or traditional sporting events, it's miles of hobby that during individuals with ache yoga may additionally have useful effects with basic moderate effects sizes. However, those effects had been robust in particular in healthful individuals, but an awful lot weaker in patients with continual ache conditions. The useful effects is probably explained via an expanded bodily flexibility, through calming and focusing the thoughts to expand greater attention and lessen anxiety, reduction of misery, improvement of temper, and so forth. Because patients may additionally understand that they're capable of being physically energetic, even no matter of persisting pain symptoms, they will consequently experience higher self-competence and self-consciousness, which contributes to a better pleasant existence.

Conceivably, asanas in particular have a tremendous effect on fitness and bodily flexibility with a secondary effect at the mental state, whilst the pranayama practices and relaxation/meditation strategies may bring about greater consciousness, much less strain, and better nicely-being and great of lifestyles. However, this remains to be proven in nicely-done future studies.

Because sufferers are engaged inside the yoga practices as a self-care behavioral treatment, yoga interventions might nicely increase self-self-belief and self-efficacy. On the other hand, patients with mental burdens and/or low motivation (i.E., despair, tension, fatigue, etc.) are probably much less inclined to take part completely in intensive yoga interventions. Some of those research determined fairly low participation and excessive dropout rates in some of the analyzed research. Patient compliance may be higher with the social assist inside institution interventions, at the same time as non-public normal practices at domestic might be greater difficult to carry out continually. These factors need to be addressed in additional studies. Innes *et al.* [14] argued that maximum studies have been from India wherein "yoga is an imperative a part of a longstanding cultural and non-secular tradition." It is for that reason uncertain whether adherence in Western patients is probably the same. Many of the Indian medical trials, which have been carried out in residential settings, not typically located outside India, include yoga elegance interventions 5 to 7 days consistent with week, whereas such compliance might no longer be viable with affected person populations outside India. However, such practices are not likely to be endured, at least at such depth. If as believed by some yoga practitioners, the intensity of the exercise need to be greater at the start of therapy, such programs could be a top notch way to start yoga treatment. In India, there is a gradual shift within the attitude closer to yoga with maximum urban Indians below the age of 35 believing yoga is a way to hold suit in preference to attaching the identical cultural significance to it, which earlier generations did. For these reasons, go-cultural research (that are lacking) the use of an identical intervention given to a population in India and parallel carried out someplace else would be very

useful.

Motivation might be a critical factor. To triumph over this, shorter time interventions might be an alternative for some unique warning signs (i.E., pain and depressive signs), while the cardiovascular and fitness effects would possibly require long-time period practices. In fact, a few ache research suggest that brief-term interventions is probably greater effective than longer intervals of exercise [20]. This might suggest a putative lack of motivation to be physically lively. Indeed, a couple of reviews stated that statistics on challenge treatment compliance was not robotically mentioned in maximum studies [4, 30].

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