

Impact of Yogic practices on some bio-chemical parameters of Arthritis patients

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Abstract

Arthritis should be taken as a major health problem among society. Following study aimed to find the effect of Yogic intervention on uric acid level on arthritis patients. 50 such patients suffering with R A or O A were selected and divided into two groups (experimental and control). The experimental group went through the Yogic practices for three months, biochemical investigations were done before and after a comprehensive Yoga training program.

There was a significant decrease in ESR and RA factor level as a result of Yoga practices as the data shows statistically significant “t” value. Changes in this parameter may be due to improved immunity and better endurance capacity in the practitioners. Yoga improved the overall health of the experimental group. A comprehensive Yoga therapy program has the potential to enhance the beneficial effects of standard medical management of arthritis and can be used as an effective complementary or integrative therapy program.

Keywords: Pawan-muktasana, Ujjayi Pranayama, ESR and R A Factor.

Introduction

Arthritis is a complex family of musculoskeletal disorders with many causes, not yet fully understood, and so far there are no cures. It consists of more than 100 different diseases or conditions that destroy joints, bones, muscles, cartilage and other connective tissues, hampering or halting physical movement.

According to the study published on 20th Oct 2013 in Times of India, Arthritis, especially osteoarthritis, is on an alarming rise with a study saying we have over 180 million patients in India, some below the age of 25! In addition, this disease is on the rise among women.

It is estimated that the total cost of arthritis cases is close to 100 billion USD of which nearly 50% is from lost earnings. Each year, arthritis results in nearly 1 million

hospitalizations and close to 45 million outpatient visits to health care centers.

Arthritis is not a single disease – there are over 100 different forms of arthritis. It is a collective term for different individual illnesses, with different features, treatments, complications, and prognoses. The similarity is that they have a tendency to affect the joints and many have the possibility to affect other internal parts of the body.

According to the yogic literature, Yoga can help correct the interconnected factors of dysfunctional movement patterns, lack of body awareness, and poor posture. Yoga takes the whole body through a wide range of motion. Static stretching is the most common technique used in Hatha Yoga; which includes both contracting muscles to stretch a target muscle, and when relaxing into a stretch using only body weight to stretch muscles. People

with arthritis tend to avoid using sore joints because of the pain involved; inactivity weakens muscles and further decreases range of motion in the joints. Gentle movement taught by a skilled Yoga therapist may help by keeping the body moving.

Yoga may be suited to help prevent or minimize the erosion of cartilage that causes the joint pain of arthritis, to create greater ease of movement and decrease pain within joints that have already sustained damage. Most descriptions of the effect of Yoga on musculoskeletal disorders point to the benefits of joint realignment and active stretch producing traction of muscles during the Asanas.

Studies done by Warren A Katz, Russell Rothenberg, (2005) as well as done by Başak Coruh, Hana Ayele, Meredith Pugh, Thomas Mulligan, (2005) concludes that use of complementary and Alternative medicine plays vital role in the management in Arthritis.

Sharon L. Kolasinski, Marian Garfinkel, Adam Gilden Tsai, Whitney Matz, Alison Van Dyke, and H. Ralph Schumacher, Jr. Iyengar (2005) concluded in his study “Yoga for Treating Symptoms of Osteoarthritis of the Knees: A Pilot Study” that - Yoga may provide a feasible treatment option for previously Yoga-naïve, obese patients >50 years of age and offers potential reductions in pain and disability caused by knee OA. Future studies should compare Yoga to other nonpharmacologic interventions for knee OA, such as patient education or quadriceps-strengthening exercises.

Vivek Joseph, Ahmed Al Jahwari, Yoga Rampersaud, (2007) Mediastinal migration of distal occipito-thoracic instrumentation; *European spine journal* : official publication of the European Spine Society, the European Spinal Deformity Society, and the European Section of the Cervical Spine Research Society.

Humeira Badsha, Vishwas Chhabra, Cathy Leibman, Ayman Mofti, Kok Kong (2009) observed in a pilot study over 47 patients suffering with Rheumatoid arthritis that result with Yoga practitioner having significant improvement in the RA disease parameters in comparison to the control group. Patients who underwent Yoga had statistically significant improvements in DAS28 and HAQ, but not QOL. The study of 12 sessions of Yoga for RA was able to demonstrate statistically significant improvements in RA disease parameters. It can be stated that a longer duration of treatment could result in more significant improvements.

John Ebnezar et al (2010) concluded in their study that - an integrated approach of Hatha Yoga therapy is better than therapeutic exercises as an adjunct to transcutaneous electrical stimulation and ultrasound treatment in improving walking pain, range of knee flexion, walking time, tenderness, swelling, crepitus, and knee disability in patients with OA knees.

Diana M. et.al (2012) stated in their study that - Osteoarthritis (OA) is a leading cause of pain and disability worldwide. Current treatment guidelines recommend nonpharmacological approaches such as Yoga for firstline treatment of OA. Yoga is a promising mind-body practice that includes physical postures, breathing practices, and meditative mental focus. This article presents the current evidence, as well as a proposed conceptual model for future research. Current research on Yoga for OA is scant but promising, showing some evidence of reduced pain, sleep disturbance, and disability. The conceptual model described here proposes musculoskeletal effects (strengthening, flexibility, and relaxation), reduction of autonomic arousal, and therapeutic cognitive patterns (distraction, mindfulness) as potentially important mechanisms of Yoga. This article also describes considerations for patients and

health care providers when evaluating the potential usefulness and safety of Yoga programs: Yoga style, instructor qualifications, and amount of time spent in Yoga practice.

A number of studies have been done in various part of the globe to observe the effect of Yoga on arthritis, but no study was conducted on the yogic practice we selected for the study, particularly on Pawanmuktasana and Ujjayi Pranayama. To observe the effect of these practices the researcher went through an empirical study, the detail is radiated below.

Methodology

The subjects were selected from Yoga department of Dayanand Ayurvedic College and Hospital, Siwan (Bihar), Age range: 30-60 years. The total Sample size was 50 and further divided into two groups (experimental and control). The institutional research ethics-committee approved this study. After signed informed consent by the subjects anthropometrics measurements were taken. Each subject was randomly assigned for this study. A professional not associated with this study generated the randomization scheme.

The following inclusion criteria has been the basis of selecting subjects: (i) fitting within the age range of 30 to 60 years, (ii) both male and females, (iii) normal health on a routine case history and a clinical examination, (iv) readiness to participate in the trial, and (vi) practice of Yoga for a minimum of one hours per day, 6 days per week would be included in the trial. The regularity of yogic practices would be based on self-reporting of the Yoga practitioner as well as (where possible) consultations with the Yoga teacher / instructor.

Subjects with the following conditions has been excluded: (i) any health disorders especially psychiatric or neurological disorders, (in order to determine the health

status of the subjects, in all cases a routine case history would be taken and a routine clinical examination would be conducted), (ii) autonomic dysfunction, and (iv) any medication which alters the function of the nervous system (including autonomic functions). Experimental control group research design was used in this study. Each subject was tested individually. The experimental group in this study has given Yogic practices daily for half an hour for 90 days.

The subjects of experimental group used to visit the center for Yoga training for 90 days daily under the supervision of a Yoga expert. The post values were taken at the interval of three month of the both group and 't' test was used for comparing the level of significance in present study.

Yogic Intervention program

Pawan-muktasana: The word pawan means 'wind' or 'prana' mukta means 'release' and asana means 'pose'. Therefore Pawanmuktasana Series means a group of asanas that remove any blockages which prevent the free flow of energy in the body and mind. These practices are also referred to as 'sukshma vyayama' or 'subtle exercises'. The anti-rheumatic group is concerned with the loosening up of the joints of the body.

A set of 15 types of movements from different major joints with breath synchronization comes under this Pawanmuktasana series, which should be done very slowly and with an awareness of pushing the flow of Prana to that particular joint at the time of movement.

Ujjayi is especially known for the soft hissing sound the breather makes by directing the inhales and exhales over the back of the throat. For ujjayi pranayam one should draw in air through both nostrils and hold it in the mouth and also draw in air from the chest and throat and hold it in the mouth followed by Jalandhar

bandha and breath retention for as long as possible.

Ujjayi helps one get rid of all sickness and disease, decrepitude and death. A different version is given in the Hatha Yoga Pradipika according to which the yogi should keep the mouth closed and inhale through both nostrils while constricting the throat muscles so that a hissing sound is produced, hold the breath

(perform kumbhaka) and exhale through ida (left nostril).

The subjects of experimental group used to visit the center for Yoga training for 90 days daily under the supervision of a Yoga expert. The pre and post values were taken at the interval of three month for hemoglobin and ESR level of the patients suffering with diabetes and 't' test was used for comparing the level of significance in present study.

Result

Table 2 : Showing the Pre – post mean , SD, SED and t value of HB level

Test	Mean	N	SD	SED	T value	Level of significance
Pre	7.92	50	0.543	0.11	18.76	0.01
Post	10.02	50	0.938			

Df = 49, r = 0.53

Table 3: for ESR:

Test	Mean	N	SD	SED	T	Level of Significance
Pre	22.20	50	1.178	0.229	14.00	0.01
Post	19.00	50	0.639			

Df = 49, r = 0.54

Discussion& Conclusion

Yoga interventions have been shown to produce improvements in quality-of-life measures related to sense of well-being, energy, and fatigue; and to beneficially impact mood, depression and anxiety disorders. Yoga has also been demonstrated to reduce the physical effects of stress, by reducing the levels of cortisol; and affecting the neuroendocrine system.

Yoga is multifaceted, including focused breathing, mental engagement, stress management, social connection and/or meditative concentration along with

physical activity. Yoga may offer an alternative to traditional exercise and potential psychological benefits or increased enjoyment for enhanced exercise adherence. Yoga could, therefore, provide another way for arthritis patients to be active and engaged in health-promoting behavior. Mind-body interventions such as Yoga that teach stress management with physical activity may affect diseases from multiple fronts and may be well-suited for investigation in both OA and inflammatory immune-mediated diseases such as RA.

After few weeks of doing Yoga (regularly), people reported feeling much better, both physically and mentally. There were no bad side effects: No one had to stop doing Yoga, and no one got worse.

The study has shown that Practice of Pawanmuktasana and Ujjayi Pranayama is

a safe and effective way to increase physical activity that also has important psychological benefits due to its meditative nature. As with other forms of physical activities, these practices can increase muscle strength, improve flexibility, enhance respiratory endurance, and promote balance.

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