

## Efficacy of naturopathy and yoga in the treatment of rheumatoid arthritis

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### ■ ABSTRACT

It has been seen that rheumatoid arthritis is an autoimmune disease which cannot be controlled only by the allopathic medicine. It has been claimed that naturopathy with Yoga practice enhances one's ability to focus cognitive abilities. By the regular naturopathic treatment such as massage therapy, mud therapy, hot and cold fermentations and regular practice of yoga such as Yogasanas and pranayamas regularly stimulate the immune system and significant improvements were obtained in pain disability of the rheumatoid arthritis patient. Early use of disease-modifying anti-rheumatic drugs and biologics has improved outcomes but requires close monitoring of disease course and adverse events.

■ **Key Words** : Naturopathy, Yoga, Rheumatoid arthritis

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Rheumatoid arthritis (RA) is a chronic autoimmune disease that causes inflammation of the joints and may cause inflammation of other tissues in the body. The immune system consists of the cells and proteins in our bodies that fight infections. Autoimmunity is the failure of body's own immune system to recognize self-tissues or cells. The resulting immune response leads to tissue damage that manifests as an autoimmune disease (Cheekatla and Agarwal, 2011). An autoimmune disease occurs when our immune system doesn't recognize part of our body and attacks it as if it were an invader such as a bacteria or virus. Amongst the genetic factors, genes that are linked to antigen recognition, antigen presentation and effector mechanisms were shown to be associated with susceptibility and severity of various autoimmune diseases. Not all individuals with genetic susceptibility will develop the disease, and in such cases environmental influences do play a crucial role<sup>1</sup>. The most important genetic susceptibility has been linked to the major histocompatibility complex (MHC) region located on short arm of the chromosome 6. Various MHC class allotypes have been strongly correlated with a variety of autoimmune diseases, such as HLA-DR2: systemic lupus erythematosus,

multiple sclerosis (Klein, 2000). HLA-DR4: rheumatoid arthritis (Wordsworth *et al.*, 1989) amongst the environmental factors infections, drugs and chemicals are believed to be triggers of various autoimmune.

diseases (Puttini *et al.*, 2005). In rheumatoid arthritis, the immune system targets synovial membrane and attacks it. The synovial membrane secretes synovial fluid into the joint. Synovial fluid is the joint fluid that lubricates and nourishes the joints. Other tissues can also be targeted by the immune system in rheumatoid arthritis, but the synovium, or synovial membrane, is generally the primary target. When the synovial membrane is attacked, it becomes inflamed (synovitis) and can thicken and erode. As the synovial membrane is destroyed, the synovial fluid is also destroyed because it is not being secreted. The surrounding structures can also become involved leading to the joint deformities as can be seen in rheumatoid arthritis (Cooper, 2009).

Rheumatoid arthritis and its treatment may have a pathogenic relation with cancer. The possible relation also has practical implications for the care and control of rheumatic patients. Patients with rheumatoid arthritis have been shown to have an increased risk of developing lymphomas (William,

2005 and Rheumatoid, 2011).

Patients with rheumatoid arthritis are at increased risk for CVD, which accounts for about half of all deaths in these patients. This is attributed to accelerated atherosclerosis as a result of both systemic inflammatory burden and the high prevalence of traditional risk factors for CVD (Rincon *et al.*, 2001; Gabriel *et al.*, 1999 and Mc Entegart, 2001). Insulin resistance, one of the key components of the MetS, is also common among patients with rheumatoid arthritis (Dessein *et al.*, 2002 and Dessein *et al.*, 2002). Moreover, chronic inflammation has been implicated in its pathogenesis (Sarris and Wardle, 2010 ; Brown, 1988 and Dessein *et al.*, 2002). Chronic fatigue is a very life impairing factor in rheumatoid arthritis (Silman, 2001). In several studies of RA, more than 80 per cent of the samples experience fatigue to a certain degree (Belza *et al.*, 1933; Wolfe *et al.*, 1996 and Pollard *et al.*, 2006) and interferes with physical and mental processes (Piper, 1989). The possible accounts for fatigue, qualitative studies could also note that the experience of it differs from person to person (Nikolaus *et al.*, 2009). The emerging emotions, resulting consequences and the management of fatigue get variably experienced by different age-groups and gender. Some of the found differences could be related to the amount of daily roles that people concerned have to fulfil. Those people, especially women, with multiple daily roles, as parenting, housekeeping, occupation, etc. experience more fatigue because of striving for sufficient gratification of all roles and simultaneous exercising rest periods (Majithia and Geraci, 2007).

About 1 per cent of the World's population is afflicted by rheumatoid arthritis. Onset is most frequent between the ages of 30 and 50, but people of any age can be affected. Women get RA more often than men. It can be a disabling and painful condition, which can lead to substantial loss of functioning and mobility if not adequately treated. Researchers reported that citrulline antibody is associated with the risk of eventual development of rheumatoid arthritis and may present even up to 12 years prior to development of rheumatoid arthritis (William, 2005). Various lifelong treatments are available for rheumatoid arthritis such as non-pharmacological treatment includes physical therapy, orthoses, occupational therapy and nutritional therapy but they do not stop progression of joint destruction (Xu *et al.*, 2003 and Szotek, 2010).

Early, aggressive treatment for RA can delay joint destruction. Infection, genes, and hormonal changes may be linked to the diseases (Rheumatoid, 2011). About 90 per cent of the people with RA suffer from irreparable joint damages and loss of function. However, only pain can be decreased and the progress of joint damages and loss of function narrowed down. This is achieved by several treatments as drugs, physiotherapy, occupational therapy and adjuvants as orthoses/prostheses (Szotek, 2010; Bresnihan, 1999 and

Bijlsma *et al.*, 2004). Pain and fatigue are the two most common and most frequent reported symptoms in rheumatoid arthritis and are strongly associated with people's all over quality of life (Stone *et al.*, 1997).

Severity of pain is in case of RA mostly ascribed to the degree of inflammation, the progress of joint damages and deviations (Suzuki *et al.*, 2003) and although these symptoms could be improved by treatments wherewith also pain should temporarily relief, it could nevertheless be present to a high level (Szotek, 2010 and Bresnihan, 1999) The joints usually involved are the hands, wrists, feet, ankles and knees (Murray and Pizzorno, 1998). Analgesia (painkillers) and anti-inflammatory drugs, including steroids, are used to suppress the symptoms, while Disease Modifying Anti-Rheumatic Drugs (DMARDs) are required to inhibit or halt the underlying immune process and prevent long-term damage. In recent times, the newer group of biologics has increased treatment options (Xu *et al.*, 2003 and Szotek, 2010).

Experimental studies have shown that several inflammatory mediators, including activated leucocytes, cytokines and C-reactive protein (CRP), have an active role within the atherosclerotic plaques. Moreover, some large, prospective, epidemiological studies have shown that high serum levels of inflammatory markers, like hs-CRP (Fritsma, 2001 and Young and Rifai, 2009) Anti-CCP (Liu *et al.*, 2011), ANA (Suzuki *et al.*, 2003 and Garren, 1993), TNF-alpha (Rashmi and Ujala, ; Sharma, 2004 and Rowe *et al.*, 1987) and RA-Titer (American, 2002; Steiner, 2011; Vencent, 2005 and Panayi and Corrigan 2006) are predictive of future cardiovascular events (Pirro *et al.*, 2006; Pirro *et al.*, 2001; Devlin *et al.*, 1997; Berg and Lent, 1996 and Fuchs *et al.*, 1989) . The peak onset of Rheumatoid Arthritis is considered to be the fifth decade of life. RA is prevalent world-wide and the disease lasts the lifetime of the patient. Pain and crippling of the patients are serious concomitant problems usually resulting from RA (Adams, 1991 and Wolfe, 1984).

RA pain is both physiological and emotional, with part of the pain being anticipatory pain; understanding that the pain is neither entirely predictable nor controllable but probably lasting a lifetime (Mooney, 1983 and Weiner, 1975), pain can lead to patient isolation (Gray *et al.*, 1982). Rheumatoid Arthritis is often concomitant with significant levels of depression and disability (Irwin, 1988 and Witter, 1987). Even with the variety of medical treatments available, patients suffering from RA often report continued pain, distress, and mobility limitations affecting everyday activities (Adams, 1991). Understanding of these patient definitions "...may lead to effective behavioral interventions as adjuncts to the traditional medical care of RA patients" (Smith *et al.*, 1988).

As rheumatoid arthritis cannot be completely cured by the use of medicine. Further researchers are being carried out to find an alternative treatment which can control the disease



be economic and less toxic and more readily available. The treatment such as naturopathy and Yoga (under the guidance of the doctor) fits in this category as they involve less side effects are more economic, less toxic and readily available.

Nature cure is a simple and effective system of medicine which has taken its scientific form today. Yoga and massage are the most useful treatment for the patient of rheumatoid arthritis.

The practice of Yoga might seem daunting to a person with rheumatoid arthritis (RA). The thought of bending, stretching, twisting into, and then holding, pretzel-like poses while your joints are inflamed may sound impossible. However, research has shown that gentle Yoga can be of great benefit as a rheumatoid arthritis treatment (Thompson, 1990).

Naturopathy is a form of alternative medicine based on a belief in vitalism, which posits that a special energy called vital energy or vital force guides bodily processes such as metabolism, reproduction, growth, and adaptation (Wade, ). Treatment of the diseases by these elements *i.e.* earth, water, fire, air and ether is known as naturopathy. Modern naturopathy grew out of the Natural Cure movement of Europe (Festa *et al.*, 2000 and Langley, 2007). Naturopathic practitioners are split into two groups, traditional naturopaths and naturopathic physicians (Naturopathy, 2007). Nature cure started in India by translation of Louis Kuhne's book "New Science of Healing". Shri D. Venkat Chelapati Sharma translated the book in Telugu language in about 1894 in India and now practiced in many countries, primarily US, Canada and subject to deft standard of regulation and acceptance. In March 1978, the composite Council Central Council for Research in Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy was dissolved and replaced by four independent Research Councils, one each for Ayurveda and Siddha, Unani, Homoeopathy and Yoga and Naturopathy .

The scope of practice varies widely between jurisdictions, and naturopaths in unregulated jurisdictions may use the Naturopathic Doctor designation or other titles regardless of level of education and research . In September 1919 the Naturopathic Society of America was dissolved and Dr. Benedict Lust founded the "American Naturopathic Association" to supplant it (Baer, 2001; 1909 and Beyersteine and Susan, 2009). Beginning in the 1970s, interest waxed in the United States and Canada in conjunction with the holistic health movement (Baer, 2001 and Frey, 2010). Nature cure is a range of therapies based upon exposure to natural elements such as sunshine, fresh air, heat, or cold, Nutrition (examples include vegetarian and whole food diet, fasting and abstinence from alcohol and sugar) (Young, 2007) ozone therapy, physical medicine (includes naturopathic, osseous, and soft tissue manipulative therapy, sports medicine, exercise and hydrotherapy), psychological counseling (examples include meditation, relaxation, and other methods of stress management) (Young, 2007), public health measures and

hygiene, reflexology, (Clark and Gordon, 1999) rolfing, (Holly *et al.*, 2001) and traditional Chinese medicine.

Organic food such as seafood, prawns, garlic, chilli, are good atleast once in a week (Wade, 1989). The old Chinese saying is "When you are sick of sickness, you are no longer sick." That is the start to wellness. Naturopathy is the only profession that teaches the clients to need you less and less (Williams, 1972 and Joseph, 2010). Naturopathy provides treatments such as massage therapy, hydrotherapy, mud therapy, chromo therapy, diet therapy which brings relief in joint pain and motion of rheumatoid arthritis patients.

In naturopathy massage is a physical therapy, massaging the skin releases the peptides affecting the mind, stimulating the immune system and improving overall body health. The preventive benefits of massage are so great that almost 90 per cent of medicines can be replaced with a weekly massage (Podder, 2010 and Nair, 2004).

Yoga word comes from a Sanskrit word meaning "to yoke" or "to unite". Yoga is a system of contemplation with the aim of uniting the human spirit. In Bhagavad Gita, Krishna explains that

॥युक्तो ह्यधुना योगी॥  
 ॥युक्तो ह्यधुना योगी॥  
 - Bhagavad Gita .

Yoga is described as comprising a rich treasure of physical and mental techniques that can be effectively used to create physical and mental well-being. It is an ancient tradition that finds its roots in the early civilizations of the central Asian regions. Its influence is seen in many cultural traditions of different countries. In India it flourished and evolved as a vibrant way of life and a spiritual practice. Yoga is a tradition of lifestyle, health and spirituality that evolved in the Indian peninsula over a period of some 5000 years (Jayasinghe, 2006). Yoga is a holistic approach to life, which helps with mind, body and spirit. Yoga asana (physical postures) require your undivided attention to your breathing, which is the cornerstone of all Yoga practices .

Yoga is typically practiced in loose clothing and bare feet on a mat. A series of poses that are called Asanas in Sanskrit are performed slowly and sequentially, concentrating each movement on the deep abdominal breathing that accompanies each movement. Movements between poses are considered as important as maintaining a pose, and typically the poses are held for 4 or 5 breaths depending on the different teaching styles of Yoga that are popular today including Hatha, Ashtanga, Anasara, Iyengar and Bikram. Many of the poses are named after animals, and the real yogis suggest that you mimic the animals when in the particular pose such as feeling like a cat or a cobra while performing those poses (Field, 2010).

These are among the psychological effects reported for Yoga. At least two studies have reported enhanced mindfulness following Yoga (Brisbon and Lowery, 2009 and

Shelov *et al.*, 2009). Although different scales were used, both studies reported enhanced mindfulness. Reductions in job stress have also followed Yoga in the workplace (Hartfiel *et al.*, 2010) and in fire stations with firefighters (Cowen, 2010). If you do Yoga and have wondering why it makes you feel so good, there is reason for it. Research has clearly shown that doing Yoga regularly has a positive effect on your immunity because it works on the endocrinal glands. "Although every asana in your Yoga has a positive effect on your body and mind, pranayam in particular really helps improve immunity," "Anulom vilom and kapalbhati are extremely good for that" and give the positive effect in immunological markers (Dalmia, 2010). The practice of Yoga has been shown to be therapeutically useful in bronchial asthma (Nagarathna and Negendra, 1985 and Jain, 1993), type II diabetes mellitus (Sahay, 1986 and Monroe *et al.*, 1992), hypertension (Patel, 1973) as well as other psychosomatic ailments. The practice of Yoga can also play a role in the rehabilitation of physically and mentally handicapped persons, as well as those who are socially disadvantaged (Telles and Naveen, 1997).

The evidence shows that Yoga poses use in clinical settings assists with the integration of complementary and conventional practices in the treatment of rheumatoid arthritis (Hochberg *et al.*, 1995; Newsome, 2002; Minor, 1999; Bearne *et al.*, 2002; O'Grady *et al.*, 2000; Forrest and Rynes, 1994 and Nordemar and Ekblom, 1981). As we know rheumatoid arthritis is autoimmune disease so we need to improve immune system. Some pranayams and deep breathing, Nadi Shodhana, Bhramri, kapalbhati (kriya) are known to enhance the immune system of patients to fight against the disease and that the disease does not go in a reverse way.

Some Sukshyavyam for wrist, ankle shoulder and hip joint may improve range of motion of joint because stiffness of joint is common in RA patients. They also improve muscle strength flexibility as well as reduce pain, some asanas like Tad asana, Katichakrasana, Konasana, Suptawanmuktasana with Pawanmukta series for small joint (by Swami Satyanand Saraswati) will improve condition. Not last but least shavasana (relaxative asana) calms down body and mind.

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