

## Safety and Efficacy of Yoga and Naturopathy based lifestyle in Patients suffering from Rheumatoid Arthritis

Anath Bandhu Mondal<sup>1</sup>, Nilkamal Mallik<sup>2</sup>, Sajal Samanta<sup>3\*</sup>, Prasanata Jana<sup>4</sup> and Sanath Takhur<sup>5</sup>

<sup>1</sup>Principal of the Research Consultant, Physician and Director of West Land Nursing Home, India

<sup>2</sup>Department of Nutrition, Population and Social Development for Yoga Naturopathy Education and Research, India

<sup>3</sup>Research associate, Population and Social Development for Yoga Naturopathy Education and Research, India

<sup>4</sup>Yoga Chair, Population and Social Development for Yoga Naturopathy Education and Research, India

<sup>5</sup>Lab Technician, Population and Social Development for Yoga Naturopathy Education and Research, India

**Submission:** : January 10, 2016; **Published:** March 02, 2016

**\*Corresponding author:** Sajal Samanta, Population and Social Development for Yoga Naturopathy Education and Research, City Centre, Durgapur-16, Kabijasimuddin Path, Bardhaman, West Bengal, India, Tel: 9733825078; Email: samantasajal78@gamil.com

### Abstract

*Amavata* may be simulated with Rheumatoid arthritis on the basis of clinical manifestation and pathogenesis. In this clinical study, 43 *Amavata* (Rheumatoid arthritis) patients were registered from the O.P.D. of the Population and Social Development for Yoga Naturopathy Education and Research, Durgapur, Bardhaman, West Bengal, India. 3 patients out of total 43 discontinued before completion of the treatment.

Yoga therapy i.e. *Prarthana* (Prayer), *Sutraneti*, *Jalaneti*, *Vaman (kunj)*, *Kapalbhati*, Stretching and Rotations, Healing, *Mudra*, *Pranayam*, Relaxation with *Dharana*, *Om* & *Shanti mantra* were designed in the treatment of *Amavata* (Rheumatoid arthritis) patients for three weeks (21 days). The practice was performed on an empty stomach. In the clinical study, 60 % of the participants showed major improvement, 35% minor improvement and 5% no improvement. Complete remission was nil. No complication was found in the clinical study. Majority of participants under study were women belonging to the age group of 30 - 50 years.

**Keywords:** *Amavata*; Rheumatoid arthritis; Female; 30 to 50 years; Yoga therapy

### Introduction

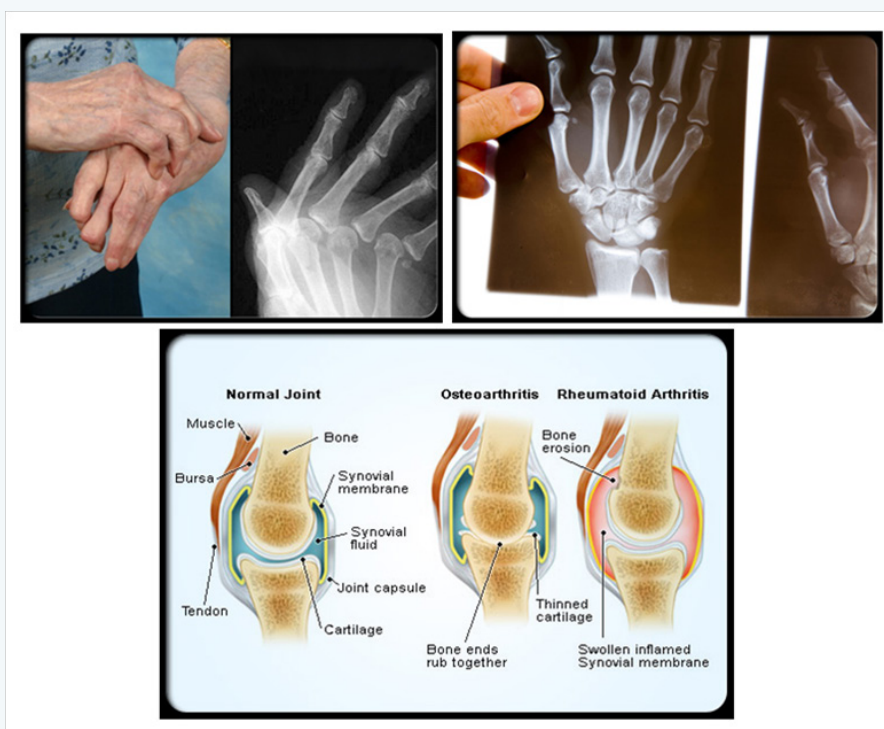
Arthritis is a form of joint disorder that involves inflammation of one or more joints. A joint is an area of the body where two or more different bones meet. A joint functions as a regulator for the movement of the body parts connected with bones and helps organ to function normally. The major complaint of individuals having arthritis generally is joint pain. Initially the Pain starts either in knee joints or waist and thereafter it affects most of the joints in the body and even paralysed the individual. The joint pain in arthritis occurs due to drying up of the synovial fluid of the joint area, which results in friction of the bones of arthritis include pain and limited function of joints. Inflammation in joints due to arthritis is characterized by joint stiffness, swelling, redness, and warmth. Patients become incapable of normal movement and fail to enjoy real life situation (Figure 1).

In Indigenous Medical Science, *Amavata* (Rheumatoid arthritis), was mentioned for the first time by *Madhavakar* [1] (700AD), as a special disease entity and also that *Ama* (bio toxin) as well as *Vata* (biophysical force) plays a predominant role in the pathogenesis of this disease

1. The *Amavata* may be simulated with Rheumatoid arthritis.

According to modern medicine, Rheumatoid arthritis is not only a chronic disease but also an active inflammatory, progressive auto-immune arthropathy, characterized by bilateral symmetrical involvement of joints with some systemic clinical manifestations.

2. Aetopathogenesis of this disease is still not known precisely but among the hypothesis, 'entero-pathy' do play an important role regarding this disease. This



**Figure 1:** Above photos are described about the sign symptoms of Amavata (Rheumatoid arthritis).

hypothesis is supported by Indian Medicine also. Rheumatoid arthritis has become one of the burning problems of the human population of this modern era. Doctors' scientists, medical practitioners all are very much concerned about the problem. Debates and discussions are going on to find out a solution on the issue. But right now any suitable or effective treatment of this disease is far from adequate in the modern medicine.

3. This disease has also an impact on our National economy. As it is not only affecting the older generation but the young generations are also getting highly affected by this disease. It is equally affecting the patients physically as well as mentally and sometimes forcing them to become invalid. As a result, it has drawn major attention of the scholars and has become a major issue of discussion. Yoga promotes a holistic living - a drugless and disease free living uniting the physical, mental and spiritual aspect of our life into one platform. The great news with Yoga is that it is less complicated, hardly expensive, and easily affordable and can be practiced by one and all.
4. It is helpful in the prevention and cure of different chronic disease. As a result, we have included certain yoga practices for the management of the *Amavata* in this clinical study.

5. Not only yoga but also Naturopathy gives a long term relief but most people are not ready to spend time for treatment and rather go for allopathic medication which gives symptomatic relief and does not treat the root causes. Some simple changes in diet and a few physical exercises (Yoga Practice) can control arthritis to a great extent. Keeping this view in mind the present study was taken into consideration and following objectives were framed for the present study [2,3].

### Objectives

- To ameliorate the clinical features of Rheumatoid arthritis and increase the work ability.
- To minimize the periodic fluctuation of the disease.
- To assess the effect of the Yoga management in the Rheumatoid arthritis.

### Materials and Methods

#### RCT (Randomised clinical Trial)

43 patients fulfilled the criteria for the diagnosis of the (Rheumatoid-arthritis) and were registered for the present clinical study irrespective of their age, sex, religion, Caste. Among them, 3 patients are discontinued before the completion of the therapy. The patients were selected from the OPD of the Population and Social Development for Yoga Naturopathy

Education and Research, Durgapur, Bardhaman, West Bengal following under mentioned criteria:-

**Inclusion criteria**

- Patients belonging to the age groups 18 to 60 years (both genders).
- The patients fulfilled the clinical features of Rheumatoid arthritis.
- The patients fulfilled the American College of Rheumatology (ASIA), 1987-Reversed criteria for Rheumatoid arthritis [4].

**Exclusion criteria**

- Osteoarthritis, Rheumatic arthritis, Septic arthritis, Gouty arthritis, Psoriatic arthritis, Traumatic arthritis, SLE (Systemic lupus erythematosus).
- Diabetes Mellitus, Hypertension, Tuberculosis, Thyroid disorders, Cardiac problems, renal problems, Liver problems, HIV and any Malignancy.

- Without application of Pharmacopeia process.

The disease was diagnosed on the basis of signs and symptoms as described in Yoga Science and Modern texts, aided by the revised criteria for Rheumatoid arthritis fixed by the American College of Rheumatology in 1987. R.A.Factor and C Reactive Protein investigations were done in all the patients for diagnosis and severity of the disease (Degree of Dissonancy). Routine Blood, Urine and Stool examinations along with serum uric acid, urea, creatinine, ASO titter, ANF, Lipid profile, Liver function test, ECG, TSH, Fasting Blood Sugar were also done to rule out other pathological conditions of the registered patients. This clinical study was done in 2007 and for the duration of approximately one year.

**Plan of study**

Selected patients were given Yoga therapy every day morning at 6 a.m. for three weeks (i.e. 21 days). The target population practiced Yoga in empty stomach. Consult Table 1 for the details on the yoga therapy practice.

**Table 1:** Yoga therapy.

1 <sup>st</sup> week	2 <sup>nd</sup> week	3 <sup>rd</sup> week
<b>Prarthana (Prayer):</b> 2minutes(min.)	<b>Prarthana:</b> 2 minutes(min.)	<b>Prarthana:</b> 2 minutes (min.)
<b>Suddhi kriya:</b> 40 min. Neti (sutra & jala neti): 6min., (twice in week). Dhouti [vaman(kunjal)]: 30 min., (twice in week).	<b>Suddhi kriya:</b> 40 min. Neti (sutra & jala neti): 6min., (thrice in week). Dhouti [vaman(kunjal)]:30 min., (thrice in week).	<b>Suddhi kriya:</b> 40 min. Neti: (sutra & jala neti): 6min., (twice in week). Dhouti [vaman(kunjal)]: 30 min., (twice in week).
Kapalbhati: 5min. (daily).	Kapalbhati: 5min. (daily).	Kapalbhati: 5min. (daily).
<b>Stretches &amp; Rotations:</b> 15 min.	<b>Stretches&amp;Rotations:</b> 15 min.	<b>Stretches &amp;Rotations:</b> 15 min.
<b>Healing:</b> 30 min. In a complete laying position In healing table	<b>Healing :</b> 30 min In a complete laying position In healing table	<b>Healing:</b> 30 min In a complete laying position In healing table
<b>Pranayams:</b> 10 min. Nadisodhana, Bhamari, Suryabhedana	<b>Pranayams:</b> 10 min. Nadisodhana, Bhamari, Ujjai, Bhastrika.	<b>Pranayams:</b> 10 min. Nadisodhana, Bhamari, Ujjai, Bhastrika
<b>Relaxation with Dharana:</b> 10 min.	<b>Relaxation with Dharana:</b> 10 min.	<b>Relaxation with Dharana:</b> 10 min.
<b>Omkaara &amp; Shanti mantra:</b> 3 min.	<b>Omkaara &amp; Shanti mantra:</b> 3 min.	<b>Omkaara &amp; Shanti mantra:</b> 3 min.

**Dilatory control and restriction**

Patients were instructed to avoid cold drinks, ice cream, curds, banana, coconut, black gram, fast food, junk food, non-veg food (i.e. egg, fish and meat), tobacco, smoking, alcohol, and other beverages. They were also advised not to sleep in day time and use light warm water for bath [5].

Arthritis is caused by radical cells in the body which can be controlled by anti-oxidants. Hence a diet rich in vitamin C or foodstuff having anti-oxidants like carrot juice, orange juice, Green leafy vegetables (GLV) and salads were advised to take more. It also observed that, controlled fasting with orange juice etc. can work really well in the case of arthritis, so patients were advised accordingly.

**Assessment parameters**

Three parameters were adopted for the assessment of present clinical study:-

**Parameters for assessment of clinical features:** The results of the therapy were assessed on the basis of clinical features of the disease Rheumatoid arthritis mentioned in Indigenous Medical Science in India as well as criteria fixed by American Rheumatology Association in 1988 and implemented those after some modification. Joint pain, Joint swelling, Joint stiffness, Joint tenderness, Body ache, heaviness of the Body, Impaired digestive capacity were selected as an important common clinical features of Rheumatoid arthritis for this study and the scoring pattern was adopted separately for assessment of those clinical features.

**Parameters for assessment of functional capacity:** Functional capacity was assessed with three parameters Walking time, Grip Strength and Foot pressure. Walking time was measured by asking the patient to walk a distance of 30feets. Time was recorded by stop watch before and after the treatment. Grip Strength was measured by the ability to compress an inflated ordinary sphygmomanometer cuff under standard conditions (i.e. 20 mmHg) and reading was recorded before and after the treatment. Foot pressure was also measured by pressing a weighing machine with foot before and after the treatment.

**Parameters for assessment overall effect of the therapy:** To assess the overall effect of the therapy, the standard method from ARA (American Rheumatology Association) (1988) were adopted and was applied in this clinical study after some modification.

Results were classified into four groups: a) Complete Remission, b) Major Improvement, c) Minor Improvement, and d) No-improvement.

**Observations**

In our consideration we have taken 43 object and 03 object are discontinued 40 object have fully cooperated with our study. Among them SC-11, ST-09, OBC-08 and reset 12 object came from general category. Maximum numbers of patients i.e. 65.24 % belonging to the age group 30 to 50 years. 84.34% of the patients of study population were female. 85.44 % patients were from Hindu community. With regard to marital status it can be state that 96.78 % patients were married. 71.00 % of the patients were housewives and majority of the female patients belong to the middle age group (mention age group). 59.89 % of the study population were from Middle class, and maximum (74.34 %) were from urban habitat. Literacy status of the study population dictates that most of the (%) patients have completed ----- level and (%) passed ----- level.

Majority of the patients i.e. 57.88 % were having negative family history, 82.34 % patients were having Gradual onset, 95.43 % patients were having relapsing course and 46.56 % were having Chronicity of less than 2 years. Cold and moist environment were the most aggravating factor for all the patients. The result shows that maximum i.e. 86.56 % patients were vegetarian. 82.40 % patients were found suffering from loss of appetite, and 48.78 % were from constipation. The study shows that all the patients suffer from pain maximally in Rainy season and wintry season.

Majority of the patients (95.46%) were found to suffer from wrist joints pain along with Metatarsophalangeal (86.57%), Metacarpophalangeal (83.23%), Ankle (81.04%), Knee (75.46%), Elbow (26.44%), PIP (22.00%), Shoulder (14.33%), Hip (6.57%), Jaw (6.56%), DIP (4.34%), Lumbo-sacral (4.34%) and Cervical (3.21%) joint pain. 22.12% patients were found R.A. positive and 77.88% patients were R.A. negative. C-Reactive-Protein positive was found in 62.12% patients and 37.88% patients were found negative. Rheumatoid nodule was present among 33.44% of patients and Deformity was observed among 5.78% patients.

According to Cardinal clinical features all the patients were suffering from Joint-pain, Joint-swelling, Joint-stiffness and Joint-tenderness. According to General clinical features, body ache, heaviness of the body and impaired digestive capacity were observed among 70.56%, 66.67% & 85.66% of patients respectively.

**Results and Discussion**

From the above clinical study it is observed that the results were statistically highly significant (P<0.001) on the parameters of clinical features and functional capacity presented in the Table 2-4 respectively [6].

**Table 2:** Effect of the therapy on the following Clinical features.

Clinical Features	Means of Score		% of Relief	S.D	S.E	't,	P
	B.T	A.T					
Joint pain	2.21	0.79	64.66	0.49	0.07	17	<0.001
Joint swelling	1.92	0.74	61.02	0.37	0.05	19.30	<0.001
Joint stiffness	2.22	0.79	66.28	0.49	0.07	18.44	<0.001
Joint tenderness	2.02	0.74	62.95	0.44	0.06	17.82	<0.001
Body ache	2.1	0.70	65.39	0.48	0.08	17.48	<0.001
Heaviness of the Body	2.1	0.81	60.02	0.42	0.07	18.74	<0.001
Impaired digestive capacity	2.1	0.94	53.76	0.28	0.05	25.50	<0.001

**Table 3:** Effect of the therapy on the following criteria of Functional assessment.

Clinical Features	Means of Score		% of Relief	S.D	S.E	't,	P
	B.T	A.T					
Walking time	12.64	10.64	15.80	0.22	0.03	55.88	<0.001
Grip strength	88.74	97.74	10.13	5.49	0.86	10.32	<0.001
Foot pressure	19.77	22.59	14.28	0.86	0.13	20.44	<0.001

**Table 4:** Overall Effect of the Therapy.

Effects	No. of Patients	Percentage
Complete emission	00	00
Major Improvement	24	60
Minor Improvement	14	35
No- Improvement	02	05

It is observed that the therapy had a good impact on the study population. A good number of patients (60%) showed major improvement, 35% showed minor improvement, 5% showed no improvement and complete remission was not recorded. Probable mode of action of Yoga therapy in the clinical study is that *Shudhi kriya* helped them to eliminate the vitiated *Shlesma* (vitiating body fluids) from the body. Stretching & rotations exercises improved joint mobility thereby reducing joint stiffness. *Asanas* improved the muscle tone, muscle strength & also functioning of different organs of the body. *Mudra* enhanced normal function of the glands. *Pranayam* improved the functions of the respiratory and cardiovascular systems of body. Relaxation with *Dharana* decreased the anxiety, tension, mental stress and depression. *Omkara* & *Shanti mantra* developed the spiritual aspects of the mind and *Prarthana* (Prayer) promoted mental & spiritual wellbeing. Important instructions and advices during therapy helped prevent further formation of Ama (biotoxins) into the body.

### Conclusion

From discussion on the above study and findings from the analysis based on the clinical estimation it can be concluded that Yoga therapy has a direct bearing on the management of *Amavata* due to combined practice of *Prarthana* (Prayer), *Shudhi kriya* [i.e. *Sutraneti*, *Jalaneti*, *Vaman (kunjil)*, *Kapalbhati*], Stretching & Rotations, Healing, *Pranayam*, Relaxation with *Dharana*, *Omkara*

& *Shanti mantra* for continuous 21 days/21 settings and No complication was noticed in the clinical study. Therefore this drugless, easily adoptable, affordable, free from side effects and more natural alternative mode of treatments may be considered in the management of *Amavata* (Rheumatoid arthritis) for the benefits of the patients as well as the society.

### Acknowledgement

We Acknowledge to Dr. Anath Bandhu Mondal for his whole heartedly contribution of research concept regarding this alternative way of treatment and research. We also acknowledge DR. Nilkamal Mallik for his guidance of research method or process. We also convey our thanks to Population and Social development for providing their platform to do this type of research work. Once again we also convey the thanks to all technical and non technical persons for the unconditional support to carry on this work.

### References

1. Madhavakara, Rakshita V, Dutta S, Shastri S, Upadhyaya Y (1996) Madhava Nidana with Madhukokosha Vyakya with Vidyotini Hindi Commentary. Part-I. (26<sup>th</sup> edn), Chaukhambha Sanskrit Sanathana, Varanasi, India, pp. 460-464.
2. Harrison TR, Fauci AS (1998) Harrison's Principles of Internal Medicine. Vol 2 (14<sup>th</sup> edn), Mc Graw-Hill, New-York, USA, pp. 1885.
3. Swami Hari Harananda Aranya (1981) Yoga Philosophy of Patanjali. Kolkata; University of Calcutta, India.
4. Anonymous (2002) Yogic and Nature Cure treatment for common Ailments. (2<sup>nd</sup> edn), Central council for research in Yoga and Naturopathy, New Delhi, India.
5. Bhakru HK (2003) A Complete Hand Book of Nature Cure. (15<sup>th</sup> edn), Mumbai; Jaico Publishing House.
6. Das D, Das A (2005) Statistics in Biology and Physiology. (4<sup>th</sup> edn), Academic Publishers, Kolkata, India.