
Improvement in Physical Parameters of Rheumatoid Arthritis Patients by Naturopathy and Yoga.

Rukamani Nair*,Shivani Kachroo,Ranjna Chawla***&
Gaurav Thakur****.**

*Medical Superintendent, Babu Nature Cure Hospital & Yogashram, Mayur Vihar-I, Delhi (India),

** Research Coordinator, Babu Nature Cure Hospital & Yogashram, Mayur Vihar-I, Delhi (India),

*** Scientist C, G. B. Pant Hospital, New Delhi (India).

**** Research Associate, Babu Nature Cure Hospital & Yogashram, Mayur Vihar-I, Delhi-91 (India),

ABSTRACT:

Rheumatoid arthritis (RA) is an autoimmune disease with 1% of world's population suffering from it Cheekatla et al. (2011). It cannot be cured alone by the allopathic medicine. Therefore present study was undertaken to mark the efficacy of Naturopathy and Yoga in better management of RA. Total of 134 patients were distributed in three groups, group I- naturopathy and yoga plus Allopathic medications, group II – yoga plus Allopathic medication and group III Only Allopathic medicines. On comparison of all the three Groups, at baseline patients non-significant results for the parameters. However, after 1st, 3rd, 6th and 12th months treatment, patients showed significant difference with decrease in parameters like morning stiffness ($p<0.01$), tenderness ($p<0.01$), fatigue ($p<0.01$), visual analog scale (VAS) ($p<0.01$) and increase in sleep ($p<0.01$). A significant increase was seen in functional capacity by Health Assessment Questionnaire (HAQ)($p<0.01$).

By the regular Naturopathic treatment such as massage therapy, mud therapy, hot and cold fomentations and regular practice of yoga such as yogasanas and pranayamas regularly it stimulate the immune system and significant improvements were obtained in pain, disability of the rheumatoid arthritis patient. Early diagnosis and adjunct therapies like Naturopathy and Yoga help the patients against the crippling disease of RA.

Key Words: - Naturopathy, Yoga, Rheumatoid Arthritis.

INTRODUCTION:

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. Not all individuals with genetic susceptibility develop the disease, and in such cases environmental influences do play a crucial role. Various MHC class allotypes have been strongly correlated with a variety of autoimmune diseases, such as HLA-DR2, systemic lupus erythematosus, multiple sclerosis, HLA-DR4: rheumatoid arthritis, amongst the environmental factors infections, drugs and chemicals are believed to be triggers of various autoimmune diseases *Klein et al.(2000)*, *Wordsworth et al. (1989)* and *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 and not secreted. The surrounding structures can also become involved leading to the joint deformities as can be seen in rheumatoid arthritis *Cooper et al. (2007)*.

About 90% 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 et al. (2010)*. 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. (2007)*. RA pain is both physiological and psychological impairment, with part of the pain being anticipatory pain; understanding that the pain is neither entirely predictable nor controllable but probably lasting a lifetime *Mooney et al.(1983)*. The pain can lead to patient isolation *Gray et al. (1982)*. Rheumatoid Arthritis is often concomitant with significant levels of

depression and disability *Irwin et al. (1988)*. Even with the variety of medical treatments available, patients suffering from RA often report continued pain, distress, and mobility limitations affecting everyday activities *Adams et al. (1991)*. Although these symptoms could be improved by treatments where with also pain should temporarily relief, it could nevertheless be present to a high level *Szotek et al. (2010)*. The joints usually involved are the hands, wrists, feet, ankles and knee *Murray et al. (1998)*. Chronic fatigue is a very life impairing factor in rheumatoid arthritis *Silman et al. (2001)*. In several studies of RA, more than 80% of the samples experience fatigue, sleeplessness to a certain degree and interferes with physical and mental processes *Wolfe et al. (1996)* and *Pollard et al. (2006)*. 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 differences could be related to the amount of daily roles that people concerned have to fulfill. *Majithia et al. (2007)* proved that 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.

Barens et al. (2003) told that various lifelong treatments are available for rheumatoid arthritis such as non-pharmacological treatment includes [physical therapy](#), [occupational therapy](#) and nutritional therapy but they do not stop progression of joint destruction. Early, aggressive treatment for RA can delay joint destruction. [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 *Szotek et al. (2010)*. But no permanent cure to the disease.

As rheumatoid arthritis cannot be completely cured by the use of modern medicine alone. This research study was carried out to find an alternative treatment which can control the disease and yet be economic, less toxic and more readily available. The study is another mark to prove the efficacy of Naturopathy and Yoga adjunct to modern medicine for better management of chronic diseases like RA.

MATERIAL AND METHOD

The study was conducted for three years in department of Biochemistry, GB Pant Hospital, in collaboration with department of research, Bapu Nature Cure Hospital. Blood samples were collected from 134 radiologically and serologically proven RA patients. Written consent was taken from all the patients and Ethical guidelines were followed during the study. Rheumatoid arthritis patients satisfying the American College Of Rheumatology (ACR) criteria for rheumatoid arthritis were recruited by inclusion and exclusion criteria, from various groups of society, irrespective of sex, literacy, socio-economic status, profession and religion. These patients will randomly be assigned to three groups (group I- naturopathy and yoga plus Allopathic medications, group II – yoga plus Allopathic medication, group III Only Allopathic Medicine). Each group will be consisting of forty-Eight patients. which intervention Groups-1 & 2 received 80 sittings of yoga and naturopathy (first two months thrice a week, next four months twice a week and last six months once a week) over a period of one year. Physical parameters were assessed at baseline and at twelfth month. Group-2 of 44 patients was provided ‘yoga’ and ‘allopathic’ medicines. Group-3 was the control Group of 42 patients and was provided only allopathic medicines. These parameters were recorded at baseline and thereafter at 1st, 3rd, 6th and 12th month level.

1. Naturopathy Treatment

a) Massage: Massage is the manipulating of superficial and deeper layers of muscle and connective tissue using various techniques, to enhance function, aid in the healing process, decrease muscle reflex activity, inhibit motor-neuron excitability and promote relaxation and well-being. Following are the techniques of massage

1. Stroking
2. Friction
3. Kneading
4. Percussion
5. Vibration
6. Joint movements

Sesame oil (50 ml per sitting) was used for the massage of the patients during the therapy. It has anti-inflammatory properties and is suitable for patients of rheumatoid arthritis.

a) **Hot & cold fomentation:** Hot & cold fomentation was provided to every patient for 11 minutes – hot fomentation for 5 minutes and cold fomentation for 30 seconds for two rounds, followed by a heating compress using a dry cotton cloth and woolen flannel for 10 minutes. The temperature of both hot fomentation (40°- 45 °C) and cold fomentation (18°- 26 °C) was controlled well during the treatment period.

2) **Yoga Therapy:** The yoga therapies (20 min.), practiced for the treatment of Rheumatoid Arthritis (RA), were Pawanmuktasana part I (anti-rheumatic), Shavasana and Pranayama (Bhramari, Kapalhati, Deep breathing and Nadi sodhana).

RESULTS AND DISCUSSION:

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 Thomson et al. (2012). 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 Wade et al. (1999). Whereas, Yoga is a tradition of lifestyle, health and spirituality that evolved in the Indian peninsula over a period of some 5000 years . 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.

In the present study the sequence of treatment provided to the patients started first by yoga followed by ‘massage’ and hot & cold fomentation. Yoga was advised to be practiced at home to Group-1 and Group-2 patients regularly during the study of one year. However, Group -3 was abstained from it. After performing yoga patients were provided massage to the affected parts using warm sesame oil for 30 minutes. This systemic rubbing with hands helped to

nourish not only the parts acted upon but also the whole body by its known thermic effect. It also increases the body metabolism. With this, the accumulated autoimmune crisis end products are eliminated gradually from the body leading to decreased level of fatigue, pain, tenderness and swelling of the joints. This warm touch with hands also creates a sense of relaxation of mind and body as it has a great impact on the peripheral nerve endings by producing a soothing, sedative as well as a restorative effect. Massaging directly to the inflamed joint was avoided in the treatment course. During inflammation massage was given to the areas which are above and below the affected joints to reduce inflammation. Physical, Neurological and psychological effects reported for yoga by two studies have reported enhanced relaxation by patients following yoga by *Brisbon et al. (2009)* and *Shelov et al. (2009)*. Although different scales were used, both studies showed a significant impact on Neurons by reductions in job stress in people following yoga *Hartfiel et al. (2010)*. Research has clearly shown that it has a positive effect on body and mind, pranayam in particular really helps improve immunity, Anulom vilom and kapalbati are extremely good for that” and give the positive effect in immunological markers *Dalmia et al. (2010)*. The practice of yoga has been shown to be therapeutically useful in bronchial asthma by *Nagarathna et al. (1985)* and *Jain et al. 1993*, in type II diabetes mellitus by *Sahay et al. (1986)* and *Montro et al. (1992)*, in hypertension by *Patel et al. (1973)* as well as other psychosomatic ailments by *Hartfiel et al. (2010)*. 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 et al. (1997)*. The evidences by *Newsome et al. (2002)*, *Bearne et al. (2002)* and *OGrady et al. (2000)* shows that yoga poses use in clinical settings assist with the integration of complementary and conventional practices in the treatment of rheumatoid arthritis which benefit the RA patients. By the regular practice of these asanas, pranayama and relaxation techniques, the patients were helped to improve flexibility and range of motion of the joints as asanas include controlled stress in conjunction with deep breathing exercises. It relaxed and released the muscles that have seized up around the joints to the RA patients with improved hormonal changes and immune system.

Nature cure or Naturopathy is a simple and effective system of medicine which has taken its scientific form today. Nature cure is a range of therapies based upon exposure to natural elements such as sunshine, fresh air, heat, or cold, Nutrition for examples include vegetarian

and whole food diet, fasting, and abstention from alcohol and sugar suggested by *Young et al. (2007)*, Ozone therapy in Naturopathic medicine (2010), Physical medicine includes naturopathic, osseous, and soft tissue manipulative therapy, sports medicine, exercise and hydrotherapy, Psychological counseling for example includes meditation, relaxation, and other methods of stress management *Young et al. (2007)*, Public health measures and hygiene by Naturopathic medicine (2010), Reflexology *Clark et al. (1999)* and Rolwing *Holly et al. (2001)*. 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% of medicines can be replaced with a weekly massage *Podder et al. (2010)* and *Nair (2004)*.

In the present study Naturopathy provided treatments such as massage therapy, hydrotherapy, diet therapy which brought relief in joint pain and motion of rheumatoid arthritis patients. Hot & cold fomentation was given in all the patients of Group-1 had good relief in pain, swelling and stiffness of muscles after contrast fomentation. This improvement was seen by the action and reaction of the contrast fomentation as water has many therapeutic effects like anti analgesic, anti pyretic, sedative, derivative, stimulant, reflex, etc., thus, producing chiefly contraction and relaxation of the blood vessels leading decreased congestion of the joints. The present study establishes comparison of all the three Groups, at baseline patients were showing significant results and after 1st, 3rd, 6th and 12th months treatment, with decrease in morning stiffness ($p<0.01$), tenderness ($p<0.01$), fatigue ($p<0.01$), visual analog scale ($p<0.01$) and increase in sleep ($p<0.01$) in patients with RA (Fig: 1,2,3,4,5). A significant increase in functional capacity (HAQ) ($p<0.01$) (Table: 1)

Allopathic medicines were prescribed according to the patient's need by the Allopathic practitioner to all the three Groups as a control. The prescribed medicines were methotrexate, sulfasalazine, hydroxychloroquine, cipcal, folvite and altrady. An important outcome of the study was that we found patients in Group-1 (naturopathy + yoga + allopathic medicines) were more benefited as compared to other two Groups [Group-2 (yoga + allopathic medicines) and Group-3 (allopathic medicines)]. The study significantly proves that the reduction in inflammation and improvement in others physical parameters, fatigue and improved sleep was because of the modalities introduced in these patients regime. However, more carefully controlled clinical trials are must before this treatment modality will gain wide acceptance *Kragh (1999)*.

The findings of the study will help to develop a natural regime for the management of chronic rheumatoid arthritis condition in a scientific manner. For people with inflammatory conditions, such as rheumatoid arthritis, who have tried other medications with little success, may have better relief along with yoga and naturopathy. Yoga and naturopathy therapies may offer the best hope of arresting arthritic condition and reversing normal health to patients. Yoga and naturopathy is cost effective and can be used effectively as an adjunct therapy in treatment of Rheumatoid Arthritis.

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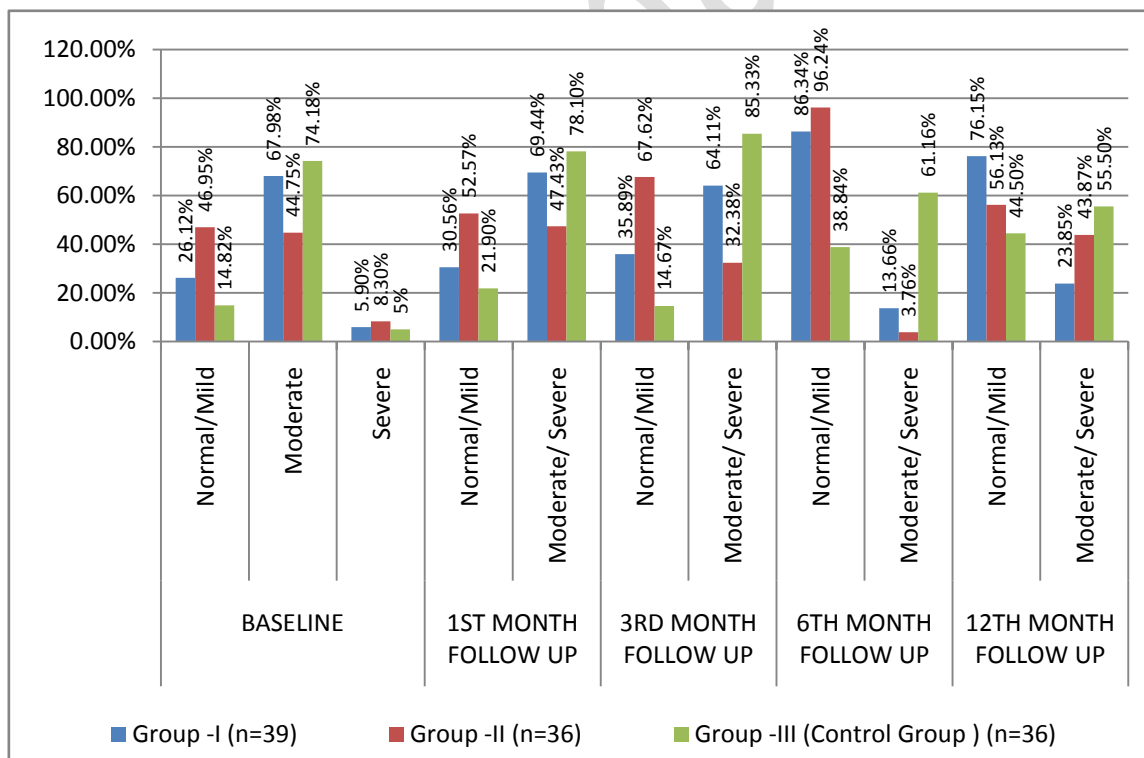


Fig 1: The progression of morning stiffness 1st, 3rd, 6th and 12th months treatment in RA patients of group 1, 2 and 3.

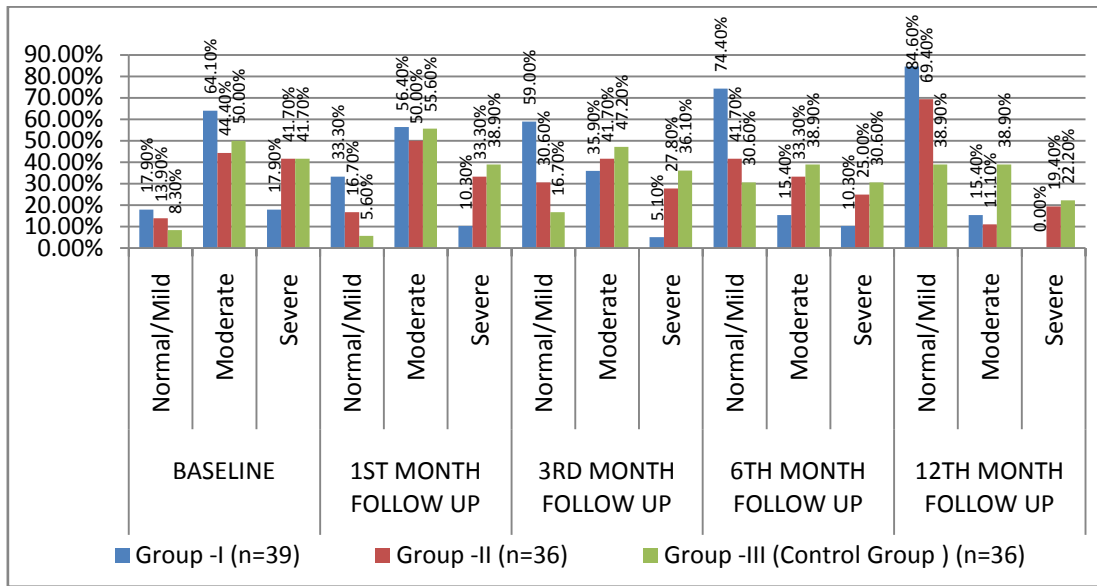


Fig 2: The progression of joint tenderness at 1st, 3rd, 6th and 12th months of treatment in RA patients of group 1, 2 and 3.

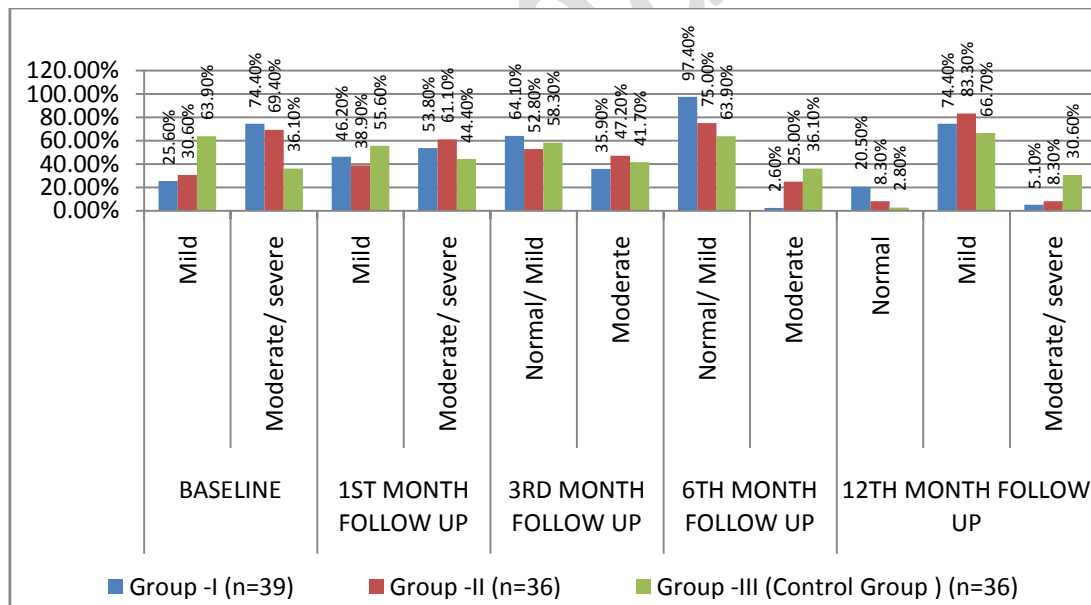


Fig 3: The progression of fatigue at 1st, 3rd, 6th and 12th months of treatment in RA patients of group 1, 2 and 3.

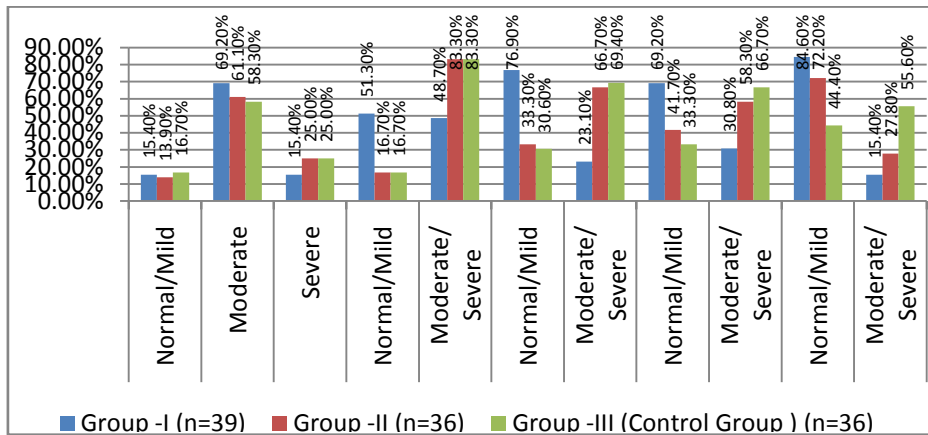


Fig 4: The progression of visual analog scale (VAS) at 1st, 3rd, 6th and 12th months of treatment at in RA patients of group 1, 2 and 3.

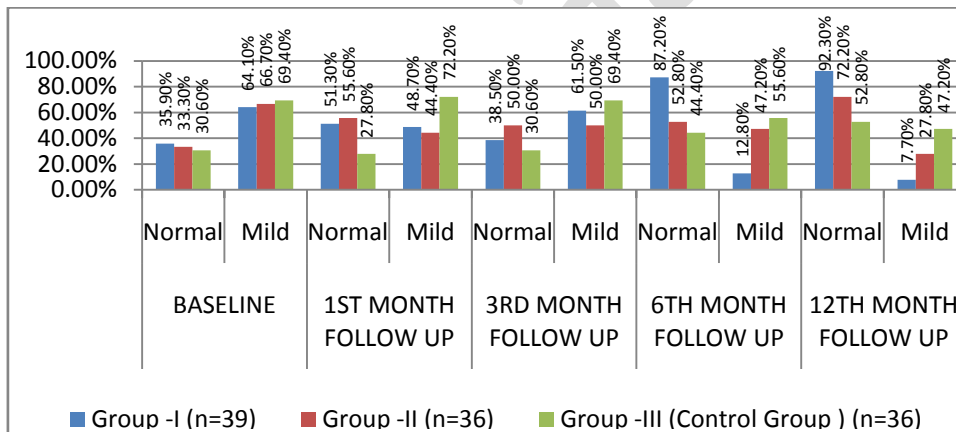


Fig 5: The progression of Sleep at 1st, 3rd, 6th and 12th months of treatment at in RA patients of group 1, 2 and 3.

Table 1: The progression of HAQ at 1st, 3rd, 6th and 12th months of treatment in RA patients of group 1, 2 and 3.

| HEALTH ASSESSMENT QUESTIONNAIRE (HAQ) | | | | | |
|---------------------------------------|-----------------|---------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------|--------------------------|
| | | Group -i (naturopathy & yoga plus allopathic medicine) (n=39) | Group -ii (yoga plus allopathic medicine) (n=36) | Group -iii (control group) (n=36) | |
| Baseline | Normal/mild | 44.58% | 95.26% | 28.65% | Chi=1.64, df=4, n.s. |
| | Moderate/severe | 55.42% | 4.74% | 71.35% | |
| 1st month follow up | Normal/mild | 69.35% | 95.30% | 16.25% | Chi=13.7, df=2 p<.01 |
| | Moderate/severe | 30.65% | 4.70% | 83.75% | |
| 3rd month follow up | Normal/mild | 81.45% | 98.70% | 25.42% | Chi=18.57, df=2 p<.01 |
| | Moderate/severe | 18.55% | 1.30% | 74.58% | |
| 6th month follow up | Normal/mild | 78.60% | 95.15% | 33.58% | Chi=14.69, df=2 p<.01 |
| | Moderate/severe | 21.40% | 4.85% | 66.42% | |
| 12th month follow up | Normal/mild | 86.50% | 98.25% | 44.90% | Chi=14.3, df=2 p<.01 |
| | Moderate/severe | 13.50% | 1.75% | 55.10% | |

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