

Effect of Integrated Yoga and Naturopathy Intervention on Rheumatoid Arthritis: A Case Study

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ABSTRACT

Background and Objective: Rheumatoid arthritis (RA) is an autoimmune disorder characterized by inflammation, pain and stiffness in the joints. This study aimed to evaluate the effect of integrated yoga and naturopathy intervention on RA. **Materials and Methods:** A 54-year-old man diagnosed with rheumatoid arthritis has been enduring persistent throbbing and aching pain in his major joints and morning stiffness for the last 10 months. He underwent a four-week integrated yoga and naturopathy regimen for RA. The Visual Analog Scale (VAS) and Rheumatoid Arthritis Severity Scale (RASS) were evaluated before and after the integrated intervention. **Results:** The present investigation revealed a decrease in the VAS) from 9 to 4 and the (RASS) from 220 to 135. These results suggest a reduction in pain and physical damage, as well as an improvement in functional impairment. **Conclusion:** This case report suggests that lifestyle changes through yoga and naturopathic interventions are holistic approaches to managing rheumatoid arthritis. Yoga and naturopathy treatments can be safely and effectively integrated into the management of RA.

KEYWORDS

Yoga, naturopathy, rheumatoid arthritis, rheumatoid factor, visual analog scale, rheumatoid arthritis severity scale

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INTRODUCTION

Rheumatoid arthritis (RA) is the most common chronic inflammatory arthritis, an autoimmune disease with an unknown etiology, affecting 17.6 million people worldwide^{1,2}. It can lead to joint pain, swelling, stiffness, fatigue, fever, weight loss, rheumatoid nodules and potential joint damage³. It primarily affects the lining of the joints and can cause significant disability if not treated effectively⁴. The exact cause of RA is not fully understood, but genetic, age, gender and environmental factors may contribute⁵. It is more common in women and typically develops between the ages of 30 and 60⁶. In conventional medicine various



Table 1: Details of the intervention provided to the patient

| Name of the modalities | Name of the specific treatment | Duration | Frequency/Day |
|------------------------|--|----------|---------------|
| Yoga therapy | Pawanmuktasana Part 1, Nadi shodhana pranayama, Bhramari pranayama, Quick relaxation Technique | 30 min | 2 |
| Mud therapy | Mud application in both upper limb and lower limb | 20 min | 1 |
| Acupuncture | UB-11, GV-20, LI-4, LI-11, GB-34, K-3, SP-6, ST-36 | 20 min | 1 |

Table 2: Changes in the outcome measurements after the yoga intervention.

| Outcome variables | Before intervention | After intervention |
|-------------------|---------------------|--------------------|
| RASS | 220 | 135 |
| VAS | 9 | 4 |
| RA Factor | 36.71 IU/mL | 30.98 IU/mL |
| CRP | 11.45 mg/L | 3.46 mg/L |

treatments advised for RA have significant side effects, leading many patients to seek an alternative approach to a remedy⁷. Yoga and Naturopathy are among the common alternative and integrative medicines that people are willing to explore^{8,9}. This present study presented the impact of a four-week integrated yoga and naturopathy program on RA.

Case details: In May 2024, a 54-year-old male visited our outpatient department with a chief complaint of throbbing and aching pain in both shoulders, elbows, fingers, knees and all major joints for the past 10 months. He also reported experiencing early morning stiffness and swelling (nodules) in the major and minor joints of his fingers. Additionally, the patient complained of generalized weakness and anxiety. He was diagnosed with hypertension and diabetes in 2011 and rheumatoid arthritis (RA) in January 2023. He followed conventional medication for hypertension and diabetes since 2011 and for RA from January 2023 to June 2023. However, after 5 months of conventional medicine for rheumatoid arthritis treatment, the symptoms were only slightly managed and he was feeling unhappy. After that, he managed tropical applications like oils and ointments. Physical examination revealed blood pressure of 120/80 mmHg, respiratory rate of 18 bpm, height of 166 cm, weight, of 62 kg and BMI 22.5 kg/m².

Intervention details: The 1-month program integrates various yoga and naturopathy interventions for RA. The program includes personalized yoga sessions, mud applications, massages, hydrotherapy and acupuncture. The study aimed to offer comprehensive care that addresses both the physical and mental well-being of patients and find the details for the intervention in Table 1.

Monitoring and assessment: One day before the entire protocol was explained to the patient by a yoga and naturopathy physician and a written consent form was obtained from the patient. The yoga and naturopathy physicians monitored potential adverse effects during the intervention. The Rheumatoid Arthritis Severity Scale (RASS) was used to evaluate disease activity, functional impairment and physical damage caused by RA. Additionally, a Visual Analog Scale (VAS) is employed to measure the intensity of RA pain^{10,11}, as shown in Table 2.

RESULTS

After four weeks of Y and N intervention, the VAS score was reduced from (9 to 4) and RASS (220 to 135) (Table 2). These findings emphasize the positive impact of yoga and naturopathy intervention on RA, indicating its potential as a comprehensive approach.

DISCUSSION

This case study demonstrated significant improvement in a patient with rheumatoid arthritis (RA) following a four-week Yoga and Naturopathy (Y&N) intervention. The reduction in Visual Analogue Scale (VAS) score from 9 to 4 and Rheumatoid Arthritis Severity Scale (RASS) from 220 to 135 indicates a substantial decrease in pain severity, disease activity, functional impairment and physical damage. These findings

aligned with previous research on yoga interventions for RA. For instance, an 8-week yoga program significantly improved DAS28-ESR scores, suggesting reduced disease activity¹². Another 12-week study found yoga decreased the LF-HF ratio and cortisol levels while increasing HFnu, indicating improved autonomic balance and reduced stress¹³. An 8-week yoga-based mind-body intervention showed notable reductions in RA severity as measured by DAS28ESR and HAQ-DI¹⁴. Furthermore, an 8-week yoga intervention demonstrated enhanced mitochondrial health, improved circadian rhythm markers and regulated oxidative stress markers, all contributing to reduced disease activity¹⁵.

The improvements observed in the case study may be attributed to the combined effects of yoga and naturopathy. Yoga's potential mechanisms include stress reduction, improved flexibility and strength and enhanced mind-body awareness. Naturopathic approaches might have contributed through dietary modifications, herbal supplements and lifestyle adjustments that support overall health and reduce inflammation. However, it's crucial to acknowledge the limitations of this study. As a single case report without a control group, the results cannot be generalized to the broader RA population. Factors such as the placebo effect, natural disease fluctuations, or concurrent treatments cannot be ruled out. Additionally, the short intervention period of 4 weeks may not reflect long-term outcomes.

CONCLUSION

This case report provides promising evidence for the potential benefits of a combined Yoga and Naturopathy intervention in managing rheumatoid arthritis. The significant reductions in pain and disease activity suggest that this integrative approach may offer a valuable complementary treatment option for RA patients. However, to establish the efficacy and safety of this intervention conclusively, future research should focus on conducting randomized controlled trials with larger sample sizes, longer follow-up periods and standardized protocols.

SIGNIFICANCE STATEMENT

This case study explores the impact of integrating Yoga and Naturopathy on managing rheumatoid arthritis (RA), a chronic inflammatory condition that significantly impairs quality of life. By combining these complementary approaches, the study aims to provide insights into their potential synergistic effects on reducing RA symptoms, improving physical function, enhancing overall well-being and positively affecting RA factor and CRP. The findings could offer valuable evidence for incorporating holistic interventions into conventional RA treatment plans, potentially leading to more comprehensive and personalized care strategies. This research highlights the importance of exploring integrative therapies in chronic disease management and encourages further investigation into their efficacy and mechanisms.

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