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Effect of Yoga Therapy and Varma Therapy on Stress and Adjustment among Women with Rheumatoid Arthritis

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Abstract: In order to better understand how Yoga and Varma treatment affect stress and coping mechanisms in women with rheumatoid arthritis, the current research used a random group experimental approach. It was hypothesised that rheumatoid arthritis women would respond differently to Yoga treatment and Varma therapy compared to a control group. Thirty women in Chennai with rheumatoid arthritis, all between the ages of 40 and 60, were divided into two groups -- experimental group and a control group, of fifteen (15) each. In this research, participants trained for a total of twelve weeks. The psychological questions were used to quantify levels of stress and adjustment. The control group received Yoga Therapy without Varma Therapy, whereas the experimental group received Yoga Therapy with Varma Therapy for a total of twelve weeks, six days a week, for a maximum of 1 h in the morning. The inactive-rest condition was maintained for the control group. Each group was given a pre- and post-training exam to evaluate their progress. ANCOVA test was used to evaluate the data. The significance threshold of the test was set at 0.05. Results showed that compared to a control group, women with rheumatoid arthritis who practised Yoga with Varma Therapy reported considerably lower levels of stress and adjustment (improved).

Keywords: Yoga Therapy, Stress, Adjustment, Rheumatoid Arthritis

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Introduction

Arthritis is the disease of joints. It is the disabling disease. It is characterized by Stress and difficulty of movement at the joint. It is a symptom of a widespread metabolic and pranic malfunctioning. Types of arthritis such as Osteo-Arthritis (chronic degenerative condition of joint), Gouty Arthritis (metabolic disturbances), Rheumatoid Arthritis (joint degeneration), Acute Rheumatic Arthritis

(toxins in joint fluid), Ankylosing Spondylitis (affects spine).

The chronic debilitating nature of rheumatoid arthritis (RA) may have a devastating effect on patients' ability to go about their everyday lives and their HRQOL. Tension, edoema, stiffness, and the loss of joint function are all common manifestations of this condition (Meena *et al.*,

2016). It affects one out of 10 people. In India 18 crore people suffer from arthritis. Osteoarthritis is more common among women aged above 55 years. Yoga drains away products of inflammation from joints. Yoga flushes out the excess uric acid and increases blood circulation.

Yoga arrests degeneration and inflammation in the joints; reduces drug dependency and maximizes mobility, make life more tolerable and acceptable, thins down the synovial membrane and gives rest to the joint, increases joint space, gives static load for Stress relief and tones up cartilages. Varmaniam is a sacred art form from South India (Meena *et al.*, 2017). The ancient scientists known as Siddhars are credited with its invention. The varmam points are an essential part of varmaniam aesthetics. Varmam may be translated as "secret" (marmam) in Persian. There are 108 varmam sites in the human body. Life force energy, or prana, travels along these pathways and is amplified at the aforementioned Points.

The purpose of the study was to find out the effect of Yoga therapy and Varma Therapy on Stress and Adjustment among Rheumatoid Arthritis Women. It was hypothesized that there would be significant difference due to Yoga Therapy with Varma Therapy on Stress and Adjustment among Rheumatoid Arthritis Women than the control group.

Materials and Methods

Thirty (30) women with rheumatoid arthritis from Chennai, India were chosen at random to participate in the research, and their ages varied from 40 to 60. Six days a week (Monday through Saturday) for a total of twelve weeks, patients received yoga treatment and Varma Therapy. Random assignment was used to place respondents into one of two groups, each with 15 people. Throughout the course of twelve (12) weeks, the test group participated in Yoga treatment and Varma Therapy routines, while the control group was maintained in active rest. The different Varma therapy includes Vamana kriya,

prayer, loosening the joining, Tadasana, Trikonasana, Ardhakatichakrasana, Uttanapadasana, Pawanamuktasana, Tandasana, Baddhakonasana, Bharavajasana, Upavista Konasana, Viparitakarani asana, Setubandhasana, Bhujangasana, Artha. Among the several Varma massage therapies available today are Mudichu varmam, Kutri varmam, and Pinda thylam. There was a pre-test administered to both groups, and then a post-test administered once the trial period of twelve weeks was completed. The results of Yoga treatment and Varma therapy were evaluated by comparing pre- and post-test measures of stress and adjustment levels in a subset of individuals. In statistical analysis, an ANCOVA analysis was used with significance threshold of 0.05.

Results and Discussion

Analysis of Covariance (ANCOVA) was used to statistically compare the two sets of pre- and post-training data on the variables of interest, using a 5% significance level.

Stress:

Table 1 displays the results of an Analysis of Covariance (ANCOVA) performed on the stress-related outcomes achieved by the Yoga treatment, Varma therapy, and control group. Table I illustrates that the resultant F value on post-test means was 122.53, which is more than the minimal table value of 4.20 that is required to attain statistical significance. The pre-test means, the post-test means, adjusted post-test means were calculated (Fig. 1), and analysis of covariance was performed. The F value was larger than the required table value of 4.21, so it was determined that there were significant differences between the treatment groups.

Adjustment:

The Analysis of Covariance (ANCOVA) on Adjustment through Yoga therapy and Varma Therapy practices and control group was analyzed and are presented in Table 2.

Table 1: Computation of analysis of covariance of training groups and control group on stress (in scores)

Test	EXP GROUP	CON GROUP	SV	SS	Df	MS	F
Pre test Mean	38.06	38.4	Between	0.83	1	0.83	0.11
			Within	204.53	28	7.30	
Post test Mean	19.4	39.53	Between	3040.13	1	1520.06	122.53*
			Within	347.33	28	12.40	
Adjusted test Mean	19.47	39.46	Between	2985.10	1	1492.55	130.00*
			Within	309.98	27	11.48	
mean difference	18.66	1.13					

*Significant at 0.05 level of confidence (Table F-ratio at 0.05 level of confidence for 2 and 28 (df) =4.20, 1 and 27 (df) =4.21)

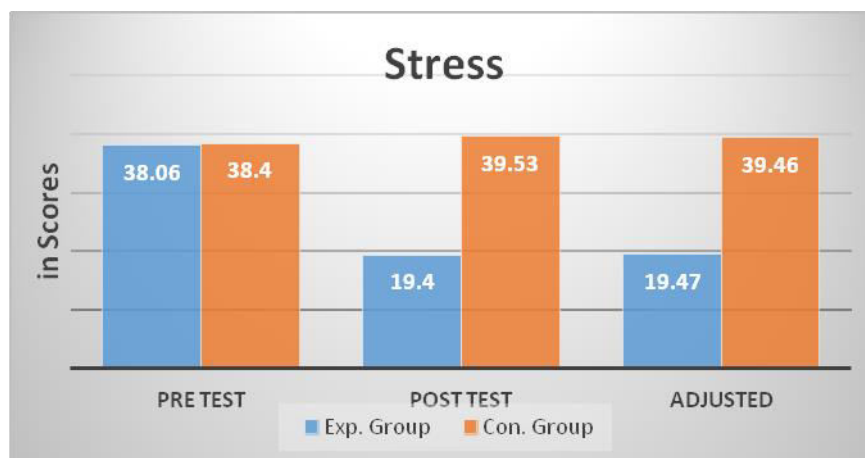


Fig. 1: Bar diagram showing the mean difference of experiment group and control group on Stress (in Scores). Significant at 0.05 level of confidence.

Table 2 shows that F value on post-test averages of 23.90 was higher than the minimum table value of 4.20 needed for statistical significance. Using the baseline means and the final results, the adjusted post-test means were calculated (Fig. 2), and analysis of covariance was performed; the resulting F value of 28.67 was higher than the cutoff value of 4.21, indicating that there were statistically significant differences between the treatment groups.

Puksic *et al.* (2021) studied Randomized controlled trial on the effects of Yoga in Everyday Life on rheumatoid arthritis. A 12-week Yoga in

Daily Life curriculum has twice-weekly, 1.5 h courses. The control group attended 1 h arthritis lectures weekly. Assessments were done at the start, 12 weeks after the intervention, and 24 weeks after follow-up. The primary endpoint was 12 week SF-36 HQOL change. Linear regression was adjusted for baseline scores. SF-36 scores did not vary across groups (all p values were higher than 0.05). At 12 weeks, the adjusted mean difference between groups favoured yoga for fatigue (5.08 CI 1.29 to 8.86; p = 0.009) and depression (1.37 CI 2.38 to 0.36; p = 0.008), and at 24 weeks for HADS-anxiety (1.79 CI 3.34 to

Table 2: Computation of analysis of covariance of training groups and control group on adjustment (in scores)

Test	EXP GROUP	CON GROUP	SV	SS	Df	MS	F
Pre test Mean	25.53	26.86	Between	13.33	1	13.33	0.54
			Within	683.46	28	24.40	
Post test Mean	30.73	22.06	Between	563.33	1	281.66	23.90*
			Within	329.86	28	11.78	
Adjusted test Mean	30.91	21.88	Between	598.56	1	299.28	28.67*
			Within	281.79	27	10.43	
mean difference	5.2	4.8					

*Significant at 0.05 level of confidence (Table F-ratio at 0.05 level of confidence for 2 and 28 (df) =4.20, 1 and 27 (df) =4.21)



Fig. 2: Bar diagram showing the mean difference of experiment group and control group on Adjustment (in Scores). *Significant at 0.05 level of confidence.

0.23; $p = 0.025$), while the impact on fatigue was sustained (5.43 CI 1.33 to 9.54). RA disease activity was unaffected by the programme. The feasibility findings revealed 16% recruitment, 80.7% retention, and 87.5% yoga adherence compared to the control group's 82.7%. No serious adverse effects occurred. According to studies, the Yoga in Daily Life programme did not enhance RA patients' health-related quality of life. Researchers observed that individuals' mood and weariness improved post-intervention and post-follow-up. This safe yoga programme may enhance RA treat-to-target. Patients were able to

participate.

Moonaz *et al.* (2015) performed a randomized controlled trial and examined the effects of yoga on sedentary arthritis sufferers. 75 sedentary persons with rheumatoid arthritis (RA) or knee osteoarthritis were randomly assigned to 8 weeks of yoga (two 60-min classes and one home practise per week) or waiting. Several positions were made to meet various needs. The adjusted Medical Outcomes Study Short Form-36 (SF-36) physical component summary (PCS) was the main outcome. Fitness, mood, stress, self-efficacy, SF-36 HRQOL, and RA disease activity were explored.

The long-term effects of yoga was performed on all participants after nine months. It was established by women (96%), Caucasians (55%), college graduates (51%), and 52-year-olds (standard deviation) (12 yrs). 49% of patients had RA. Yoga was linked with substantially greater PCS (6.5, 95% CI 2.0–10.7), walking capacity (125 m, 95% 15–235), positive affect (5.2, 95% 1.4–8.9), and Center for Epidemiologic Studies Depression Scale (3.0, 95% 4.8–1.3) at 8 weeks. Walking ability increased PCS (6.5, 95% CI 15–235). Walking capability predicted considerably SF-36 role physical, pain, general health, vitality, and mental health scales improved significantly ($p < 0.05$). Grip, flexibility, and balance were equivalent across groups. 22 of 28 waiting group members completed yoga. Mean PCS, flexibility, 6-min walk, psychological and most HRQOL categories improved significantly ($p < 0.05$) after 8 weeks. After 9 months, most advantages remained. None of the seven adverse events were related to yoga. Preliminary evidence suggested that yoga may help inactive individuals with arthritis safely increase their physical activity, increasing their physical and mental health and HRQOL. Mooventhan and Shetty (2017). Integrated naturopathy and yoga were tested on a patient with rheumatoid arthritis, type 2 diabetes, and hypertension. A 54-year-old married woman was diagnosed with rheumatoid arthritis in 2002, essential hypertension in 2008, type 2 diabetes in 2011, and gangrene over her right second toe in 2011. She received regular private hospital care. Her symptoms were moderate to severe joint pain, especially in smaller joints, edoema, and stiffness (worst in the morning). She went to our campus hospital's emergency department in July 2014 with discomfort, minor edoema, and stiffness in numerous joints. These symptoms were linked to

poor quality of sleep (QOS) and life (QOL). The individual received conventional medicine and integrated naturopathic and yoga therapy (INYT) for 10 days. Over ten days, pain, blood sugar, melancholy, anxiety, stress, QOS, QOL, blood analysis, and blood pressure improved (BP). INYT may help people with type 2 diabetes and essential hypertension treat rheumatoid arthritis.

Conclusion

Yoga treatment and Varma therapy were shown to significantly reduce stress and adjustment (increased) in women with rheumatoid arthritis compared to a control group.

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