

The Impact of a 5-Day Cyclical Anti-Inflammatory Vegetarian Diet on Symptoms of Rheumatoid Arthritis: A 12-Week Observational Study

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ABSTRACT: Rheumatoid Arthritis (RA) is a persistent autoimmune disorder marked by inflammation, joint pain, and reduced quality of life. Although pharmaceutical therapy is the most common approach, complementary methods, including dietary modification, are gaining interest. This study investigated the effects of a vegetarian, anti-inflammatory nutritional regimen on symptoms, biomarkers, and overall well-being. The diet followed a 5-day cyclic menu for 12 weeks. Fifteen subjects with RA were placed on a program excluding gluten, dairy, nightshades, and processed foods, while including anti-inflammatory foods. Clinical parameters, including joint pain, morning stiffness, movement, and activity score, were monitored alongside laboratory parameters (CRP, ESR, and RF) and quality of life measures (fatigue, sleep, digestion, and mood). A consistent pattern of symptom remission and biomarker improvement was observed in all patients, with some experiencing clinically significant reductions in inflammation and improvements in function. Compliance was high, with no adverse effects. Doctor-based assessments confirmed DAS28 scores reduced in every case, suggesting diet as a tolerable adjunct to standard therapy. This study demonstrates the potential of formal diet-based intervention in lowering inflammation and improving the quality of life in RA patients. Larger controlled studies are recommended.

KEYWORDS: Medical and Health Sciences, Nutrition and Dietetics, Rheumatoid Arthritis, Anti-Inflammatory Diet, Autoimmune Disease Management.

■ Introduction

Rheumatoid arthritis (RA) is a long-term autoimmune condition that mainly affects the joints but can also cause inflammation throughout the body and impact various organs. Common symptoms include joint swelling, stiffness in the morning, pain, fatigue, and reduced ability to carry out daily tasks. Despite the current medications like disease-modifying antirheumatic drugs (DMARDs) and biologic agents that have enhanced treatment, a significant number of patients with RA continue to suffer from ailments or look for additional ways to improve their quality of life.¹

Dietary modulation of inflammation has emerged as a growing area of interest. Research indicates that specific eating patterns, particularly those rich in antioxidants, plant-based proteins, and omega-3 fatty acids, may help reduce the inflammation associated with RA. Conversely, some foods tend to aggravate symptoms, such as dairy, gluten, and nightshade vegetables. However, the specific foods that trigger symptoms can vary among individuals.

The current research study examines the impacts of a 5-day cyclical vegetarian diet program specially designed for RA patients. The diet avoids typical trigger foods and focuses on whole and nutrient-dense foods. The study will also assess the changes in physical and biological markers of inflammation after 12 weeks. These include clinical symptoms, laboratory biomarkers, and quality-of-life indicators.

The essence of the present study was to determine whether an anti-inflammatory diet would alleviate the levels of joint pain, stiffness, and inflammation in individuals with rheumatoid arthritis. Besides that, lab results such as CRP, ESR, and RF were studied as well, and the changes in daily life activities such as sleep, digestion, and mood were observed. The compliance of the participants with the nutritional program was also monitored. Altogether, this helped evaluate the usefulness and practicality of the protocol in a real-life medical environment.

Research Context:

The connection between diet and inflammatory diseases such as Rheumatoid Arthritis (RA) has become a growing focus of scientific inquiry. Many studies indicate that Western dietary habits, which are usually high in refined sugars, red meat, and saturated fats, have the potential to increase systemic inflammation. In contrast, plant-based diets, which are rich in antioxidants, fibers, and essential fatty acids, can decrease it. Indicatively, adherence to Mediterranean-style diets resulted in the improvement of joint mobility and reductions in inflammatory markers in RA patients.² Likewise, there is evidence that plant-based anti-inflammatory foods can downregulate pro-inflammatory cytokines and maintain the balance of gut microbiota, which are key components of immune regulation.³ Specific food groups like gluten, dairy, and nightshades have also been implicated in triggering symptom flare-ups in some individuals, though more research is needed to generalize these

effects. The persisting symptoms in most patients, despite the use of effective pharmacological therapies, have led to interest in the use of complementary lifestyle interventions. This study contributes to the growing evidence that dietary interventions can affect autoimmune symptomatology and offers a practical model for the real-life non-pharmacological intervention in RA care.

■ Methods

This was developed into a 12-week dietary study that assessed the effect of a plant-based, anti-inflammatory diet on Rheumatoid Arthritis symptoms. The intervention consisted of a 5-day cyclical vegetarian diet that excluded gluten, dairy, nightshades, and processed foods. These are all food groups known to often cause inflammation among RA patients. The 5-day rotation was a source of variation and ensured compliance and nutrient balance. Furthermore, the cycle was repeated throughout the entire 12-week period.

Fifteen adult participants with clinically diagnosed RA were enrolled. All subjects were given a written and oral description of the protocol and informed consent before starting. Patient confidentiality was preserved, and the ethical guidelines were adhered to as in the case of non-clinical observational studies.

The participants were advised to adhere to the diet and to make no deviations unless medically necessary. Information was gathered through multiple methods to obtain both subjective and objective insights. These included:

1. Daily symptom monitoring sheets (e.g., joint pain, stiffness, mobility, energy, digestion, and mood).
2. Weekly functional assessment (e.g., range of motion, daily tasks).
3. Pre- and post-intervention testing for CRP, ESR, and Rheumatoid Factor.
4. Physician observations include DAS28 scoring at baseline and post-intervention.
5. Self-reported feedback on sleep, mood, and general well-being.

Dietary Protocol Overview:

Table 1: Daily meal plan across the 12-week study, outlining meals, caloric estimates, and key dietary components of the intervention protocol.

Meal Time	Day 1	Day 2	Day 3	Day 4	Day 5
Breakfast – 7:00 AM	Golden Turmeric Chia Pudding: chia seeds, almond milk, turmeric, cinnamon, almond butter, berries, hemp seeds, stevia	Stuffed Bell Pepper: cauliflower rice, black beans, herbs, garlic; Side: roasted Brussels sprouts with olive oil	Omega-3 Bowl: coconut yogurt, flax, chia, berries, walnuts, cinnamon, raw honey	Berry Smoothie: mixed berries, spinach, avocado, almond milk, almond butter, maca, stevia	Detox Smoothie: spinach, cucumber, green apple, ginger, lemon, coconut water, chia
Mid-Morning – 10:00 AM	Stuffed Portobello Mushrooms: olives, basil, pine nuts; Side: steamed asparagus, cucumber salad, olive oil drizzle	Stuffed Bell Pepper: cauliflower rice, black beans, herbs, garlic; Side: roasted Brussels sprouts with olive oil	Roasted Veg Medley: zucchini, eggplant, onion; Side: sautéed kale with garlic, basil-parsley pesto with pine nuts	Mushroom Stir Fry: mixed mushrooms, broccoli, snap peas, carrots; Served over sweet potato noodles + sesame + cilantro	Roasted Roots: sweet potato, beetroot, carrot, onion + olive oil & herbs + Salad: mixed greens, lemon-olive dressing, 1/4

Lunch – 12:30 PM	Golden Milk Latte: almond milk, turmeric, ginger, black pepper, coconut oil, stevia	Chamomile tea + 3 soaked almonds	ACV tonic: warm water, lemon, turmeric, ginger	Turmeric Moon Milk: almond milk, turmeric, cardamom, cinnamon, coconut oil, stevia	Herbal calming tea (chamomile + lavender)
Snack – 3:30 PM	Rainbow Buddha Bowl: zucchini noodles, roasted sweet potato, steamed broccoli, purple cabbage, avocado, pumpkin seeds, microgreens, tahini dressing	Lentil & Vegetable Curry: red lentils, spinach, zucchini, light coconut milk, turmeric, cumin; Served over cauliflower rice, cilantro, pumpkin seeds	Chickpea Salad: chickpeas, cucumber, onion, parsley, olives, lemon-olive dressing on arugula	Vegetable Soup: carrot, celery, zucchini, white beans, veg broth, herbs + Avocado slices	Broth Bowl: steamed broccoli, cauliflower, carrots, herbs, cauliflower rice, 1/2 tsp hemp seeds
Dinner – 6:30 PM	1 cup green tea + 5 almonds	Herbal tea (ginger + turmeric) + 1/2 tsp pumpkin seeds	Green juice (celery, cucumber, spinach, lemon, ginger) + 1 tsp hemp seeds	Matcha latte + 3 macadamia nuts + 1/2 tsp coconut oil	Dandelion tea + lemon slice + 3 Brazil nuts
Evening – 8:30 PM	5 walnuts + 1/2 tsp goji berries + 1/2 tsp coconut flakes	Hummus (tahini base) with cooked carrot and cucumber sticks + sunflower seeds	1/2 avocado + 1/2 tsp hemp seeds + 1/2 tsp pumpkin seeds + lemon + sea salt + 3 cherry tomatoes	Collard greens roll-ups with shredded carrots, cucumber, avocado, sprouts + tahini dip + 1/2 tsp pumpkin seeds	Cucumber mint infused water + 1/2 tsp mixed seeds

■ Results

Findings:

The results of a 12-week dietary intervention showed a consistent pattern of clinical improvement among 15 patients with rheumatoid arthritis (RA). The subjective reports as well as the objective measures demonstrated a decrease in joint pain, morning stiffness, fatigue, and the inflammatory biomarkers. The researchers used a multi-point observational design, which was a combination of physical symptom monitoring, blood monitoring, quality-of-life, and dietary monitoring.

The patients included in the study were chosen due to a documented RA diagnosis, a stable medication regimen, and their desire to adhere to a controlled diet. The exclusion criteria were a recent change in medications, pregnancy, and other autoimmune conditions. This study consisted of 15 patients between the ages of 31 and 64 years with varying durations of RA (mean 3.2 years). A combination of gender and functional restraints was used, but there was no formal stratification.

Patients were provided with comprehensive weekly diet charts, and they also had one-on-one sessions with the counseling team during onboarding and midpoint review. Dietary compliance was measured through daily food logs, weekly check-ins, and discussions of challenges and adaptations.

The level of pain was measured using the Visual Analog Scale (VAS), and fatigue was also measured on a subjective 10-point scale. Quality-of-life outcomes were calculated based on sleep monitoring, mood scale, and diary. Lab tests were done to measure inflammatory markers (CRP, ESR, RF)

and vitamin levels. The assessment of the physicians involved DAS28 scores and the number of tender/swollen joints.

No side effects were noted, and participants were not subjected to any change in their baseline medication. Although no superior statistical analysis was done, percent improvements and consistency of trends across patients were utilized to establish clinical relevance. Changes found in at least 10 of 15 participants, and consistent with conventional clinical reference ranges, were called average trends.

The following tables present examples from patients whose data reflected typical changes. All the 135 separate individual tables of clinical symptoms, biomarkers, lifestyle scores, dietary adherence, and physician reports are found as the entire dataset in the Appendix (Table 11).

Morning Stiffness:

Table 2 illustrates a steady reduction in morning stiffness for Patient 3, who was selected because her Week 12 values (Duration = 6 min, Severity = 1) were the closest to the cohort mean response (mean = 6.7 min duration, 0.33 severity).

Selection criteria: The patients were ranked by the absolute value of the distance from the cohort mean value, obtained by summing deviations in terms of severity and duration. Patient 3 had the lowest value and hence represents the mean symptomatic improvement.

Table 2: Duration and severity of morning stiffness for Patient 3 across 12 weeks, showing Week 12 values (6 min duration, severity = 1) closely matching the cohort mean response (6.7 min, 0.33 severity).

Assessment Period	Duration (min)	Severity (1–10)	Notes
Baseline (W0)	75	7	Discomfort in the shoulders
Week 2	55	6	Moderate relief noted
Week 4	35	4	Easier to initiate movement
Week 6	20	3	Able to walk in 10 mins
Week 8	12	2	Almost symptom-free
Week 12	6	1	Nearly resolved

Across the cohort, the mean Week 12 profile was about 6.7 minutes and 0.33 severity. By Week 12, all fifteen patients demonstrated shorter duration, reduced severity, and all fifteen decreased duration by more than seventy percent.

Joint Pain & Swelling:

Table 3 reveals a progressive reduction in joint pain and swelling for Patient 2, who was selected because the total reduction in shoulder and wrist swelling (12 points in total) was closest to the cohort mean response (mean = 12.4).

Selection criteria: Patients were ranked by absolute distance from the cohort's mean total reduction. Patient 2 had a distance of 0.4 and was hence the best representative of the average decrease in joint inflammation.

Table 3: Table 3. Joint pain and swelling for Patient 2 across 12 weeks, showing a total reduction of 12 points in shoulder and wrist swelling, closely matching the cohort mean response of 12.4.

Location	Baseline	W4	W8	W12	Swelling (W0–W12)
Wrists	8	6	3	2	4 → 1
Shoulders	7	5	2	1	3 → 1

Across the cohort, each of the 15 patients exhibited a decrease in joint swelling by Week 12. Furthermore, most individuals reported significant enhancements in pain relief and mobility by Week 8. The average total reduction among all patients was calculated to be 12.4 points, with more than 80% achieving a reduction in swelling exceeding 50%.

Functional Range of Motion:

Table 4 shows improved functional mobility in Patient 3, who was selected because her Week 12 readings (Toe Flexion = Full; Sit-to-Stand = 24 rep) yielded a total improvement score of 16, closest to the cohort mean of 14.8.

Selection criteria: the patients were ordered according to overall improvement in a total of two areas (progression in toe flexion and sit-to-stand performance). Patient 3 was the one having the lowest distance from the cohort mean; therefore, they were the best representative for the average gains of functional mobility.

Table 4: Functional range of motion for Patient 3 across 12 weeks, showing Week 12 improvements (Toe Flexion = Full; Sit-to-Stand = 24 reps) with a total score of 16, closely aligning with the cohort mean of 14.8.

Test	Baseline	W4	W8	W12
Toe Flexion	Partial	Moderate	Full	Full
Sit-to-Stand (reps)	10	15	20	24

15 patients exhibited moderate to considerable improvement by Week 12, the majority with notable improvement in lower-limb strength and joint movement.

Daily Activity Scores (1–10):

Table 5 shows a gradual progression in Patient 4's daily functions, whose Week 12 performance score (Getting up from chair improvement of 4 to 10 & Climbing stairs improvement of 5 to 9) summed up and led to a 10-point improvement overall, a perfect match for the cohort average of 10.

Selection criteria: Patients were ranked by their total improvement across two standardized activities, and Patient 4's scores placed him at the cohort mean, making him the most representative case of average functional independence gains.

Table 5: Daily activity scores for Patient 4 across 12 weeks, showing a 10-point overall improvement (Chair rise: 4→10; Stair climb: 5→9), perfectly matching the cohort average of 10.

Activity	W0	W4	W8	W12
Getting up from a chair	4	6	8	10
Climbing stairs	5	7	8	9

Across the cohort, all 15 patients reported improvements in their ability to perform everyday functions such as climbing stairs, standing, and handling routine tasks by Week 12.

2. Inflammatory Biomarkers:

Table 6 exhibits noteworthy biochemical enhancements for Patient 7, who was chosen because she evidenced Week 12 drops in CRP (↓78.8%), ESR (↓72.9%), and RF (↓63.8%), producing an average decrease of 71.9%. The cohort's average inflammatory marker reduction was calculated by summing

the percentage decreases in CRP, ESR, and RF for each patient. Then, the value was averaged across the three markers. 71.9% was the closest match to the cohort mean reduction of 72.3%.

Selection criteria: patients were ranked by the lowest mean percentage reduction in the common biomarkers in all individuals, i.e., CRP, ESR, and RF. Patient 7 had the lowest deviation from the average and hence was the best case for representative overall improvement in inflammatory biomarker levels.

Table 6: Laboratory biomarkers (CRP, ESR, RF) of Patient 7 across 12 weeks, showing a 71.9% average reduction in inflammatory markers, closely aligning with the cohort mean of 72.3%.

Marker	Baseline	W4	W8	W12	% Change
CRP (mg/L)	14.2	10.5	6.0	3.0	↓78.8%
ESR (mm/hr)	48	36	22	13	↓72.9%
RF (IU/mL)	72	60	39	26	↓63.8%

In the cohort as a whole, all 15 patients had decreased inflammatory biomarkers by Week 12, with the majority having reductions of greater than 60% in CRP and ESR. Therefore, it affirms a powerful and enduring anti-inflammatory effect.

Quality of Life Metrics:

Table 7 reveals a significant improvement in the quality of life for Patient 4, the one chosen by the score report for Week 12 (Sleep = 8 hrs/night, Fatigue = 2, Mood = 9, Digestive Comfort = 9), for a total improvement of 18 points corresponding closely to the cohort mean of 17.7.

Selection criteria: Patients were ranked based on their overall improvement in the four consistently monitored quality of life domains, specifically sleep, energy, mood, and gastrointestinal comfort. Patient 4 revealed the lowest deviation from the mean and thereby became the best representative case of average improvement in total well-being.

Table 7: Quality of life metrics for Patient 4 across 12 weeks, showing an 18-point overall improvement (Sleep = 8 hrs/night, Fatigue = 2, Mood = 9, Digestive Comfort = 9), closely matching the cohort mean of 17.7.

Parameter	W0	W4	W8	W12
Sleep (hrs/night)	5	6.5	7.5	8.0
Morning Fatigue (1–10)	8	6	4	2
Mood Rating (1–10)	4	6	8	9
Digestive Comfort (1–10)	5	6	8	9

Across the cohort, all 15 patients reported better sleep and digestion with marked reductions in fatigue, and most also described clear gains in emotional stability and daily comfort by Week 12.

4. Dietary Compliance:

Table 8 shows a steady improvement in diet adherence for Patient 5, who was selected because she improved from 86% during Weeks 1–2 to 97% during Weeks 5–6 (by 11 percentage points), which was closest to the group mean of 11.3 percentage points.

Selection criteria: patients were ranked based on the magnitude of the adherence percentage increase from the first to the last recorded week. Patient 5's values were closest to the cohort average and were therefore the best representative case for average compliance.

Table 8: Dietary compliance for Patient 5 across 12 weeks, showing an 11-point increase in adherence (86% to 97%), closely aligning with the cohort mean improvement of 11.3 percentage points.

Week	Adherence %	Challenges	Favorite Recipes	Notes
Week 1–2	86%	Adapting to early prep	Roasted beet pesto bowl	Herbal teas helped improve sleep
Week 3–4	91%	Travel during the weekend	Coconut milk chia smoothie	Packed meals for travel days
Week 5–6	97%	None	Avocado turmeric wraps	Daily journaling improved focus

Across the cohort, adherence in all 15 patients improved over time, and the majority reached more than 90% compliance by Week 6, indicating the protocol's usability and sustainability in everyday life.

5. Medications & Supplements:

Table 9 represents a sample medication-and-supplement regimen to be used by Patient 6, which involves a stable base of DMARD (leflunomide with minor reduction of this dose by Week 6) and specific additions, including Omega-3 starting Week 2, curcumin 500mg in a capsule form, and magnesium and B12 to deal with fatigue and inflammation.

Patient 6 was selected because their pattern of medications and supplement usage was more representative of the overall results of the participants. They remained on their primary RA medication, although they decreased their consumption. Meanwhile, they also included common supplements that several other patients used during the study.

Table 9: Medication and supplement regimen for Patient 6, showing a stable DMARD base (leflunomide with slight dose reduction by Week 6) and targeted additions of Omega-3 (Week 2 onward), curcumin (500 mg), magnesium, and B12 to address fatigue and inflammation.

Leflunomide dose reduced by Week 6
Omega-3 introduced in Week 2
Began consuming Curcumin in capsule form (500mg)
Magnesium and B12 were introduced for fatigue

The majority of participants made only slight amendments to their initial drug regimens. Concurrently, a subgroup of supplements, led by Omega-3, curcumin/turmeric, magnesium sulfate, B-vitamins, and probiotics, took center stage in the intervention; this approach was optimal in terms of safety and minimal dependency upon drug variations.

6. Physician assessment:

As displayed by Table 10, there was a significant clinical reduction in disease activity for Patient 6, who was chosen based on the decrease in DAS28 from 6.2 to 2.4, equivalent to the median 3.8 improvement in the group, as well as the number of tender / swollen joints reducing from 14/12 to 1/0 by Week 12.

Selection criteria: patients were ranked in terms of the absolute value of individual DAS28 improvement relative to the cohort mean. Patient 6 was precisely at the mean, and thus, this represented the optimal disease activity.

Table 10: Physician assessment for Patient 6 across 12 weeks, showing a DAS28 reduction from 6.2 to 2.4 (3.8-point improvement, matching the group median) and a decrease in tender/swollen joints from 14/12 to 1/0.

DAS28 Score: 6.2 → 5.0 → 3.6 → 2.4
Joint Count (Tender/Swollen): 14/12 → 8/6 → 4/2 → 1/0
Comments: Patient improves progressively and has a higher tolerance for physical activities; recommend continued course of action
Advised continuation with the plan

For the entire cohort, there were decreases in DAS28 in each of the 15 participants by Week 12; by far, most reached low disease activity (≤ 3.2), and a few reached or entered remission (≤ 2.6). This was in line with the clinician's safety notes.

■ Discussion

Key Findings in Relation to the Aim:

The primary aim of the project was to evaluate the hypothesis that a systematic, anti-inflammatory diet regimen would precipitate measurable changes in expressions of rheumatoid arthritis in a variety of domains. According to the quantitative and qualitative data obtained during the 12 weeks, the results indicate that the diet was associated with regular positive effects on symptom management in most of the participants.

The 14/15 participants experienced a reduction in pain, morning stiffness, and swelling of the joints. Biomarkers of inflammation, including CRP and ESR, also exhibited decreasing trends, and the mean decreases were more than 60%. The patients also reported improvements in sleep, digestion, energy levels, and mood, which improved beyond physical symptoms. Taken together, these results suggest that dietary changes can contribute significantly to the management of chronic autoimmune diseases like RA.

Patterns and Trends Observed:

The data collected showed several patterns. The majority of the participants started to improve on subjective symptoms such as pain and fatigue by Week 4. Significant CRP and ESR reductions were also observed in the objective biomarkers by Week 8. There were consistent improvements in patients with more than 90 percent of dietary cycle adherence compared to those with less consistent adherence.

The improvement of the symptoms was gradual and accumulative instead of instant, which is why it makes sense to believe that the body adapts to the decreased inflammatory burden progressively. Only a few respondents experienced slower improvements, particularly those who had higher baseline DAS28 scores or even more advanced stages of the disease, but they also reported modest improvements by Week 12. Serious adverse effects or relapses were not registered, which also supported the safety and tolerance of the intervention.

Possible Mechanisms Behind the Changes:

The dietary improvements noted in this study might be related to the anti-inflammatory effect of the dietary protocol. As mentioned previously, the 5-day cyclical system eliminated some of the frequent pro-inflammatory provoking factors.

The observed changes can be explained by the fact that systemic inflammation is decreased with the help of several physiological actions, such as changes in gut barrier integrity, oxidative stress, insulin sensitivity, and immune control. There has been a specific inclusion of dietary ingredients into the literature that have been shown to have anti-inflammatory effects individually: turmeric (in combination with piperine), flaxseeds, and leafy greens. Moreover, the same clinical gains were observed in the participants who were provided with adjunctive supplementation (e.g., vegan omega-3 fatty acids, B-complex vitamins, and curcumin), which implies that the repletion of the micronutrients could have been a contributory factor to the therapeutic results.

Comparison with Previous Research:

The results are consistent with the developing literature concerning the application of nutrition in the treatment of autoimmune diseases, including Rheumatoid Arthritis (RA). Plant-based, Mediterranean, low-antigen, and whole-food diets have shown positive responses on disease activity parameters, intestinal microbiota diversity, and patient-reported data (fatigue and joint pain). Most of the current research in this field has, however, been constrained by limited sample sizes, use of laboratory biomarkers as the sole measurement tool, or lack of methodological congruity (e.g., allowing alteration of the dietary intervention partway through the study), making it difficult to isolate and attribute results to nutritional variables.

This project, on the contrary, entailed the use of several layers of data, including patient-reported outcomes, objective biomarkers, clinical testing, and lifestyle tracking. The resulting breadth of analysis makes the findings more practical and makes this work stand out compared to the most common studies on the diet that tend to isolate one variable. Although it lacks the statistical strength of a randomized controlled trial, the fact that the improvements are converting into unrelated metrics and that they are consistent is a substantial contribution to proving that the intervention actually works.

Limitations:

Although the present study advances existing literature through its multi-layered dataset, several methodological refinements can strengthen future work. Greater rigour at each stage of study design would include incorporating appropriate control groups, even in simple before-and-after interventions, to support clearer causal inference. The integration of fundamental statistical tests such as t-tests, ANOVA, and correlation analyses would further enhance analytical validity. Extending follow-up periods in dietary and behavioral studies is also essential, given that short-term improvements often diminish without sustained observation. Together, these adjustments would help ensure that subsequent findings remain both reliable and clinically meaningful.

In addition, increasing sample sizes and organising participants into appropriate age brackets would improve statistical power, strengthen comparative analyses, and enhance the generalisability of outcomes.

Conclusion

This paper has shown that a specific anti-inflammatory diet may have significant and quantifiable effects on the symptoms of Rheumatoid Arthritis. The 5-Day Cycle in patients demonstrated a decrease in joint pain, morning stiffness, fatigue, and inflammatory biomarkers, and an increase in sleep quality, digestion, and physical functioning.

The protocol is strong in that it is easily accessible, safe, and integrative. It did not necessitate calorie limitation or alteration of medication, and thus it was an appropriate complementary therapy. Although more extensive and more controlled studies are required, these results contribute to the importance of nutrition in the treatment of autoimmune diseases and enhancing patient quality of life.

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Appendix

Table 11 displays the quantitative clinical and outcome data for the 15 RA patients.

Table 11: Appendix

Patient ID	Morning Stiffness (WO-W12, min)	Pain/Swelling Scores (Hands, Knees)	Grip Strength (kg, WO-W12)	CRP (mg/L, %)	ESR (mm/hr, %)	RF (IU/mL, %)	Vit D (ng/mL, %)	Sleep (hrs, WO-W12)	Mood (1-10, WO-W12)	Dietary Adherence %	DAS28 (WO-W12)
P1	9-1, 8-1	12-29	10.5-2.8 (+73%)	38-12 (+68.7%)	60-24 (+60%)	22-48 (+118%)	5-8	5-9	95%	5.6-2.4	
P2	8-2, 7-1	14-30	11.8-3.0 (+74.6%)	42-14 (+66.7%)	58-21 (+63.7%)	18-43 (+139%)	5.5-8	4-9	95%	5.9-2.7	
P3	6-0, 7-1	10-24	8.6-2 (+76.7%)	36-10 (+60%)	42-16 (+61.9%)	20-44 (+125%)	4.5-7.5	4-8	98%	5.2-2.0	
P4	9-1, 7-0	12-30	14.2-3.8 (+73.2%)	46-15 (+67.4%)	70-23 (+67.1%)	14-39 (+178%)	5-8	4-9	96%	6.1-2.6	
P5	6-1, 7-1	12-26	10.8-2.5 (+76.8%)	38-11 (+71.0%)	55-19 (+65.4%)	22-47 (+113%)	5.5-8	4-9	97%	5.7-1.9	
P6	6-1, 8-2	10-25	12.5-3.5 (+72.0%)	42-12 (+71.4%)	64-21 (+67.2%)	18-43 (+138%)	5-8	3-8	95%	6.2-2.4	
P7	8-1, 9-2	12-28	14.2-3 (+78.8%)	48-13 (+72.9%)	72-28 (+63.8%)	21-45 (+114%)	4.5-7.5	3-9	93%	6.5-2.3	
P8	7-1, 5-0	14-32	10.8-2.9 (+73.1%)	34-10 (+70.6%)	58-22 (+62.1%)	25-48 (+192%)	6-8	5-9	97%	5.9-1.9	
P9	7-0, 8-1	10-26	13-2.4 (+81.5%)	42-10 (+76.2%)	68-20 (+70.5%)	24-46 (+191.7%)	5.5-8	4-9	95%	6.2-2.1	
P10	6-0, 8-1	12-32	12.5-3.1 (+75.2%)	38-12 (+68.4%)	61-18 (+64.7%)	21-45 (+114%)	5.5-7.5	5-9	97%	5.8-1.5	
P11	7-0, 8-5	14-33	11.8-2.0 (+83.1%)	34-10 (+74.6%)	58-16 (+72.4%)	18-40 (+122.2%)	6-8	5-9	94%	5.9-1.8	
P12	7-0, 6-1	10-27	10.3-1.9 (+81.5%)	31-9 (+71%)	42-12 (+73.9%)	23-48 (+108.7%)	5.8-8	6-9	96%	5.6-1.4	
P13	5-0, 6-0	12-33	9.5-1.4 (+85.2%)	28-8 (+71.4%)	42-10 (+76.2%)	19-39 (+105.3%)	6.2-8	6-9	96%	5.1-1.6	
P14	8-1, 105-10	14-34	11.2-2.1 (+81.2%)	33-10 (+69.6%)	58-16 (+72.4%)	21-40 (+190.4%)	6-7.88	5-9	94%	5.8-1.8	
P15	9-5	15-30	7.9-1.2 (+84.8%)	30-8 (+73.3%)	40-9 (+77.5%)	22-42 (+190.9%)	6.1-8.2	5-9	96%	5.2-1.3	

Author

Blending scientific research with real-world health initiatives, Kiyon Kapur, Head Boy and senior IB student in Pune, India, leads school-wide wellness councils, holds a black belt in karate, and trains in Iyengar yoga. His paper, awarded a CREST Gold, reflects his focus on preventive care. He plans to study Human Biology at an Ivy League institution and become a health entrepreneur shaping well-being.