

# Diet as a complementary therapy in Rheumatoid Arthritis

## On the menu: An anti-inflammatory portfolio diet

Akademisk avhandling

Som för avläggande av medicine doktorsexamen vid Sahlgrenska akademien, Göteborgs universitet kommer att offentligen försvaras i Arvid Carlsson, Medicinaregatan 3, onsdagen den 20:e december klockan 09.00.

av **Anna Turesson Wadell**

Fakultetsopponent:

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### Avhandlingen baseras på följande delarbeten

- I. **Vadell AKE**, Bärebring L, Hulander E, Gjertsson I, Lindqvist HM, Winkvist, A (2020). Anti-inflammatory Diet In Rheumatoid Arthritis (ADIRA) – a randomized, controlled crossover trial indicating effects on disease activity. *Am J Clin Nutr* 2020;111:1203-1213.
- II. **Turesson Wadell A**, Bärebring L, Hulander E, Gjertsson I, Hagberg L, Lindqvist HM, Winkvist, A (2021). Effects on health-related quality of life in the randomized, controlled crossover trial ADIRA (Anti-inflammatory Diet In Rheumatoid Arthritis). *PLoS ONE* 16(10): e0258716.
- III. **Turesson Wadell A**, Bärebring L, Hulander E, Gjertsson I, Landberg R, Lindqvist HM, Winkvist A (2023). Dietary biomarkers and food records indicate compliance to study diets in the ADIRA (Anti-inflammatory Diet In Rheumatoid Arthritis) trial. *Front. Nutr.* 10:1209787.
- IV. **Turesson Wadell A**, Bärebring L, Hulander E, Gjertsson I, Lindqvist HM, Winkvist A (2022). Inadequate Dietary Nutrient Intake in Patients With Rheumatoid Arthritis in Southwestern Sweden: A Cross-Sectional Study. *Front. Nutr.* 9:915064.

**SAHLGRENKA AKADEMIN  
INSTITUTIONEN FÖR MEDICIN**



# Diet as a complementary therapy in Rheumatoid Arthritis

## On the menu: An anti-inflammatory portfolio diet

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### Abstract

Over the last two decades, pharmacological treatment in rheumatoid arthritis (RA) has evolved remarkably and is essential to suppress disease progress. Still, it often fails to provide satisfactory symptom relief suggesting a need for complementary treatment. The aim of this thesis was to evaluate the effects of a proposed anti-inflammatory portfolio diet on RA symptoms, and to investigate the patients' habitual energy and nutrient intake.

The thesis was based on the crossover trial ADIRA (Anti-inflammatory Diet In Rheumatoid Arthritis). The intervention diet was rich in whole grain, fatty fish, fruit, berries, vegetables, and probiotics, and low in red meat, while the control diet was similar to the general Swedish diet.

Results from **paper I** indicated modest beneficial effects on disease activity of the intervention diet. Results from **paper II** indicated that the intervention diet improved physical functioning but no other aspects of health-related quality of life. In both papers, these results were primarily obtained among participants with stable pharmacological treatment. **Paper III**, using dietary biomarkers and food records, indicated high compliance to instructions on whole grain, seafood, red meat, and overall fat quality. **Paper IV** showed that habitual intake of saturated fatty acids was high, while intake of fiber and several micronutrients, especially vitamin D, was low.

These findings suggest that a proposed anti-inflammatory diet has modest beneficial effects on RA symptoms and are consistent with previous research showing inadequate nutrient intake in these patients. Further research in the real-world clinical setting is required to investigate the feasibility of the dietary treatment more thoroughly. Yet, the results of the thesis indicate that dietitian involvement in RA management may be important to optimize these patients' nutrient intake. The dietitian could also further advice dietary modifications to induce weight reduction among overweight patients and reduce the risk of comorbidities.

**Keywords:** dietary intervention, diet, nutrition, rheumatoid arthritis

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