Objectives: To evaluate the gustatory and olfactory functions of patients with rheumatoid arthritis (RA) compared to sex- and age-matched healthy subjects and to investigate a potential relationship between disease activity [using the 28-joint Disease Activity Score (DAS28)] and chemosensory capacity. Furthermore, to dissect possible impacts of standard anti-inflammatory medications on the gustatory and olfactory functions.

Methods: Patients with established RA underwent standardized assessment of their gustatory and olfactory functions. The patients were also examined for their disease activity, had their specific blood-test results analysed, and were asked to answer a standardized questionnaire about their quality of life, the negative effects of their disease, and about comorbidities.

Results: A total of 101 RA patients (75 women, 26 men, mean age: 57.9 ± 13.8 and 64.2 ± 10.9 years, respectively) were analysed. In relation to age- and sex-related subjects, both female and male RA patients had a significantly decreased taste score (p< 0.001) and also a significantly decreased olfactory score (p< 0.05), indicating that a substantial number of patients suffer from hypogeusia or hyposmia. This abnormality did not correlate with disease activity, the duration of the disease, disease-modifying anti-rheumatic drug (DMARD) or tumour necrosis factor (TNF) inhibitor use, and the loss of the chemosensory functions, together indicating that
hypogeusia and hyposmia are frequent clinical manifestations in RA patients independent of the inflammatory activity of their disease. Conclusion: The results indicate that there is a significant decrease in the olfactory and gustatory function in RA patients compared to those of healthy controls, which can seriously and substantially affect the quality of the patients' life.