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THU0092 USING EVIDENCE-BASED RESEARCH TO DESIGN A RANDOMISED TRIAL ON PERIODONTAL TREATMENT FOR INDIVIDUALS WITH RHEUMATOID ARTHRITIS: A SYSTEMATIC REVIEW PUTTING EXISTING RESEARCH INTO CONTEXT

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Background: It has been suggested that RA is triggered by genetic and environmental factors that lead to a breakdown of immune tolerance at mucosal surfaces (e.g. periodontium) (1, 2). The theory that Periodontitis (PD) affects RA process/measurement has deep implications: PD treatment might improve disease activity and/or prevent overtreatment. It is urgent to confirm available evidence and design research strategies to cover knowledge gaps.(3)
Objectives: To gauge the evidence of non-surgical periodontal therapy (NSPT) impact upon measures of disease activity and inflammatory burden in individuals with RA and derive recommendations for research needed to address the knowledge gaps.
Methods: Based on a prespecified Protocol (CRD42018103359), a search for RA and Periodontitis and controlled or randomised trials was conducted on the 7th April 2019 in PubMed, Cochrane Library (CENTRAL), Embase, ClinicalTrials.gov and WHO ICTRP portal. Two independent reviewers screened titles and abstracts and selected papers were full text reviewed. Outcome domains were those OMERACT-endorsed for RA CTs: disease activity (DAS28, SDAI, CDAI), life impact (patient-reported outcome measures) and inflammation markers (CRP, ESR). We summarised continuous outcomes using standardised mean differences (SMDs) with 95% confidence intervals (95% CIs). We evaluated inconsistency using the I^2 statistic, and combined SMDs using the standard inverse variance random effects for the meta-analyses; fixed-effect meta-analysis was applied for the purpose of sensitivity.
Results: From 1909 studies identified, 9 reports (5 RCTs, 4 NRSIs) were eligible for quantitative synthesis (n=388). The evidence suggested a moderate effect on the disease activity domain in response to NSPT in RA patients (SMD -0.59 [95% CI, -1.21 to 0.03], n = 311; Figure 1). Using GRADE approach, as judged from the study's Risk of bias, imprecision around the estimate, and the results' inconsistency (I^2= 83%), the evidence was rated down to 'very low certainty evidence' indicating that any possible effect of NSPT is likely to change as more prospective evidence is provided. A RCT in PD-RA patients would need a sample size of at least 90 individuals, randomised 1:1 (80% power) to detect an effect size of 0.59. Anticipating withdrawals and attrition, a more adequate sample size would be 120 (90% power).

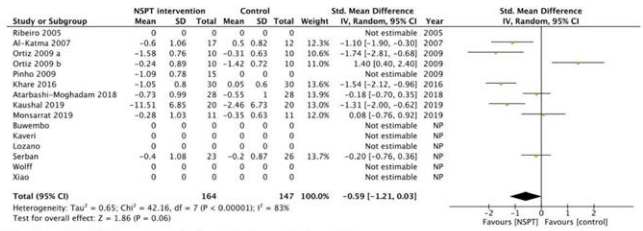

Figure 1. Forest Plot of SMD between treatment and non-treatment groups for Disease Activity.

Conclusion: Our results summarise the current evidence on the likely impact of NSPT on RA outcomes. There is an urgent need to assemble a well designed RCT, or prospective (multicenter) cohorts of RA-PD patients using rigorous protocols, standardized diagnosis criteria, data collection and duration of follow-up.

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THU0093 EARLY REMISSION IS ASSOCIATED WITH LOWER FATIGUE LEVELS ON THE LONG TERM IN PATIENTS WITH RECENT ONSET RHEUMATOID ARTHRITIS

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Background: Fatigue is mentioned as a symptom with high impact in many patients with Rheumatoid Arthritis (RA) and this symptom remains difficult to be managed by both the patient and the physician.
Objectives: To investigate if rapid suppression of disease activity in early RA could impact fatigue complaints in the long run.
Methods: For this study, we included patients from the 2-year pragmatic investigator-initiated Care in Early Rheumatoid Arthritis (CareRA) trial. Most patients were treated intensively, with different combinations of csDMARDs and glucocorticoid remission induction schemes, except one group without classic markers of poor prognosis that was treated with MTX weekly in monotherapy. Patients were followed up at least every 3 months, with more mandatory visits in the first 6 months of treatment. Clinical parameters including DAS28 components were registered at every visit. Fatigue was measured by the multi-dimensional fatigue inventory (MFI), a self-reported instrument consisting of 20 questions with a Likert scale from 1-5 as answer. These 20 questions can be subdivided in five subscales (0-20) of four questions (higher scores indicating higher fatigue levels): general fatigue, mental fatigue, physical fatigue, reduced activity and reduced motivation. General fatigue means the general feeling of being tired. Mental fatigue implicates concentration and memory problems. Physical fatigue implicates a lack of energy and strength. Reduced activity means that patients can do less activities for example on one day. Reduced motivation means that patients don't want to plan or do things due to no motivation. MFI was obtained at baseline, at week 16, week 52 and week 104. Only patients with a filled-out MFI at baseline and available DAS28CRP at week 16 were included in this study.
Patients were divided in 2 groups based on their response, defined as achieving or not achieving DAS28CRP remission (<2.6) at week 16. These patients were classified as early responders and controls respectively. The 2 groups were compared by Mann-Whitney-U test. A generalized estimating equation (GEE) compared the 2 groups over the course of the 2-year trial per each of the 5 domains of the MFI, adjusting for baseline DAS28CRP and baseline MFI domain score.
Results: Of the 379 patients recruited in the CareRA trial, 343 (90.5%) had a MFI score available at baseline and a DAS28CRP available at week 16 with 236 (68.8%) patients achieving remission, and 107 (31.2%) patients not achieving remission at week 16. After 2 years of treatment, the proportion of patients in DAS28CRP remission was still higher in the early responders versus controls (82.3% versus 63.5%, p=0.001). Every MFI domain after 2 years of treatment showed lower scores for early responders including general fatigue (p=0.017), physical fatigue (p=0.011), reduced activity (p=0.040) and mental fatigue (p=0.042) except reduced motivation (p=0.062) (see figure 1). GEE analysis demonstrated that all MFI domains differed over 2 years between patients in remission or not at week 16, including general fatigue (p<0.001), physical fatigue