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Title: A SELF-MONITORING AND PATIENT-INITIATED FOLLOW-UP SERVICE FOR PATIENTS WITH RHEUMATOID OR PSORIATIC ARTHRITIS: A RANDOMIZED CONTROLLED TRIAL

Category: Health services research, economics and outcomes research

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Background: Patient-initiated services in rheumatology have been found to be cost-saving without compromising the clinical or psychosocial well-being of patients with rheumatoid arthritis. Self-monitoring is a technique used in many other long-term conditions and is associated with reductions in healthcare utilisation and mortality and has been found to be satisfactory from the patient's perspective. The aim of this RCT was to evaluate the efficacy of a service which integrates self-monitoring into patient-initiated follow-ups for patients with RA or PsA on methotrexate; in terms of healthcare utilisation and clinical outcomes.

Methods: A RCT was conducted at UCLH in which 100 patients with RA or PsA on methotrexate were randomised to either an intervention group or usual care. All participants were in the trial for 6 blood tests. Those in the intervention group attended a one-off training session where they were taught how to monitor their blood test results and which symptoms and side effects to report. These participants had no scheduled appointments with their rheumatology nurse during the trial period, but continued to see their consultant appointments as usual. Blood test results were sent to intervention participants and along with their symptoms and side effects patients were required to initiate a review with their nurse, when necessary. Patients were booked an emergency

outpatients appointment if required. Healthcare utilisation was monitored throughout the trial period. The Mann-Whitney U test and multi-level modelling were used to explore the impact of the intervention on healthcare usage and clinical outcomes.

Results: Across the trial period 78.85% of decisions made by intervention participants were correct. There were no significant differences in clinical or demographic variables between the two groups at baseline. At the end of the trial period participants in the intervention group had 54.55% fewer appointments with their rheumatology nurse specialist ($p<0.0001$). There were no significant differences in the number of appointments with the rheumatologist or GP, although participants in the intervention group did have 38.80% fewer GP appointments than controls. Levels of pain, fatigue, ESR, CRP and treatment response (as measured by the EULAR treatment response criteria for RA and PsARC) did not differ between groups ($p>0.05$).

Conclusions: Patients with RA and PsA can successfully understand and interpret their blood test results and use this information along with reports of their symptoms and side effects to initiate reviews with their rheumatology nurse. Participants in the intervention group had fewer hospital reviews with their nurse specialist with no detrimental effects to their clinical status and with no increase in visits to the rheumatologist or GP. This model of care may therefore be a viable alternative for established RA and PsA patients on DMARD therapy.

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