Research Letter

The Effect of COVID-19 on Medication Adherence in a Rheumatoid Arthritis (BRAGGSS) and Psoriatic Arthritis (OUTPASS) UK Cohort

To the Editor:

Suboptimal treatment adherence has been reported in patients with arthritic diseases; is associated with psychological factors, including anxiety; and correlates with future treatment response. During the coronavirus disease 2019 (COVID-19) pandemic, patients who identified as clinically extremely vulnerable, including people prescribed ≥ 2 immunosuppressives, were advised to shield and continue treatment unless they developed COVID-19 symptoms. The aim of this multicenter study was to investigate the effect of the COVID-19 pandemic on adherence to disease-modifying antirheumatic drugs (DMARDs) in patients with established rheumatoid arthritis (RA) and psoriatic arthritis (PsA) in the United Kingdom.

Between August 2020 and June 2021, patients with RA and PsA from 2 multicenter observational studies (Biologics in Rheumatoid Arthritis Genetics and Genomics Study Syndicate [BRAGGSS] and Outcomes of Treatment in PsA Study Syndicate [OUTPASS]) who were within 12 months of commencing biological or targeted synthetic DMARDs, were sent a questionnaire on adherence and medication perceptions. Adherence during the COVID-19 pandemic was assessed using a 5-point Likert scale, as described previously, and the reason for nonadherence recorded. Pandemic adherence was compared to paired prepandemic data (before 2020), where available, using similar questionnaires. Summary statistics for pandemic and prepandemic data and Pearson chi-square tests were used to investigate variables associated with self-reported nonadherence. Linear and logistic regression were used to investigate the association between returning questionnaires, Hospital Anxiety and Depression Scale (HADS), and drug response. This study complies with the Declaration of Helsinki. The locally appointed ethics committee has approved the research protocol, and written informed consent has been obtained from the subjects (or their legally authorized representative; BRAGGSS-MREC No: 04/Q1403/37, OUTPASS-REC ref: 13/NW/0068). The lists of OUTPASS and BRAGGSS collaborating sites and authors are available in Appendix 1 and Appendix 2.

One hundred fifty-nine questionnaires were returned (81.1% RA and 18.9% PsA). Seven patients reported COVID-19 symptoms, and 2 of 5 patients who tested positive were hospitalized. Methotrexate (53.5%) was the most frequently prescribed agent, followed by etanercept (25.2%), sulfasalazine (22.6%), adalimumab (22%), and hydroxychloroquine (21.4%), with 72.3% of patients being prescribed ≥ 2 immunosuppressives. In the PsA cohort, there was no significant association between questionnaire responders and nonresponders and 6-month drug response, demonstrating no evidence of responder bias. Information was not available from the RA cohort. Of patients with adherence information, 43.2% reported missing or delaying a treatment dose. Of those who missed or delayed therapy, 59.7% reported nonmedically advised nonadherence. Overall, this resulted in 25.8% of patients self-reporting nonadherence during COVID-19.

There was no significant difference in nonadherence rates between the different DMARDs. Further, there was no association between disease type (RA vs PsA) or perception of disease control (good vs bad) and adherence. Of nonadherent patients, 22.5% reported increased anxiety and fear of a greater risk of infection because of the COVID-19 pandemic as an influencing factor. Twenty-five percent listed non–COVID-19 intentional reasons for nonadherence, such as fear of treatment, side effects, and aversion to injections, whereas 55% reported unintentional reasons, with forgetting and lack of treatment availability listed most frequently, similar to previous literature. A higher HADS total score was associated with increased self-reporting of missing or delaying a dose of treatment (odds ratio 1.11, 95% CI 1.01-1.14, P = 0.01); however, there was no significant association with nonmedically advised nonadherence during COVID-19.

Considering prepandemic data, 26.7% of the OUTPASS cohort had adherence information available, with 100% self-reporting complete adherence within the first 3 months of treatment. In the BRAGGSS cohort 21.7% had prepandemic adherence information available. Of these patients, 25% reported nonadherence within the first 3 months of treatment. Compared to prepandemic data, nonadherence was seen to increase during the pandemic for both patients with RA and PsA. In international cohorts, nonadherence of patients on immunosuppressive therapy was described at similar levels (Table).

Throughout the pandemic, there was a vast amount of conflicting information, which may have contributed to increased anxiety and exacerbated symptoms in patients prescribed immunosuppressants. In contrast, patients with higher adherence had lower levels of relapse. In 1 cohort, only 1 patient who stopped therapy did not restart following reassurance, highlighting the benefits of good communication skills. This was supported by findings from the current study, with 1 patient describing stopping treatment because of fear of COVID-19 before restarting after discussion with their rheumatology team.

Strengths of the study include the multicenter recruitment, inclusion of patients with both RA and PsA, and the availability of prepandemic adherence data. Despite this, adherence information was available for only 3 months following treatment commencement, which could have led to overestimated treatment adherence. Limitations include the inability to explore the influence of telemedicine, which may support higher levels of adherence as a result of a continuation of disease management.

In this multicenter UK study of patients with RA and PsA commencing antirheumatic therapy 12 months prior, nonadherence during COVID-19 was identified at a national level and
increased in these patients compared to prepandemic available data. Increased anxiety and fear of infection were contributory factors to nonadherence. Lack of clear communication was cited as a reason for nonadherence both in the current UK study and in previous reports internationally. Clear, nonjudgmental, and transparent communication and further education about infection risk in immunsuppressant are pivotal for improving adherence behaviors and potential drug response in immunsuppressed patients in the context of infectious diseases.

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DATA AVAILABILITY
The data that support the findings of this study are available on request from the corresponding author (JB). The data are not publicly available due to privacy/ethical restrictions.

REFERENCES


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