

Bayer, Boehringer Ingelheim, ChemomAb, Corbus, CSL Behring, Galapagos, Glenmark, GSK, Horizon (Curzion), Inventiva, iQvia, Kymera, Lupin, Medac, Medscape, Mitsubishi Tanabe, Novartis, Roche, Roivant, Sanofi, Serodapharm, Topadur and UCB. Patent issued "mir-29 for the treatment of systemic sclerosis" (US8247389, EP2331143)., Consultant of: OD has/had consultancy relationship with and/or has received research funding from or has served as a speaker for the following companies in the area of potential treatments for systemic sclerosis and its complications in the last three years: Abbvie, Acceleron, Alcedim, Amgen, AnaMar, Arxx, Baecon, Blade, Bayer, Boehringer Ingelheim, ChemomAb, Corbus, CSL Behring, Galapagos, Glenmark, GSK, Horizon (Curzion), Inventiva, iQvia, Kymera, Lupin, Medac, Medscape, Mitsubishi Tanabe, Novartis, Roche, Roivant, Sanofi, Serodapharm, Topadur and UCB. Patent issued "mir-29 for the treatment of systemic sclerosis" (US8247389, EP2331143)., Grant/research support from: OD has/had consultancy relationship with and/or has received research funding from or has served as a speaker for the following companies in the area of potential treatments for systemic sclerosis and its complications in the last three years: Abbvie, Acceleron, Alcedim, Amgen, AnaMar, Arxx, Baecon, Blade, Bayer, Boehringer Ingelheim, ChemomAb, Corbus, CSL Behring, Galapagos, Glenmark, GSK, Horizon (Curzion), Inventiva, iQvia, Kymera, Lupin, Medac, Medscape, Mitsubishi Tanabe, Novartis, Roche, Roivant, Sanofi, Serodapharm, Topadur and UCB. Patent issued "mir-29 for the treatment of systemic sclerosis" (US8247389, EP2331143)., Hector Chinoy Speakers bureau: HC has been a speaker for UCB, Biogen., Consultant of: HC has received consulting fees from Novartis, Eli Lilly, Orphazyme, Astra Zeneca, Grant/research support from: HC has received grant support from Eli Lilly and UCB, Vikas Agarwal: None declared, Rohit Aggarwal Consultant of: RA has/had a consultancy relationship with and/or has received research funding from the following companies-Bristol Myers-Squibb, Pfizer, Genentech, Octapharma, CSL Behring, Mallinckrodt, AstraZeneca, Corbus, Kezar, and Abbvie, Janssen, Alexion, Argenx, Q32, EMD-Serono, Boehringer Ingelheim, Roivant., Grant/research support from: RA has/had a consultancy relationship with and/or has received research funding from the following companies-Bristol Myers-Squibb, Pfizer, Genentech, Octapharma, CSL Behring, Mallinckrodt, AstraZeneca, Corbus, Kezar, and Abbvie, Janssen, Alexion, Argenx, Q32, EMD-Serono, Boehringer Ingelheim, Roivant.

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CONTROL OF RHEUMATIC DISEASE AND COVID-19: RESULTS FROM THE INTERNATIONAL COVID-19 EUROPEAN PATIENT REGISTRY

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Background: A major concern across rheumatology in recent years is how contracting COVID-19 may impact the control of rheumatic diseases.

Objectives: To quantify any difference in rheumatic disease control between those who did and did not contract COVID-19 between March and December 2020 and whether rheumatic disease control changed after COVID-19 was contracted.

Methods: Adults with rheumatic diseases recruited to the COVID-19 European Patient Registry, a patient-led, online, self-referred prospective cohort recruiting participants from around the globe, were included if enrolled between March and December 2020. Rheumatic disease control was self-reported weekly on a scale of 0 (very poor) to 10 (very well). Dates of contracting COVID-19 were self-reported.

Differences in rheumatic disease control trends between those who did and did not contract COVID-19 over the study period were tested via multilevel linear regression. Within those who contracted COVID-19, differences in rheumatic disease control trends were tested via segmented multilevel, multivariable linear

regression, adjusting for month of COVID-19 contraction and with the interruption point set at the point of COVID-19 contraction.

Results: Of 3646 adults with rheumatic diseases, the majority were female (89%), most commonly from the UK (82%) and the most common rheumatic disease diagnosis was RA (63%). Between March and December 2020, 3% of the cohort contracted COVID-19 (n=103).

Over the study period, rheumatic disease control for adults who did not contract COVID-19 decreased weekly by 0.01 points (95% CI 0.01, 0.02, $p<0.001$). In those who contracted COVID-19, rheumatic disease control decreased weekly by 0.03 points (95% CI 0.02, 0.05, $p<0.001$), with a significant weekly difference of 0.86 points between groups (95% CI 0.28, 1.44, $p=0.004$) (Figure 1a).

Within those that contracted COVID-19, there were significant differences in rheumatic disease control trends before and after contracting COVID-19 ($p=0.001$). In the run up to contracting COVID-19, rheumatic disease control significantly decreased weekly by 0.03 points (95% CI 0.02, 0.04, $p<0.001$), dropped significantly by 0.53 points (95% CI 0.23, 0.83, $p=0.001$) at the point of COVID contraction and then stabilised with no further reductions or improvement in rheumatic disease control for the remainder of follow-up ($p=0.831$) (Figure 1b).

Conclusion: People who contracted COVID-19 had initial decreases in rheumatic disease control before contracting the virus, after which their disease control stabilised at a lower level. Those with disease flares should consider increased screening for COVID-19 and COVID-19 mitigation measures. The stabilising lower disease control post-COVID is concerning and should prompt further work into restoring disease control pre-COVID-19 levels.

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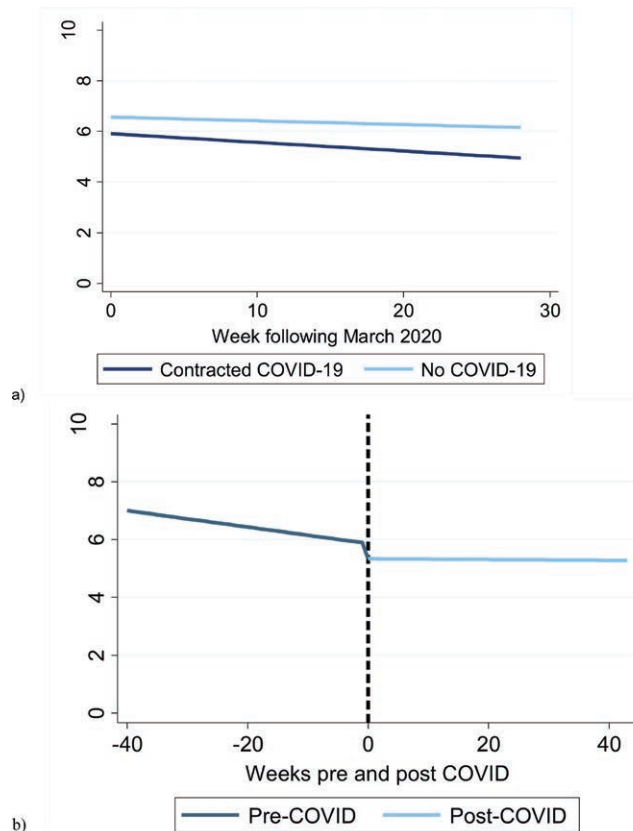


Figure 1. Trends in rheumatic disease control in those who did and did not contract COVID-19 between March and December 2020 a) overall and b) before and after contracting COVID-19