



UNIVERSITY OF LEEDS

This is a repository copy of *O28 Has modern UK management of RA led to a reduction in use of steroids and NSAIDs? 20-year data from the clinical practice research datalink.*

White Rose Research Online URL for this paper:
<https://eprints.whiterose.ac.uk/159695/>

Version: Accepted Version

Article:

Crossfield, SSR orcid.org/0000-0001-7337-3527, Buch, MH orcid.org/0000-0002-8962-5642, Baxter, P orcid.org/0000-0003-2699-3103 et al. (3 more authors) (2020) O28 Has modern UK management of RA led to a reduction in use of steroids and NSAIDs? 20-year data from the clinical practice research datalink. *Rheumatology*, 59 (Supplement_2). ISSN 1462-0324

<https://doi.org/10.1093/rheumatology/keaa110.027>

© The Author(s) 2020. Published by Oxford University Press on behalf of the British Society for Rheumatology. This is an author produced version of an article published in *Rheumatology*. Uploaded in accordance with the publisher's self-archiving policy.

Reuse

See Attached

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

Has Modern UK Management of Rheumatoid Arthritis led to a Reduction in use of Steroids and NSAIDs? 20 Year Data from the Clinical Practice Research Datalink

Samantha SR Crossfield^{1,2}, Maya H Buch^{1,3,4}, Paul Baxter⁵, Sarah R Kingsbury^{1,6}, Mar Pujades-Rodriguez⁷, Philip G Conaghan^{1,6}

¹Leeds Institute for Rheumatic and Musculoskeletal Medicine, University of Leeds, Leeds, UK

²Leeds Institute for Data Analytics, University of Leeds, Leeds, UK

³Centre for Musculoskeletal Research, School of Biological Sciences, University of Manchester, Manchester, UK

⁴NIHR Manchester Biomedical Research Centre, Manchester, UK

⁵Leeds Institute of Cardiovascular and Metabolic Medicine, University of Leeds, Leeds, UK

⁶NIHR Leeds Biomedical Research Centre, Leeds, UK

⁷Leeds Institute of Health Sciences, University of Leeds, Leeds, UK

Abstract

Objective

Over 20 years, rheumatoid arthritis (RA) management has evolved to immediate initiation and more effective escalation of disease-modifying anti-rheumatic drugs (DMARDs) to suppress inflammation. We aimed to establish whether this has facilitated reduced long-term use of potentially toxic glucocorticosteroids (GCs) and nonsteroidal anti-inflammatory drugs (NSAIDs).

Methods

We investigated changes in DMARD, oral GC and NSAID prescribing over 1998-2017 in a UK primary care electronic health records database. We defined RA by coded diagnosis, sensitivity analyses requiring (a) two diagnoses ≥ 6 months apart; (b) ≥ 1 DMARD prescriptions. We calculated annual RA incidence and prevalence, annual prescribing and prescribing in the first to fifteenth year from diagnosis. Long-term prescribing was defined as ≥ 3 months (≥ 6 in a sensitivity analyses) and compared with a non-RA cohort (5:1 matched on age, sex and GP practice).

Results

We included 71,411 RA patients (44,426 with 2 diagnoses, 45,438 with DMARD). Incidence declined from 5.01 (± 0.36) per 10,000 person-years in 1998 to 4.77 (± 0.23) in 2011, before increasing following changes in Quality Outcomes Framework indicators. Prevalence rose from 0.70% (± 0.013) in 1998 to 0.91% (± 0.014) in 2017 and was highest among patients aged ≥ 70 (2.21%, ± 0.05). Long-term DMARD prescribing rose from 30.97% in 1998 to 49.28% in 2017. Long-term NSAID prescribing fell (45.94% to 25.08%) particularly amongst incident RA patients, with only modest change in GCs (20.98% to 15.53%) (Table 1). By comparison, long-term GC prescribing in the matched non-RA population rose (0.90% to 2.01%) and NSAID prescribing changed little (6.37% to 8.41%). The proportion with long-term prescribing declined slightly from the first to the third year following diagnosis for GCs

(22.18% to 17.87%) and NSAIDs (41.19% to 34.30%). Sensitivity analyses showed similar results.

Conclusion

Long-term GC prescribing among newly diagnosed RA patients has not appreciably reduced despite modern treatment paradigms and the expected observed increase in DMARD prescribing. Long-term NSAID prescribing did decrease in primary care for RA (especially from mid-2000 and among newly diagnosed patients), but interestingly, not for non-RA patients. Given the scope for further reduction in GC and NSAID prescribing, the reasons for persistent prescribing, including prescribing behaviours, require further investigation.

--349 words

Table 1.

Proportion with long-term prescribing per year, overall and during 12 months following RA diagnosis

Year	Proportion (%) with long-term medication prescribing (N=68,939)			Proportion (%) with long-term medication prescribing in the first year following diagnosis (N=29,918)		
	Oral GC	NSAID	DMARD	Oral GC	NSAID	DMARD
1998	21.0	45.9	31.0	22.2	57.7	41.6
1999	20.9	44.5	32.2	23.2	56.7	44.4
2000	21.5	42.2	33.3	23.3	54.4	44.9
2001	21.6	42.0	35.3	21.7	51.7	46.4
2002	21.2	41.4	36.5	22.2	53.4	47.4
2003	21.0	40.7	38.6	24.1	50.6	50.3
2004	20.8	40.9	40.2	22.7	53.7	51.8
2005	20.8	42.7	41.7	23.3	52.1	52.3
2006	20.6	40.0	42.9	24.7	46.8	55.3
2007	20.5	37.8	44.2	27.5	47.6	62.0
2008	20.4	36.4	46.2	26.3	43.6	63.9
2009	20.2	34.7	47.8	26.3	38.6	67.9
2010	19.9	33.2	49.1	25.8	39.5	67.1
2011	19.6	32.6	50.9	24.8	36.6	67.1
2012	19.4	31.1	51.6	25.5	33.8	65.1
2013	18.2	29.6	52.0	17.3	31.2	51.9
2014	17.1	28.5	51.3	16.4	26.6	47.8
2015	16.2	27.3	50.3	16.7	28.9	53.2
2016	16.1	27.0	50.1	19.1	27.1	54.7
2017	15.5	25.1	49.3			

Conflicts of Interest

None to declare

Funding Statement

This work was supported by the Medical Research Council (MRC) Leeds Medical Bioinformatics Centre [MR/L01629X to S.S.R.C.] and the National Institute for Health Research (NIHR) Leeds Biomedical Research Centre and the Versus Arthritis Experimental Osteoarthritis Treatment Centre [20083 to P.G.C. and S.R.K.]. The views expressed are

those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.