Identifying and managing psoriasisassociated comorbidities: the IMPACT research programme

Lis Cordingley, 1* Pauline A Nelson, 2 Linda Davies, 3
Darren Ashcroft, 4 Christine Bundy, 2
Carolyn Chew-Graham, 5 Anna Chisholm, 2
Jamie Elvidge, 3 Matthew Hamilton, 3 Rachel Hilton, 6
Karen Kane, 2 Christopher Keyworth, 2
Alison Littlewood, 2 Karina Lovell, 7 Mark Lunt, 8
Helen McAteer, 9 Dionysios Ntais, 3 Rosa Parisi, 4
Christina Pearce, 2 Martin Rutter, 10
Deborah Symmons, 8 Helen Young 2,11
and Christopher EM Griffiths 2,11

¹Division of Musculoskeletal and Dermatological Sciences, University of Manchester, Manchester, UK

²Dermatology Research Centre, University of Manchester, Manchester, UK

³Centre for Health Economics, University of Manchester, Manchester, UK

⁴Centre for Pharmacoepidemiology and Drug Safety, University of Manchester, Manchester, UK

⁵Primary Care and Health Sciences, Keele University, Keele, UK

⁶Bridgewater Community Healthcare NHS Foundation Trust, Wigan, UK

⁷School of Nursing, Midwifery and Social Work, University of Manchester, Manchester, UK

⁸Centre for Epidemiology Versus Arthritis, Centre for Musculoskeletal Research, University of Manchester, Manchester, UK

⁹Psoriasis Association, Northampton, UK

¹⁰Manchester Diabetes Centre, Manchester University NHS Foundation Trust, Manchester, UK

¹¹Salford Royal NHS Foundation Trust, Salford, UK

^{*}Corresponding author Lis.Cordingley@manchester.ac.uk

Declared competing interests of authors: The contributions of Pauline A Nelson, Anna Chisholm, Jamie Elvidge, Matthew Hamilton, Karen Kane, Alison Littlewood, Dionysius Ntais, Rosa Parisi and Chrintina Pearce were supported by a grant from the NIHR during the conduct of the study. Christopher Keyworth's contribution and PhD studentship was supported by a grant from the NIHR during the conduct of the study. Lis Cordingley received an unrestricted grant from Pfizer Inc. (New York, NY, USA) and personal fees from AbbVie Inc. (Chicago, IL, USA) and Jannsen Pharmaceutica (Beerse, Belgium) outside the submitted work. Pauline A Nelson has received personal fees from Celgene Corporation (Summit, NJ, USA), Amgen Inc. (Thousand Oaks, CA, USA) and John Wiley & Sons Ltd (Chichester, UK) outside the submitted work. Darren Ashcroft reports grants from AbbVie Inc. and personal fees from Pfizer Inc. and GlaxoSmithKline plc (London, UK) outside the submitted work. Christine Bundy received an unrestricted grant from Pfizer Inc. and personal fees from AbbVie Inc., Jannsen Pharmaceutica, Celgene and Novartis Pharmaceuticals UK Ltd (Frimley, UK) outside the submitted work. Anna Chisholm received personal fees from AbbVie Inc., Celgene Corporation and Jannsen Pharmaceutica outside the submitted work. Martin Rutter received personal fees from Ascensia Diabetes Care Holdings AG (Basel, Switzerland), Cell Therapy Catapult Ltd (London, UK) and Roche Diabetes Care Ltd (Burgess Hill, UK) and personal fees and an educational grant from Novo Nordisk A/S (Bagsværd, Denmark) outside the submitted work. Helen Young received personal fees from Janssen Pharmaceutica, Novartis Pharmaceuticals UK Ltd, Union Chimique Belge (UCB) S.A. (Brussels, Belgium), MEDA, Stiefel Laboratories (Research Triangle Park, NC, USA), Amgen Inc. and AbbVie Inc. and personal fees and non-financial support from LEO Pharma A/S (Ballerup, Denmark) and Eli Lilly and Company (Indianapolis, IN, USA) outside the submitted work. Christopher EM Griffiths received grants and personal fees from AbbVie Inc., Janssen Pharmaceutica, Eli Lilly and Company, Novartis Pharmaceuticals UK Ltd, Sandoz International GmbH (Holzkirchen, Germany), Pfizer Inc., LEO Pharma A/S and Almirall, S.A. (Barcelona, Spain) and personal fees from Sun Pharmaceuticals Industries Ltd. (Mumbai, India) and UCB outside the submitted work. Helen McAteer is Chief Executive of the Psoriasis Association, which has received grants from Thornton and Ross Derma (Thornton and Ross Ltd, Linthwaite, UK), AbbVie Inc., Galderma S.A. (Lausanne, Switzerland), Dermal Laboratories Ltd (Hitchin, UK), LEO Pharma A/S, Novartis Pharmaceuticals UK Ltd, Celgene and Eli Lilly and Company, and corporate membership fees from AbbVie Inc., Novartis Pharmaceuticals UK Ltd, Celgene Corporation and Almirall S.A.; she did not receive fees personally. Deborah Symmons reports grants from Arthritis Research UK, NIHR and the British Heart Foundation during the conduct of the study.

Published March 2022 DOI: 10.3310/LVUQ5853

Plain English summary

The IMPACT research programme

Programme Grants for Applied Research 2022; Vol. 10: No. 3

DOI: 10.3310/LVUQ5853

NIHR Journals Library www.journalslibrary.nihr.ac.uk

Plain English summary

Psoriasis is a complex condition. It is a common, lifelong skin disease that is demanding to live with and can involve other health conditions such as anxiety, depression and psoriatic arthritis. People with psoriasis may have an increased risk of cardiovascular disease possibly owing to inflammation in the body, the effects of some psoriasis treatments, unhealthy behaviours or a combination of these.

During this research we talked to both patients and health-care staff about their experiences of receiving and delivering psoriasis care and observed what takes place in practice. We looked at how common psoriasis is and what other conditions are associated with it. We measured risk factors for cardiovascular disease and asked about preferred ways of receiving care.

We found that psoriasis affects about one person in 50 in the UK. We also found that having inflammatory arthritis and psoriasis together makes it very slightly more likely that someone will have a heart attack or stroke (but we did not find this to be true if someone has psoriasis alone). Large numbers of patients with psoriasis had unhealthy behaviours and higher risk factors for heart attack and stroke, and health professionals needed training in how to help patients manage this risk.

We developed new high-quality patient materials that helped people understand psoriasis better. We created new training for health-care staff that improved the support they could provide to people, enabling them to care for not just skin symptoms but the 'whole person'. Patients and health-care staff felt that the new materials and training could be valuable for use in current health-care services to improve psoriasis care; however, it is uncertain how the new materials and training would work in real-world situations and whether or not they are cost-effective. These issues need to be tested in clinical practice.

Programme Grants for Applied Research

ISSN 2050-4322 (Print)

ISSN 2050-4330 (Online)

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics (COPE) (www.publicationethics.org/).

Editorial contact: journals.library@nihr.ac.uk

The full PGfAR archive is freely available to view online at www.journalslibrary.nihr.ac.uk/pgfar. Print-on-demand copies can be purchased from the report pages of the NIHR Journals Library website: www.journalslibrary.nihr.ac.uk

Criteria for inclusion in the *Programme Grants for Applied Research* journal

Reports are published in *Programme Grants for Applied Research* (PGfAR) if (1) they have resulted from work for the PGfAR programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors.

Programme Grants for Applied Research programme

The Programme Grants for Applied Research (PGfAR) programme, part of the National Institute for Health Research (NIHR), was established in 2006 to fund collaborative, multidisciplinary programmes of applied research to solve health and social care challenges. Findings are expected to provide evidence that lead to clear and identifiable patient benefits, in the relatively near future.

PGfAR is researcher led and does not specify topics for research; however, the research must be in an area of priority or need for the NHS and the social care sector of the Department of Health and Social Care, with particular emphasis on health and social care areas that cause significant burden, where other research funders may not be focused, or where insufficient funding is available.

The programme is managed by the NIHR Central Commissioning Facility (CCF) with strategic input from the Programme Director. For more information about the PGfAR programme please visit the website: https://www.nihr.ac.uk/explore-nihr/funding-programmes/programme-grants-for-applied-research.htm

This report

The research reported in this issue of the journal was funded by PGfAR as project number RP-PG-0608-10163. The contractual start date was in September 2010. The final report began editorial review in October 2017 and was accepted for publication in January 2019. As the funder, the PGfAR programme agreed the research questions and study designs in advance with the investigators. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The PGfAR editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, CCF, NETSCC, PGfAR or the Department of Health and Social Care. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the PGfAR programme or the Department of Health and Social Care.

Copyright © 2022 Cordingley *et al.* This work was produced by Cordingley *et al.* under the terms of a commissioning contract issued by the Secretary of State for Health and Social Care. This is an Open Access publication distributed under the terms of the Creative Commons Attribution CC BY 4.0 licence, which permits unrestricted use, distribution, reproduction and adaption in any medium and for any purpose provided that it is properly attributed. See: https://creativecommons.org/licenses/by/4.0/. For attribution the title, original author(s), the publication source – NIHR Journals Library, and the DOI of the publication must be cited.

Published by the NIHR Journals Library (www.journalslibrary.nihr.ac.uk), produced by Prepress Projects Ltd, Perth, Scotland (www.prepress-projects.co.uk).

NIHR Journals Library Editor-in-Chief

Professor Ken Stein Professor of Public Health, University of Exeter Medical School, UK

NIHR Journals Library Editors

Professor John Powell Chair of HTA and EME Editorial Board and Editor-in-Chief of HTA and EME journals. Consultant Clinical Adviser, National Institute for Health and Care Excellence (NICE), UK, and Professor of Digital Health Care, Nuffield Department of Primary Care Health Sciences, University of Oxford, UK

Professor Andrée Le May Chair of NIHR Journals Library Editorial Group (HSDR, PGfAR, PHR journals) and Editor-in-Chief of HSDR, PGfAR, PHR journals

Professor Matthias Beck Professor of Management, Cork University Business School, Department of Management and Marketing, University College Cork, Ireland

Dr Tessa Crilly Director, Crystal Blue Consulting Ltd, UK

Dr Eugenia Cronin Consultant in Public Health, Delta Public Health Consulting Ltd, UK

Dr Peter Davidson Consultant Advisor, Wessex Institute, University of Southampton, UK

Ms Tara Lamont Senior Adviser, Wessex Institute, University of Southampton, UK

Dr Catriona McDaid Reader in Trials, Department of Health Sciences, University of York, UK

Professor William McGuire Professor of Child Health, Hull York Medical School, University of York, UK

Professor Geoffrey Meads Emeritus Professor of Wellbeing Research, University of Winchester, UK

Professor James Raftery Professor of Health Technology Assessment, Wessex Institute, Faculty of Medicine, University of Southampton, UK

Dr Rob Riemsma Reviews Manager, Kleijnen Systematic Reviews Ltd, UK

Professor Helen Roberts Professor of Child Health Research, Child and Adolescent Mental Health, Palliative Care and Paediatrics Unit, Population Policy and Practice Programme, UCL Great Ormond Street Institute of Child Health, London, UK

Professor Jonathan Ross Professor of Sexual Health and HIV, University Hospital Birmingham, UK

Professor Helen Snooks Professor of Health Services Research, Institute of Life Science, College of Medicine, Swansea University, UK

Professor Ken Stein Professor of Public Health, University of Exeter Medical School, UK

Professor Jim Thornton Professor of Obstetrics and Gynaecology, Faculty of Medicine and Health Sciences, University of Nottingham, UK

Please visit the website for a list of editors: www.journalslibrary.nihr.ac.uk/about/editors

Editorial contact: journals.library@nihr.ac.uk