A systematic review of the clinical effectiveness and cost-effectiveness of pharmacological and psychological interventions for the management of obsessive-compulsive disorder in children/adolescents and adults

Petros Skapinakis,¹* Deborah Caldwell,² William Hollingworth,² Peter Bryden,² Naomi Fineberg,³ Paul Salkovskis,⁴ Nicky Welton,² Helen Baxter,² David Kessler,² Rachel Churchill⁵ and Glyn Lewis¹

¹Division of Psychiatry, University College London, London, UK ²School of Social and Community Medicine, University of Bristol, Bristol, UK ³University of Hertfordshire and Hertfordshire Partnerships Mental Health Trust, Hatfield, UK ⁴Department of Psychology, University of Bath, Bath, UK ⁵Centre for Reviews and Dissemination, University of York, York, UK

*Corresponding author

Declared competing interests of authors: Professor Glyn Lewis is a board member of the National Institute for Health Research (NIHR) Efficacy and Mechanism Evaluation programme. Dr Naomi Fineberg reports grants and non-financial support from NIHR during the conduct of the study; grants, personal fees, non-financial support and other from Lundbeck (Copenhagen, Denmark); grants and personal fees from GlaxoSmithKline (London, UK); non-financial support from Novartis (Basel, Switzerland); other from Transcept Pharmaceuticals (Boston, MA, USA); grants, personal fees, non-financial support and other from Servier (Suresnes, France); grants, non-financial support and other from Cephalon (Frazer, PA, USA); grants and personal fees from AstraZeneca (London, UK); personal fees and non-financial support from the European College of Neuropsychopharmacology (Utrecht, the Netherlands); grants from the Medical Research Council (London, UK); grants from the Wellcome Foundation (London, UK); personal fees, non-financial support and other from Jazz Pharmaceuticals (Dublin, Ireland); personal fees and non-financial support from Bristol-Myers Squibb (New York, NY, USA); non-financial support and other from the Royal College of Psychiatrists (London, UK); non-financial support from Janssen (Beerse, Belgium); non-financial support from International College of Obsessive Compulsive Spectrum Disorders; non-financial support and other from British Association for Psychopharmacology, non-financial support from the Journal of Behavioural Addiction; and non-financial support from World Health Organization (Geneva, Switzerland) outside the submitted work, and is medical lead to a NHS service that provides treatment for treatment-refractory obsessive-compulsive and related

disorders, has been a Council member for the British Association for Psychopharmacology and sits on the Royal College of Psychiatrists Psychopharmacology Special Committee and the European College of Neuropsychopharmacology Education Committee and Research Network. Dr Deborah Caldwell reports grants from Medical Research Council Population Health Scientist fellowship (G0902118) during the conduct of the study.

Published June 2016 DOI: 10.3310/hta20430

Plain English summary

Interventions for obsessive–compulsive disorder Health Technology Assessment 2016; Vol. 20: No. 43 DOI: 10.3310/hta20430

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

Plain English summary

O bsessive-compulsive disorder (OCD) is a medical condition that affects 1–1.5% of the general population. It can begin in childhood. Several psychological therapies and drugs have been found to reduce symptoms and increase quality of life. Few studies, however, have directly compared these treatments. The current project assessed all treatment options for this condition. It aimed to establish if available treatments work equally well, taking into account their costs. Our review included 86 studies involving a total of over 8000 patients. In adults, we found that all treatments produced better results than an inactive pill. Specific psychological therapies were also more effective than non-specific therapy. Combinations of both drugs and therapy were also more effective than an inactive pill. Behavioural therapy and cognitive therapy showed a greater effect than drugs. However, there are many uncertainties regarding this difference. In children and adolescents, specific psychological therapies had greater effects than an inactive pill. The differences with non-specific psychological treatment or drugs were smaller. We may need to take into account the costs of treatments and the long-term results to make the best treatment options available. The findings of this review generally support the previously published guidelines on the management of OCD.

© Queen's Printer and Controller of HMSO 2016. This work was produced by Skapinakis *et al.* under the terms of a commissioning contract issued by the Secretary of State for Health. This issue may be freely reproduced for the purposes of private research and study and extracts (or indeed, the full report) may be included in professional journals provided that suitable acknowledgement is made and the reproduction is not associated with any form of advertising. Applications for commercial reproduction should be addressed to: NIHR Journals Library, National Institute for Health Research, Evaluation, Trials and Studies Coordinating Centre, Alpha House, University of Southampton Science Park, Southampton S016 TNS, UK.

Health Technology Assessment

ISSN 1366-5278 (Print)

ISSN 2046-4924 (Online)

Impact factor: 5.027

Health Technology Assessment is indexed in MEDLINE, CINAHL, EMBASE, The Cochrane Library and the ISI Science Citation Index.

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

Editorial contact: nihredit@southampton.ac.uk

The full HTA archive is freely available to view online at www.journalslibrary.nihr.ac.uk/hta. 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 Health Technology Assessment journal

Reports are published in *Health Technology Assessment* (HTA) if (1) they have resulted from work for the HTA programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors.

Reviews in *Health Technology Assessment* are termed 'systematic' when the account of the search appraisal and synthesis methods (to minimise biases and random errors) would, in theory, permit the replication of the review by others.

HTA programme

The HTA programme, part of the National Institute for Health Research (NIHR), was set up in 1993. It produces high-quality research information on the effectiveness, costs and broader impact of health technologies for those who use, manage and provide care in the NHS. 'Health technologies' are broadly defined as all interventions used to promote health, prevent and treat disease, and improve rehabilitation and long-term care.

The journal is indexed in NHS Evidence via its abstracts included in MEDLINE and its Technology Assessment Reports inform National Institute for Health and Care Excellence (NICE) guidance. HTA research is also an important source of evidence for National Screening Committee (NSC) policy decisions.

For more information about the HTA programme please visit the website: http://www.nets.nihr.ac.uk/programmes/hta

This report

The research reported in this issue of the journal was funded by the HTA programme as project number 10/104/41. The contractual start date was in November 2012. The draft report began editorial review in November 2014 and was accepted for publication in July 2015. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the draft 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, NETSCC, the HTA programme or the Department of Health. 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 HTA programme or the Department of Health.

© Queen's Printer and Controller of HMSO 2016. This work was produced by Skapinakis *et al.* under the terms of a commissioning contract issued by the Secretary of State for Health. This issue may be freely reproduced for the purposes of private research and study and extracts (or indeed, the full report) may be included in professional journals provided that suitable acknowledgement is made and the reproduction is not associated with any form of advertising. Applications for commercial reproduction should be addressed to: NIHR Journals Library, National Institute for Health Research, Evaluation, Trials and Studies Coordinating Centre, Alpha House, University of Southampton Science Park, Southampton SO16 7NS, UK.

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

Health Technology Assessment Editor-in-Chief

Professor Hywel Williams Director, HTA Programme, UK and Foundation Professor and Co-Director of the Centre of Evidence-Based Dermatology, University of Nottingham, UK

NIHR Journals Library Editor-in-Chief

Professor Tom Walley Director, NIHR Evaluation, Trials and Studies and Director of the EME Programme, UK

NIHR Journals Library Editors

Professor Ken Stein Chair of HTA Editorial Board and Professor of Public Health, University of Exeter Medical School, UK

Professor Andree Le May Chair of NIHR Journals Library Editorial Group (EME, HS&DR, PGfAR, PHR journals)

Dr Martin Ashton-Key Consultant in Public Health Medicine/Consultant Advisor, NETSCC, UK

Professor Matthias Beck Chair in Public Sector Management and Subject Leader (Management Group), Queen's University Management School, Queen's University Belfast, UK

Professor Aileen Clarke Professor of Public Health and Health Services Research, Warwick Medical School, University of Warwick, UK

Dr Tessa Crilly Director, Crystal Blue Consulting Ltd, UK

Dr Peter Davidson Director of NETSCC, HTA, UK

Ms Tara Lamont Scientific Advisor, NETSCC, UK

Professor Elaine McColl Director, Newcastle Clinical Trials Unit, Institute of Health and Society, Newcastle University, UK

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

Professor Geoffrey Meads Professor of Health Sciences Research, Health and Wellbeing Research and Development Group, University of Winchester, UK

Professor John Norrie Health Services Research Unit, University of Aberdeen, UK

Professor John Powell Consultant Clinical Adviser, National Institute for Health and Care Excellence (NICE), 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, UCL Institute of Child Health, 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 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 members of the NIHR Journals Library Board: www.journalslibrary.nihr.ac.uk/about/editors

Editorial contact: nihredit@southampton.ac.uk