Prevention and treatment of venous thromboembolism in hospital and the community: a research programme including the ExACT RCT

David Fitzmaurice,[1*] Kate Fletcher,[2] Sheila Greenfield,[2] Sue Jowett,[2] Alison Ward,[3] Carl Heneghan,[3] Eve Knight,[4] Chris Gardiner,[5] Andrea Roalfe,[2] Yongzhong Sun,[2] Pollyanna Hardy,[2] Deborah McCahon,[6] Gail Heritage,[2] Helen Shackleford[2] and FD Richard Hobbs[3]

[1]Unit of Academic Primary Care, Warwick Medical School, University of Warwick, Coventry, UK
[2]Institute of Applied Health Research, University of Birmingham, Birmingham, UK
[3]Nuffield Department of Primary Care Health Sciences, Medical Sciences Division, University of Oxford, Oxford, UK
[4]Anticoagulation UK, Bromley, UK
[5]Haemostasis Research Unit, Department of Haematology, University College London, London, UK
[6]Centre for Academic Primary Care, Bristol Medical School, University of Bristol, Bristol, UK

*Corresponding author d.fitzmaurice@warwick.ac.uk

Declared competing interests of authors: none

Disclaimer: This report contains transcripts of interviews conducted in the course of the research and contains language that may offend some readers.

Published May 2020
DOI: 10.3310/pgfar08050

Plain English summary

A research programme including the ExACT RCT

Programme Grants for Applied Research 2020; Vol. 8: No. 5
DOI: 10.3310/pgfar08050

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

Plain English summary

Blood clots often occur in the legs and the lungs, with up to 25,000 deaths every year in the UK from clots following a stay in hospital, with immobility, surgery and general ill health thought to be some of the reasons why these clots occur. Some people are at a very high risk of having a second clot, and the risk is highest in those people for whom no obvious cause for the clot can be found. Patients can develop problems with circulation, known as post-thrombotic syndrome. We do not know how to identify those people who will go on to have a further clot, and treatment of the first clot with blood-thinning drugs is usually stopped after 3 to 6 months. One reason why treatment is not continued is that the blood-thinning drugs can cause problems with bleeding. This research looked at different ways to prevent and treat clots in patients in whom there is no obvious cause for the clot.

The first work package looked at whether or not it is possible to stop further blood clots by increasing the duration of treatment with blood-thinning drugs. This work package also aimed to find out if we could identify those at the highest risk of developing post-thrombotic syndrome, experiencing swelling of the legs and, at worst, developing leg ulcers. We found that, by extending treatment with blood thinners for 2 years, it is possible to reduce the number of patients developing further clots, with a small increase in bleeding. The longer treatment did not prevent development of post-thrombotic syndrome. Patients preferred to be treated for longer.

The second work package aimed to understand what patients and health-care professionals know and understand about providing treatment to prevent blood clots, and whether or not there are any barriers to implementing this treatment. We identified five areas where improvements could be made: communication, knowledge, role of primary care, education and training, and barriers to patient adherence.

The third work package identified the most cost-effective ways of treating clots and stopping further clots. We concluded that extending treatment is cost-effective and results in better patient outcomes.

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-0608-10073. The contractual start date was in April 2010. The final report began editorial review in March 2018 and was accepted for publication in December 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.

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