Clinical effectiveness and cost-effectiveness of elemental nutrition for the maintenance of remission in Crohn’s disease: a systematic review and meta-analysis

Alexander Tsertsvadze, Tara Gurung, Rachel Court, Aileen Clarke and Paul Sutcliffe*

Warwick Evidence, Division of Health Sciences, Warwick Medical School, University of Warwick, Coventry, UK

*Corresponding author

Declared competing interests of authors: Aileen Clarke is a member of the NIHR HTA Editorial Board.

Published March 2015
DOI: 10.3310/hta19260

Plain English summary
Elemental nutrition for maintenance of remission in Crohn’s disease
Health Technology Assessment 2015; Vol. 19: No. 26
DOI: 10.3310/hta19260

NIHR Journals Library www.journalslibrary.nihr.ac.uk
Plain English summary

The objectives of this systematic review were to evaluate, appraise and summarise clinical benefits and cost-effectiveness of elemental nutrition for the maintenance of remission in patients with Crohn’s disease (CD). CD is a condition that causes chronic inflammation of the digestive tract and frequent symptoms including malnutrition, abdominal pain, diarrhoea and weight loss. The aim of treatment of CD is to reduce inflammation/clinical symptoms, maintain remission (i.e. disease-free, reduced clinical symptoms, limited disease state) and prevent complications. One of the treatment options used for the management of CD is elemental nutrition, a form of liquid diet consisting of food components, amino acids (as broken-down proteins), sugars, fat, vitamins and minerals.

Relevant studies for this review were searched in major databases, websites of relevant organisations and references of included studies. This review included eight short-term comparative studies. According to results of five small studies, elemental nutrition was more beneficial than an unrestricted diet for the maintenance of disease-free or limited disease state in the short term. Results regarding the benefits of elemental nutrition compared with standard immunosuppressive and anti-inflammatory drugs (mercaptopurine, infliximab, prednisolone) or polymeric nutrition (another type of liquid diet which contains whole proteins) were uncertain and, therefore, inconclusive. There was insufficient information on adverse events and complications.

This review identified limitations of individual studies (small samples, short follow-up, bias) and gaps in evidence (no economic evaluation studies, no studies in children with remission). Future large and long-term well-designed and conducted studies are warranted to draw more definitive conclusions regarding the effects of elemental nutrition in maintaining remission in CD.
Editor-in-Chief of *Health Technology Assessment* and NIHR Journals Library

Professor Tom Walley  Director, NIHR Evaluation, Trials and Studies and Director of the HTA 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, Faculty of Education, University of Winchester, 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 Helen Snooks  Professor of Health Services Research, Institute of Life Science, College of Medicine, Swansea University, 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