The West Midlands ActiVe lifestyle and healthy Eating in School children (WAVES) study: a cluster randomised controlled trial testing the clinical effectiveness and cost-effectiveness of a multifaceted obesity prevention intervention programme targeted at children aged 6–7 years


1Institute of Applied Health Research, University of Birmingham, Birmingham, UK
2Institute of Cancer and Genomic Sciences, University of Birmingham, Birmingham, UK
3Edinburgh Migration, Ethnicity and Health Research Group, Usher Institute of Population Health Sciences and Informatics, University of Edinburgh, Edinburgh, UK
4Faculty of Mathematics and Physical Sciences, School of Food Science and Nutrition, University of Leeds, Leeds, UK
5Clinical Trials Unit, University of Warwick, Warwick, UK
6School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, Birmingham, UK
7Medical Research Council (MRC) Epidemiology Unit, Cambridge, UK
8Norwegian School of Sport Sciences, Oslo, Norway
9Birmingham Community Healthcare NHS Trust, Birmingham, UK
10Services for Education, Birmingham, UK

*Corresponding author p.adab@bham.ac.uk
Declared competing interests of authors: Peymane Adab reports grants from the National Institute for Health Research (NIHR) Health Technology Assessment (HTA) programme, the NIHR Public Health Research (PHR) programme, the Wellcome Trust, the National Prevention Research Initiative, the China Medical Board and Yong Ning Pharmaceuticals Ltd, during the conduct of the study; she is a topic expert committee member for the National Institute for Health and Care Excellence (NICE)’s Public Health Advisory Committee ‘Maintaining a healthy weight and preventing excess weight gain among children and adults’, an expert member on the NICE Programme Development group on ‘Lifestyle weight management services for overweight and obese children and young people’ and a member of the PHR Research Funding Board.

Janet E Cade reports grants from the development of (1) other dietary assessment tools and (2) a website to support improved dietary assessment, outside the submitted work. In addition, she has a patent on other dietary assessment tools (not the one used here) licensed, and the University of Leeds is planning a spin-out company based on other work supporting dietary assessment tools (myfood24) – this was not used in the study reported here. Paramjit Gill reports grants from the NIHR HTA programme, the NIHR Programme Grants for Applied Research (PGfAR) programme, the NIHR Efficacy and Mechanism Evaluation programme and the Medical Research Council during the conduct of the study; he is a trustee of the charity South Asian Health Foundation and a director of the NICE National Collaborating Centre for Indicator Development, which develops and pilots quality indicators, including lifestyle, which may be implemented through the UK Quality and Outcomes Framework. Emma R Lancashire reports grants from the NIHR HTA programme during the conduct of the study. Eleanor McGee reports grants from the University of Birmingham outside the submitted work during the conduct of the study. Miranda J Pallan reports grants from the NIHR HTA programme and Yong Ning Pharmaceuticals Ltd outside the submitted work. Jayne Parry reports personal fees from the NIHR PGfAR programme outside the submitted work. Sandra Passmore received funding from the Mondelez International Foundation for Health for Life in primary school programme to develop healthy lifestyles among children and their families and is a consultant with Birmingham City Council Public Health on childhood obesity. Jonathan Deeks is a member of the HTA Commissioning Strategy Group and the HTA Commissioning Board and is chairperson of the HTA Efficient Study Designs-2 Board; he is also an investigator on several NIHR HTA programme grants.

Published February 2018
DOI: 10.3310/hta22080

Plain English summary

The WAVES RCT
Health Technology Assessment 2018; Vol. 22: No. 8
DOI: 10.3310/hta22080

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

Excess weight in children is associated with health, emotional and social problems. Schools offer an opportunity to promote healthy lifestyles.

This study tested whether or not a programme of activities could prevent excess weight gain in primary school children. Fifty-four schools in the West Midlands participated, with 1397 year 1 pupils (aged 5–6 years) being involved in study measurements. The WAVES (West Midlands ActiVe lifestyle and healthy Eating in School children) study healthy lifestyle programme was delivered over the next school year to children in 26 of the schools. The 1-year programme included:

- helping teachers to provide opportunities for an additional 30 minutes of physical activity (PA) in the school day
- participation in the ‘Villa Vitality’ programme (interactive learning led by Aston Villa Football Club with practical opportunities for PA and healthy eating)
- termly healthy cooking skills and education workshops for parents and children
- information to families signposting local PA opportunities.

The remaining 28 schools continued with their usual activities.

We assessed height, weight and other measures of body fat in all participating children. We also measured the children’s diet, PA levels and well-being. We took these measures before programme delivery, and again 3, 18 and 27 months after the end of the programme.

Overall, we found no major difference in any measurements between children in schools with and children in schools without the WAVES study programme. The programme was not cost-effective. However, there were no safety concerns, the programme was well received by schools and families and it was perceived to have wider benefits.
Health Technology Assessment

ISSN 1366-5278 (Print)
ISSN 2046-4924 (Online)
Impact factor: 4.236

Health Technology Assessment is indexed in MEDLINE, CINAHL, EMBASE, The Cochrane Library and the Clarivate Analytics 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: journals.library@nihr.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 06/85/11. The contractual start date was in November 2010. The draft report began editorial review in May 2016 and was accepted for publication in September 2016. 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 2018. This work was produced by Adab 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 and EME Editorial Board and Professor of Public Health, University of Exeter Medical School, UK

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

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

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  Senior Scientific Advisor, Wessex Institute, UK

Dr Peter Davidson  Director of the NIHR Dissemination Centre, University of Southampton, UK

Ms Tara Lamont  Scientific Advisor, NETSCC, UK

Dr Catriona McDaid  Senior Research Fellow, York Trials Unit, 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  Professor of Wellbeing Research, University of Winchester, UK

Professor John Norrie  Chair in Medical Statistics, University of Edinburgh, 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

Professor Martin Underwood  Director, Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, 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:  journals.library@nihr.ac.uk