Public Health Nutrition



Fundación Dieta Mediterránea Selected Conference Proceedings of the VIIIth Barcelona International Congress on the Mediterranean Diet, Barcelona, Spain, 24–25th March 2010

Organised by: Mediterranean Diet Foundation

Special Issue Editors: Lluis Serra Majem, Anna Bach-Faig, Gemma Miranda and Carmen Clapes-Badrinas



Public Health Nutrition

Volume 14, 2011 ISSN: 1368–9800 Twelve issues per year

Aims and Scope

Public Health Nutrition provides an international forum for the publication and dissemination of research and scholarship in the form of peer-reviewed original papers and reviews, and for discussion in the form of editorials, commentaries, and correspondence, with a specific focus on nutrition-related public health.

The scope of *Public Health Nutrition* includes food systems and supplies, patterns of diet, foods and drinks, nutrients, body composition, physical activity, and associated factors, and their effects on disease, health and well-being, and the whole living and physical world. We welcome papers that:

- Address nutritional status assessment, monitoring, and surveillance
- Identify and analyse social, cultural, biological, environmental, economic and political determinants of nutrition-related public health
- Build intelligence about the development and evaluation of environmental and settings-based interventions focused on the availability of foods including interventions in the out of home eating environment.

Editor-in-Chief

Deputy Editors

Dr Irja Haapala

Advisory Board

Professor Agneta Yngve

NO 0130 Oslo, Norway

San Luis Obispo, USA

Email: phn@nutsoc.org.uk

Department of Health, Nutrition and Management, Faculty of Health Sciences,

Oslo and Akershus University College of Applied Sciences, Postbox 4, St. Olavsplass,

Research Professor Marilyn Tseng

California Polytechnic State University

University of Eastern Finland, Finland

Professor Barbara Ainsworth, Arizona

Professor Emeritus Leif Hambraeus, Karolinska Institutet, Sweden

Professor Heizo Tanaka, Kanagawa

Institute of Technology, Japan
Professor Hester Vorster, North-West

Professor Janet Čade, University of Leeds, UK

Professor Carlos A Monteiro, University of

Professor Kerin O'Dea, University of South

Dr Faruk Ahmed, Kuwait University, Kuwait

Dr Allison Hodge University of Melbourne, Australia

State University, USA

São Paulo, Brazil

Australia, Australia

First Editors

Professor Kylie Ball

Dr Mary Barker,

University, South Africa

Deakin University, Australia

Baylor College of Medicine, USA

University of Southampton, UK

University of Sao Paulo, Brazil

Dr Victoria Burley, University of Leeds, UK

Associate Professor Marly A. Cardoso,

Professor Thomas Baranowski

- Describe, discuss, debate and influence food and nutrition policy
- Focus on improving food and nutrition-related public health, particularly in populations that are most vulnerable and at risk.
- Discuss and build capacity for effective public health nutrition action, including workforce development and educational issues
- Develop and test innovative and emerging models, methods and approaches to public health nutrition practice and research.

We prefer papers that are innovative and contribute new knowledge to the literature. Papers should be succinct (ie, usually well under 5,000 words including references). Short communications are welcome. We publish research, scholarship, and discussions that take a population and preventive approach. In addition to original contributions, ideas and suggestions for topics for debate are also welcome. We publish special issues.

Public Health Nutrition is available on the Internet at: journals.cambridge.org/phn

International Editorial Board

Dr Junshi Chen, Institute of Nutrition and Food Hygiene, China

Professor David Crawford, Deakin University, Australia

Dr Ilse de Bourdeaudhuij, Ghent University, Belgium

Associate Professor Eva-Charlotte Ekström, Uppsala University, Sweden

Associate Professor Lia Fernald
University of California, Berkeley, USA

Dr Mikael Fogelholm, Academy of Finland, Finland

Dr Oliver Gillie, Health Research Forum, UK Associate Professor Ingibjorg Gunnarsdottir, University of Iceland, Iceland

Dr Russell Jago, University of Bristol, UK Dr Pagona Lagiou, University of Athens Medical School, Greece

Professor Christel Lamberg-Allardt University of Helsinki, Finland

Associate Professor Mark Lawrence, Deakin University, Australia

Professor Lauren Lissner, University of Gothenburg, Sweden Dr Satu Männistö, National Institute for

Dr Satu Männistö, National Institute for Health and Welfare, Finland

Associate Professor Geoffrey Marks University of Queensland, Australia

Ms Kaye Mehta, Flinders University, Australia Professor Bent Egberg Mikkelsen,

Aalborg University, Denmark

Associate Professor Annhild Mosdøl,
Oslo and Akershus University College

Oslo and Akershus University College of Applied Sciences, Norway

Assistant Professor Aydin Nazmi, California Polytechnic State University, USA

Dr Carmen Perez-Rodrigo, Unidad de Nutrición Comunitaria, Spain Dr Kelley Pettee Gabriel, University of Texas

Health Science Center, USA

Dr Shobha Rao, Agharkar Research Institute, India Dr Aiguo Ren, Peking University, China Dr David Roberts, Independent Consultant, Australia

Dr Eva Roos, Folkhälsan Research Institute, Finland

Professor Jaap Seidell, VU University, The Netherlands

Professor Lluis Serra-Majem, University of Las Palmas de Gran Canaria, Spain

Professor Sangita Sharma, University of Alberta, Canada

Professor Rosely Sichieri, State University of Rio de Janeiro, Brazil

Dr Nelia Steyn, Human Sciences Research Council, RSA

Professor Birgitta Strandvik Karolinska Institutet, Sweden

Professor Inga Thorsdottir, University of Iceland, Iceland

Dr Anna Timperio, Deakin University, Australia Dr Katherine Tucker, Jean Mayer USDA

HNRCA at Tufts University, USA

Dr Megumi Utsugi. National Institute of

Dr Megumi Utsugi, National Institute of Health and Nutrition, Japan

Dr Joop van Raaij, National Institute for Public Health and the Environment (RIVM), Netherlands

Professor Maria Daniel Vaz de Almeida, Porto University, Portugal

Dr Eduardo Villamor, University of Michigan School of Public Health, USA

Dr Karen Z Walker, Monash University, Australia

Professor Susan Walker, University of the West Indies, Jamaica

Dr Christopher Wharton, Arizona State University, USA

Associate Professor Elisabet Wirfalt, Lund University, Sweden

The Nutrition Society

The society has as its objective the advancement of the scientific study of nutrition and its application to the maintenance of human and animal health.

Particulars of The Nutrition Society and application forms for membership are available from the Honorary Secretary, The Nutrition Society, 10 Cambridge Court, 210 Shepherds Bush Road, London W6 7NJ, UK.

Telephone +44 (0)20 7602 0228, Fax +44 (0)20 7602 1756

The Nutrition Society home page is at: http://www.nutritionsociety.org

Selected Conference Proceedings of the VIIIth Barcelona International Congress on the Mediterranean Diet, Barcelona, Spain, 24–25th March 2010

Organised by: Mediterranean Diet Foundation

Special issue editors: Lluís Serra-Majem, Anna Bach-Faig, Gemma Miranda and Carmen Clapes-Badrinas

This special issue is co-sponsored by







