

CAMBRIDGE

JOURNALS

JNS

JOURNAL OF NUTRITIONAL SCIENCE

Editor-in-Chief

G C Burdge, *University of Southampton, UK*



 **Cambridge
Open**

Journal of Nutritional Science encompasses the full spectrum of nutritional science including public health nutrition, epidemiology, dietary surveys, nutritional requirements, metabolic studies, body composition, energetics, appetite, obesity, ageing, endocrinology, immunology, neuroscience, microbiology, genetics and molecular and cell biology. The Nutrition Society fully engages with the Open Access model of publishing.

journals.cambridge.org/jns

Submit your article online
jnutsci.msubmit.net

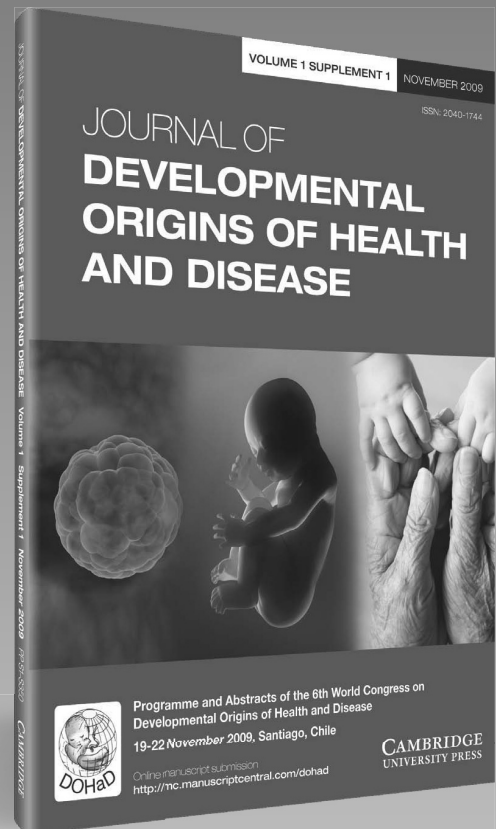
Register for free content alerts
journals.cambridge.org/jns-alerts

 **THE
NUTRITION
SOCIETY**
Advancing Nutritional Science

 **CAMBRIDGE
UNIVERSITY PRESS**

Discover the benefits of *JDOHaD* on Cambridge Journals Online (CJO)

- Register for content alerts and receive notification when new articles are published online
journals.cambridge.org/doh-alerts
- Save searches
- Search across Cambridge Books Online (CBO) and Cambridge Journals Online (CJO) simultaneously using our new faceted search functionality
- Register for updates on new developments and sample content from your 'favourite journals'
- Easily download citations to reference management software
- Access CJO on your mobile: CJOm is optimised for smart phones and other small mobile devices



Members of DOHaD receive free access to the Journal.

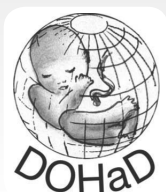
If you have any problems setting up your online access please contact:
journals_societies@cambridge.org

Submit your research to JDOHaD

The Journal covers all aspects of research in developmental origins of health and disease (DOHaD) – from basic molecular research to health and disease outcomes, translation into policy and wider social and ethical issues.

- Global Editorial Board
- Dissemination of your research to over 5,000 libraries worldwide, including access through aid donation schemes
- Efficient online manuscript submission and tracking at ScholarOne™ Manuscripts
- *FirstView* publication of articles online ahead of issue and print allocation
- Generous copyright policies, compliant with all the major funding bodies
- State-of-the-art online hosting
- Forward reference linking
- Permanent record through DOI/CrossRef
- No submission or page charges
- Authors receive a free pdf of the final article

mc.manuscriptcentral.com/dohad



journals.cambridge.org/doh



**CAMBRIDGE
UNIVERSITY PRESS**

CAMBRIDGE

JOURNALS

NRR

NUTRITION RESEARCH REVIEWS

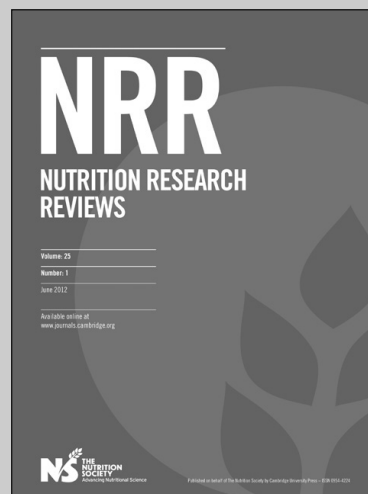
Editor-in-Chief

Jayne V. Woodside, *Queen's University, Belfast, UK*

Nutrition Research Reviews offers a comprehensive overview of nutritional science today. By distilling the latest research and linking it to established practice, the journal consistently delivers the widest range of in-depth articles in the field of nutritional science and has done so for the past twenty-one years. It presents up-to-date, concise and critical reviews of key topics in nutrition science, advancing new concepts and hypotheses that encourage the exchange of fundamental ideas on nutritional well-being in both humans and animals.

Submit your article online
nrr.msubmit.net

Register for free content alerts
journals.cambridge.org/nrr-alerts



**Impact Factor
5.5**

Ranked **4/76**
Nutrition and Dietics

2012 Journal Citation Reports®
Thomson Reuters

To subscribe contact
Customer Services

Cambridge:

Phone +44 (0)1223 326070
Fax +44 (0)1223 325150
journals@cambridge.org

New York:

Phone +1 (845) 353 7500
Fax +1 (845) 353 4141
subscriptions_newyork@cambridge.org



**CAMBRIDGE
UNIVERSITY PRESS**

CAMBRIDGE

JOURNALS

PHN

PUBLIC HEALTH NUTRITION

Editor-in-Chief

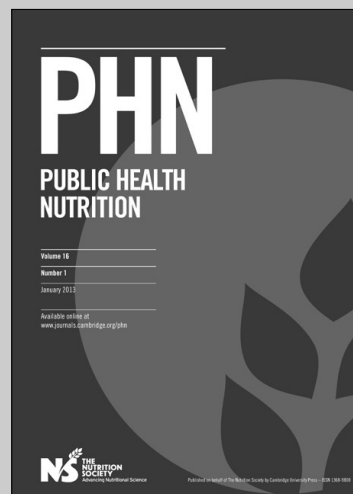
Marilyn Tseng, *California Polytechnic State University, USA*

Public Health Nutrition provides an international peer-reviewed forum for the publication and dissemination of research and scholarship aimed at understanding the causes of, and approaches and solutions to, nutrition-related public health achievements, situations and problems around the world. The journal publishes original and commissioned articles, commentaries and discussion papers for debate.

journals.cambridge.org/phn

Submit your article online
phn.msubmit.net

Register for free content alerts
journals.cambridge.org/phn-alerts



Impact Factor
2.25

Ranked **47/158**
Public,
Environmental and
Occupational Health

Ranked **34/76**
Nutrition and Dietics

2012 Journal Citation Reports®
Thomson Reuter

To subscribe contact
Customer Services

Cambridge:

Phone +44 (0)1223 326070
Fax +44 (0)1223 325150
journals@cambridge.org

New York:

Phone +1 (845) 353 7500
Fax +1 (845) 353 4141
subscriptions_newyork@cambridge.org



CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE

JOURNALS

PNS

PROCEEDINGS OF THE NUTRITION SOCIETY

Editor-in-Chief

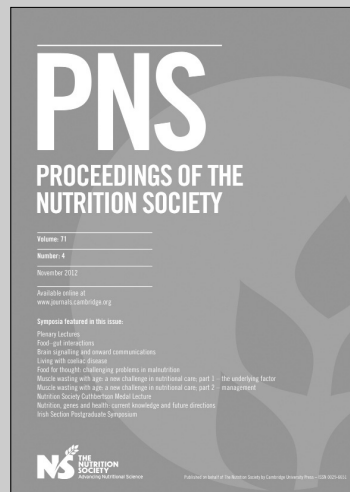
Maria O'Sullivan

Trinity College Medical Centre, Republic of Ireland

Proceedings of the Nutrition Society publishes papers and abstracts presented by members and invited speakers at the scientific meetings of The Nutrition Society. The journal provides an invaluable record of the scientific research currently being undertaken, contributing to 'the scientific study of nutrition and its application to the maintenance of human and animal health.'

journals.cambridge.org/pns

Register for free content alerts
journals.cambridge.org/pns-alerts



Impact Factor
3.674

Ranked **14/76**
Nutrition and Dietics

2012 Journal Citation Reports®
Thomson Reuters

To subscribe contact
Customer Services

Cambridge:

Phone +44 (0)1223 326070
Fax +44 (0)1223 325150
journals@cambridge.org

New York:

Phone +1 (845) 353 7500
Fax +1 (845) 353 4141
subscriptions_newyork@cambridge.org



CAMBRIDGE
UNIVERSITY PRESS

Directions to Contributors can be found at journals.cambridge.org/bjn

British Journal of Nutrition

Volume 114, 2015 ISSN: 0007-1145

Publishing, Production, Marketing, and Subscription Sales Office:

Cambridge University Press,
Journals Fulfillment Department,
UPH, Shaftesbury Road,
Cambridge CB2 8BS, UK

For Customers in North America:

Cambridge University Press
Journals Fulfillment Department
100 Brook Hill Drive
West Nyack
New York 10994-2133
USA

Publisher: Katy Christomanou

Special sales and supplements:

This Journal accepts relevant advertisements and inserts. We also provide bulk reprints of suitable papers to meet teaching or promotional requirements. The journal also publishes supplements on behalf of academic and corporate collaborators. Please contact Sarah Maddox at the Cambridge address for further details. E-mail: special_sales@cambridge.org

Subscription information:

British Journal of Nutrition is an international journal published by Cambridge University Press on behalf of The Nutrition Society. The twelve issues starting January 2015 comprise Volume 113, the twelve issues starting July 2015 comprise Volume 114.

Annual subscription rates:

Volumes 113/114 (24 issues):
Internet/print package £1575/\$3071/€2523
Internet only: £1094/\$2134/€1748

Any **supplements** to this journal published in the course of the annual volume are normally supplied to subscribers at no extra charge.

Back volumes are available. Please contact Cambridge University Press for further information.

Claims for non-receipt of journal issues will be considered on their merit and only if the claim is received within six months of publication. Replacement copies supplied after this date will be chargeable.

US POSTMASTERS: please send address corrections to *British Journal of Nutrition*, Cambridge University Press, 100 Brook Hill Drive, West Nyack, New York 10994-2133.

Directions to Contributors are available from the Society at the address below or can be found on the Society's website at <http://www.nutritionociety.org>.

Offprints: The author (or main author) of an accepted paper will receive a copy of the PDF file of their article. There will be an option to purchase paper offprints, these should be ordered at proof stage. No page charges are levied by this journal.

Copyright: As of 1 July 2000 the copyright of all articles submitted to *British Journal of Nutrition* are retained by the authors or their institutions. For articles prior to this date permission for reproduction of any part of the journal (text, figures, tables or other matter) in any form (on paper, microfiche or electronically) should be sought directly from the Society, at: The Publications Office, The Nutrition Society, 10 Cambridge Court, 210 Shepherds Bush Road, Hammersmith, London W6 7NJ, UK.

Disclaimer: The information contained herein, including any expression of opinion and any projection or forecast, has been obtained from or is based upon sources believed by us to be reliable, but is not guaranteed as to accuracy or completeness. The information is supplied without obligation and on the understanding that any person who acts upon it or otherwise changes his/her position in reliance thereon does so entirely at his/her own risk. Neither the Society nor Cambridge University Press accepts responsibility for any trade advertisement included in this publication.

This journal is printed on acid-free paper from renewable sources. Printed in the UK by Bell & Bain Ltd., Glasgow.

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see www.fsc.org for information.

British Journal of Nutrition is covered in Current Contents®/Agriculture, Biology & Environmental Sciences, SciSearch®, Research Alert®, Current Contents®/Life Sciences, Index Medicus® (MEDLINE®), AGRICOLA®, CAB Abstracts™, Global Health, BIOSIS® Database, EMBASE/Excerpta Medica and Elsevier BIOBASE/Current Awareness in Biological Sciences, CINAHL, and Chemical Abstracts Service.

Invited Commentary

Nutrition, immunity and human health
G. T. Rijkers 1329-1330

Systematic Reviews

Comparative validity of vitamin C and carotenoids as indicators of fruit and vegetable intake: a systematic review and meta-analysis of randomized controlled trials
M. Pennant, M. Steur, C. Moore, A. Butterworth & L. Johnson 1331-1340

Dietary patterns and CVD: a systematic review and meta-analysis of observational studies
M. Rodríguez-Monforte, G. Flores-Mateo & E. Sánchez 1341-1359

Determinants of parathyroid hormone response to vitamin D supplementation: a systematic review and meta-analysis of randomised controlled trials
N. Moslehi, S. Shab-Bidar, P. Mirmiran, F. Hosseiniapanah & F. Azizi 1360-1374

Molecular Nutrition

Vitamin D receptor *Cdx-2*-dependent response of central obesity to vitamin D intake in the subjects with type 2 diabetes: a randomised clinical trial
S. Shab-Bidar, T. R. Neyestani & A. Djazayeri 1375-1384

Oral administration of veratric acid, a constituent of vegetables and fruits, prevents cardiovascular remodelling in hypertensive rats: a functional evaluation
M. Saravanakumar, B. Raja, J. Manivannan, T. Silambarasan, P. Prahalathan, S. Kumar & S. K. Mishra 1385-1394

Kojibiose ameliorates arachidic acid-induced metabolic alterations in hyperglycaemic rats
J. Moisés Laparra, M. Díez-Munición, F. Javier Moreno & M. Herrero 1395-1402

Metabolism and Metabolic Studies

Comparison of availability and plasma clearance rates of β -hydroxy- β -methylbutyrate delivery in the free acid and calcium salt forms
J. C. Fuller Jr, R. L. Sharp, H. F. Angus, P. Y. Khoo & J. A. Rathmacher 1403-1409

Nutritional Endocrinology

Rapid increase in fibroblast growth factor 21 in protein malnutrition and its impact on growth and lipid metabolism
Y. Ozaki, K. Saito, K. Nakazawa, M. Konishi, N. Itoh, F. Hakuno, S.-I. Takahashi, H. Kato & A. Takenaka 1410-1418

Human and Clinical Nutrition

Effects of sodium and potassium supplementation on endothelial function: a fully controlled dietary intervention study
L. Gijsbers, J. I. Dower, C. G. Schalkwijk, Y. H. A. M. Kusters, S. J. L. Bakker, P. C. H. Hollman & J. M. Geleijnse 1419-1426

The effects of chronic *trans*-resveratrol supplementation on aspects of cognitive function, mood, sleep, health and cerebral blood flow in healthy, young humans
E. L. Wightman, C. F. Haskell-Ramsay, J. L. Reay, G. Williamson, T. Dew, W. Zhang & D. O. Kennedy 1427-1437

A randomised trial of a medium-chain TAG diet as treatment for dogs with idiopathic epilepsy
T. H. Law, E. S. S. Davies, Y. Pan, B. Zanghi, E. Want & H. A. Volk 1438-1447

Dietary Surveys and Nutritional Epidemiology

Replacing sugary drinks with milk is inversely associated with weight gain among young obesity-predisposed children
M. Zheng, A. Rangan, M. Allman-Farinelli, J. F. Rohde, N. J. Olsen & B. L. Heitmann 1448-1455

Folic acid supplements and risk for oral clefts in the newborn: a population-based study
T. Gildestad, T. Bjørge, S. E. Vollset, K. Klungsoyr, R. M. Nilsen, Ø. A. Haaland & N. Øyen 1456-1463

Does the importance of dietary costs for fruit and vegetable intake vary by socioeconomic position?
J. D. Mackenbach, S. Brage, N. G. Frouhi, S. J. Griffin, N. J. Wareham & P. Monsivais 1464-1470

Dietary inflammatory index, cardiometabolic conditions and depression in the Seguimiento Universidad de Navarra cohort study
A. Sánchez-Villegas, M. Ruiz-Canela, C. de la Fuente-Arillaga, A. Gea, N. Shivappa, J. R. Hébert & M. A. Martínez-González 1471-1479

Total, insoluble and soluble dietary fibre intake in relation to blood pressure: the INTERMAP Study
G. S. Aljuraiban, L. M. O. Griep, Q. Chan, M. L. Daviglius, J. Stamler, L. Van Horn, P. Elliott & G. S. Frost 1480-1486

The relationship between iodine nutrition and thyroid disease in lactating women with different iodine intakes
L. Liu, D. Wang, P. Liu, F. Meng, D. Wen, Q. Jia, J. Liu, X. Zhang, P. Jiang & H. Shen 1487-1495

Dietary flavonoid intakes and CVD incidence in the Framingham Offspring Cohort
P. F. Jacques, A. Cassidy, G. Rogers, J. J. Peterson & J. T. Dwyer 1496-1503

Behaviour, Appetite and Obesity

A qualitative study exploring pupil and school staff perceptions of school meal provision in England
R. E. Day, P. Sahota, M. S. Christian & K. Cocks 1504-1514

Neonatal low-protein diet reduces the masticatory efficiency in rats
K. N. Ferraz-Pereira, R. da Silva Aragão, D. Verdier, A. E. Toscano, D. C. Lacerda, R. Manhães-de-Castro & A. Kolta 1515-1530

Letter to the Editor

Plant microbiota: implications for human health
L. von Hertzen 1531-1532

Errata/Corrigenda

Supplementation of xanthophylls decreased proinflammatory and increased anti-inflammatory cytokines in hens and chicks – CORRIGENDUM
Y.-Y. Gao, Q.-M. Xie, L. Jin, B.-L. Sun, J. Ji, F. Chen, J.-Y. Ma & Y.-Z. Bi 1533-1533

Total, insoluble and soluble dietary fibre intake in relation to blood pressure: the INTERMAP Study – CORRIGENDUM
G. S. Aljuraiban, L. M. O. Griep, Q. Chan, M. L. Daviglius, J. Stamler, L. Van Horn, P. Elliott & G. S. Frost 1534-1534

Rapid increase in fibroblast growth factor 21 in protein malnutrition and its impact on growth and lipid metabolism – ERRATUM
Y. Ozaki, K. Saito, K. Nakazawa, M. Konishi, N. Itoh, F. Hakuno, S.-I. Takahashi, H. Kato & A. Takenaka 1535-1536

Natto and viscous vegetables in a Japanese-style breakfast improved insulin sensitivity, lipid metabolism and oxidative stress in overweight subjects with impaired glucose tolerance – CORRIGENDUM
A. Taniguchi-Fukatsu, H. Yamanaka-Okumura, Y. Naniwa-Kuroki, Y. Nishida, H. Yamamoto, Y. Taketani & E. Takeda 1537-1537

Cambridge Journals Online For further information about this journal please go to the journal website at: journals.cambridge.org/bjn Invited Commentary