

# Public Health Nutrition

Volume 24, 2021 ISSN: 1368-9800  
journals.cambridge.org/phn

## **Publishing, Production, Marketing, and Subscription Sales Office:**

Cambridge University Press  
Journals Fulfillment Department  
University Printing House  
Shaftesbury Road  
Cambridge CB2 8BS  
UK

## **For Customers in North America:**

Cambridge University Press  
1 Liberty Plaza  
Floor 20, New York  
NY 10006  
USA

## **Special sales and supplements**

This journal accepts advertising and inserts. We also provide bulk reprints of suitable papers to meet teaching or promotional requirements. The journal also publishes supplementary material including conference proceedings on behalf of academic and corporate sponsors. Please contact Sarah Maddox at Cambridge University Press for further details (email: smaddox@cambridge.org).

## **Subscription information**

*Public Health Nutrition* is an international journal published 18 times per year by Cambridge University Press on behalf of the Nutrition Society. The online edition is available at journals.cambridge.org/PHN, with free table of contents alert (upon registration).

## **Annual subscription rates**

Volume 24, 2021 (18 issues):  
Internet/print package: £1390/\$2666 Americas only/€2227 EU only  
Internet only: £1006/\$1909 Americas only/€1599 EU only

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

**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.

**Advertising:** The Nutrition Society is willing to include advertisements in its journals. However, it will retain the right to make decisions on which advertisements are acceptable and which are not, and will not be obliged to give reasons to prospective

advertisers for its decisions. The appearance of an advertisement in the Society's journals does not imply endorsement by the Society. For further details, please contact Cambridge University Press.

**Back volumes** will be available in due course. Please contact Cambridge University Press for further information.

**US POSTMASTERS:** Please send address corrections to Cambridge University Press  
1 Liberty Plaza  
Floor 20, New York  
NY 10006  
USA

**Notes for Authors** are available from the publisher at the given address and can be found inside the back cover.

**Offprints:** The author (or main author) of an accepted paper will receive a free PDF of their paper. Additional offprints are available for a fee and must be ordered at proof stage. **No page charges are levied by this journal.**

**Copyright:** As of 1 January 2001 the copyright of all articles submitted to *Public Health 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 Editorial 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 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](http://www.fsc.org) for information. Typeset by Macmillan India Limited, Bangalore, India and Printed in Europe by Bell and Bain, Glasgow.

*Public Health Nutrition* is covered in Science Citation Index Expanded (Web of Science), Current Contents, Agriculture, Biology & Environmental Sciences, Current Contents, Clinical Medicine, CAB ABSTRACTS<sup>®</sup>, Global Health, Index Medicus<sup>®</sup> (MEDLINE<sup>®</sup>), EMBASE, Excerpta Medica, BIOSIS<sup>®</sup> Database and CINAHL<sup>®</sup> Database  
*Public Health Nutrition* participates in the following initiatives: HINARI by WHO and AGORA by FAO.

*Public Health Nutrition (PHN)* provides a forum for the presentation of original research findings and high quality reviews of key topics, and for discussion of and debate on of current issues and controversies. It also publishes special issues on major topics of interest. Our field includes research, scholarship, and discussions on public health nutrition, that take a population, health promoting and preventive approach. Papers that do not have this emphasis may be directed to more appropriate journals. Potential contributors are encouraged to read the aims and scope of the journal, and to note and follow the guidelines set out below.

## Content:

- **Original research findings and scientific reviews** are published as full papers usually less than 5000 words, not including the abstract, references, tables, figures and acknowledgements.
- **Editorials** express the opinion of the journal, as represented by its central editorial team, on topics judged by them to be important. Editorials, including guest editorials, are usually co-ordinated and developed by the editorial team.
- **Position papers**, including declarations and other statements of policy, may be invited or unsolicited.
- **Invited commentaries and book reviews** are expressions of opinion on a topical subject. These are commissioned by the members of the editorial team.
- **Letters to the Editors** are usually in response to material published in *PHN*. Submissions are sent to the author for comment and, when possible, published together with the author's reply.

**Submission:** PHN operates an online submission and reviewing system. All manuscripts should be submitted to <http://mc.manuscriptcentral.com/phnutr>. Please contact the Editorial Office on [phn.edoffice@cambridge.org](mailto:phn.edoffice@cambridge.org) regarding any other types of submission.

**Refereeing:** Review articles and articles reporting original research are subject to external review by two or more referees who evaluate manuscripts based on their importance, relevance, and originality. Authors are asked to submit names and contact details (including email address) of up to four potential referees. All other contributions (editorials, position papers, invited commentaries, book reviews, and letters to the Editors) undergo an internal review process by at least two members of the editorial team. Invited commentaries and book reviews may also be checked externally as necessary to avoid technical errors and to improve salience.

**Copyright:** At the time of acceptance, authors will be asked to provide a completed copy of the 'Licence to Publish' (in lieu of copyright transfer), available at <https://www.nutritionociety.org/>. It is the author's responsibility to obtain written permission to reproduce any material (including text and figures) that has appeared in another publication.

**Preparation of manuscripts:** Please refer to the full Directions to Contributors on our website (<http://www.nutritionociety.org>). Manuscripts should be in clear and concise English, and spelling should follow the Oxford English Dictionary. For authors whose native tongue is not English, in-house editorial attention to their contributions will improve clarity. On acceptance, all contributions are subject to editorial amendment to conform to house style. Manuscripts should be prepared in a common word processing package (Word for Windows is preferred) in Times New Roman or other common typeface, prepared with double-spaced text, at least 2 cm margins, and page and line numbers. Standard abbreviations and SI units must be used.

## Disclosure of financial support and any competing interests.

The submission must include a statement within an Acknowledgements section reporting any competing interests (financial and non-financial), all sources of funding, and the nature of the contribution of each author to the manuscript. If there are no competing interests, this must be stated. Authors are asked to provide this information during the submission process and should not include it as part of the manuscript to allow for double-blind reviewing.

## Arrangement of papers:

1. **Title page** should include the article title, author(s), affiliation(s), up to eight keywords, one author identified for correspondence (with full postal address, telephone and fax numbers, and email address), and a running title of up to 45 characters. The title page should be submitted online as a separate cover letter, not as part of the manuscript, to enable double-blind reviewing.
2. **Abstract** should be structured, usually using the following internal headings: Objective, Design, Setting, Subjects, Results, Conclusions. Abstracts should be intelligible without reference to text or figures and should not exceed 250 words.
3. **Text** should be divided under headings (typically to include Introduction, Methods, Results, Discussion and Conclusions), and sub-headings as appropriate. Conclusions should include recommendations that derive from the research and that are concrete, feasible, and potentially effective. Emphasising that more research is needed is usually not necessary unless there is specific reason to say so. All submissions must include a statement that the research was conducted in accordance with guidelines laid down by the Declaration of Helsinki and approved by an ethics review committee.
4. **Acknowledgements** (sources of funding, competing interests declaration, authorship responsibilities, acknowledgements) should be provided during the submission process, not as part of the manuscript.
5. **References** should be in Vancouver style. Please refer to the full Directions to Contributors.
6. **Tables** should be reduced to the simplest form and should not be used where text or figures give the same information. Each table must be accompanied by a clear and concise caption that is comprehensible without reference to the text. Longer tables may be published online only.
7. **Figures** should be numbered, and legends should be provided. Each figure, with its legend, should be comprehensible without reference to the text and include definitions of abbreviations.

**Proofs:** Correspondence and proofs for correction will be emailed to the first named author unless otherwise indicated. The author will receive a PDF proof for checking. It is important that proofs be returned promptly. Authors may be charged for any alterations in excess of 10% of original setting.

**Offprints:** The corresponding author will receive a PDF of the published paper free of charge. Offprints are available to purchase and must be ordered before publication.

**Themed Section: Diet and physical activity in adolescents from India and sub-Saharan Africa**

What shapes adolescents' diet and physical activity habits in rural Konkani, India? Adolescents' and caregivers' perspectives  
*Ulka Banavali, Suvarna Patil, Rupali Chavan, Swati Sonawane, Charudatta Joglekar, Caroline Fall, Susie Weller, Sarah H Kehoe, Mary Barker, Polly Hardy-Johnson and on behalf of the TALENT Collaboration* 5177

Age and gender influence healthy eating and physical activity behaviours in South African adolescents and their caregivers: Transforming Adolescent Lives through Nutrition Initiative (TALENT)  
*Stephanie V Wrottesley, Edna N Bosire, Gudani Mukoma, Molebogeng Motlathedi, Gugulethu Mabena, Mary Barker, Polly Hardy-Johnson, Caroline Fall and Shane A Norris* 5187

Conflicts between adolescents and their caregivers living in slums of Mumbai, India in relation to junk food consumption and physical activity  
*Harsha Vipin Chopra, Meera Jayant Gandhi, Sirazul Ameen Sahariah, Susie Weller, Ramesh Dattatray Potdar, Mary Barker, Sarah Helen Kehoe, Caroline HD Fall and Polly Hardy-Johnson, on behalf of the TALENT collaboration* 5207

Social, economic and cultural influences on adolescent nutrition and physical activity in Jimma, Ethiopia: perspectives from adolescents and their caregivers  
*Mubarek Abera, Polly Hardy-Johnson, Alemseged Abdissa, Abdulhalik Workicho, Rahma Ali, Susie Weller, Caroline Fall, Sarah H Kehoe, Mary Barker and Abraham Haileamlak on behalf of the TALENT collaboration* 5218

Adolescent nutrition and physical activity in low-income suburbs of Abidjan, Côte d'Ivoire: the gap between knowledge, aspirations and possibilities  
*Julie Jesson, Egnon KV Kouakou, Polly Hardy-Johnson, Patricia Ngoran-Theckly, Sarah H Kehoe, Laurence Adonis, Caroline Fall, Valériane Leroy, Mary Barker and Susie Weller, on behalf of the TALENT Collaboration* 5227

'I should be disease free, healthy and be happy in whatever I do': a cross-country analysis of drivers of adolescent diet and physical activity in different low- and middle-income contexts  
*Susie Weller, Polly Hardy-Johnson, Sofia Strommer, Caroline Fall, Ulka Banavali, Harsha Chopra, Ramatoulie E Janha, Shama Joseph, Kejal Joshi Reddy, Mubarek Abera Mengistie, Stephanie V Wrottesley, Egnon Kouakou, and Mary Barker on behalf of the TALENT collaboration* 5238

Anthropometric nutritional status, and social and dietary characteristics of African and Indian adolescents taking part in the TALENT (Transforming Adolescent Lives through Nutrition) qualitative study  
*Caroline HD Fall, Mubarek Abera, Harsha Chopra, Polly Hardy-Johnson, Ramatoulie E Janha, Julie Jesson, Charudutta Joglekar, Shama Joseph, Sarah H Kehoe, Gudani Mukoma, Kejal Joshi-Reddy, Kalyanaraman Kumaran, Mary E Barker and the TALENT consortium* 5249

A scoping review of literature describing the nutritional status and diets of adolescents in Côte d'Ivoire  
*Julie Jesson, Egnon KV Kouakou, Kalyanaraman Kumaran, Laurence Adonis, Stephanie V Wrottesley, Valériane Leroy, Caroline Fall On behalf of the TALENT collaboration* 5261

Exploring influences on adolescent diet and physical activity in rural Gambia, West Africa: food insecurity, culture and the natural environment  
*Ramatoulie E Janha, Polly Hardy-Johnson, Sarah H Kehoe, Michael B Mendy, Isatou Camara, Landing Jarjou, Kathryn Ward, Sophie E Moore, Caroline Fall, Mary Barker and Susie Weller on behalf of the TALENT collaboration* 5277

Exploring the diet and physical activity behaviours of adolescents living in India and sub-Saharan Africa: a qualitative evidence synthesis  
*Polly Hardy-Johnson, Preeti Dhuria, Sofia Strommer, Susie Weller, Mary Barker, Caroline HD Fall and on Behalf of the TALENT Collaboration* 5288

Adolescent diet and physical activity in the context of economic, social and nutrition transition in rural Maharashtra, India: a qualitative study  
*Kejal Joshi-Reddy, Veena Kamble, Pooja Kunte, Polly Hardy-Johnson, Caroline HD Fall, Mary Barker, Susie Weller, Chittaranjan S Yajnik and Sarah H Kehoe on behalf of the TALENT Collaboration* 5299

How do we improve adolescent diet and physical activity in India and sub-Saharan Africa? Findings from the Transforming Adolescent Lives through Nutrition (TALENT) consortium  
*ME Barker, P Hardy-Johnson, S Weller, A Haileamlak, L Jarju, J Jesson, GV Krishnaveni, K Kumaran, V Leroy, SE Moore, SA Norris, S Patil, SA Sahariah, K Ward, CS Yajnik and CHD Fall on behalf of the TALENT collaboration* 5309

**Monitoring and surveillance**

Time trends of overweight and obesity among schoolchildren in Kuwait over a 13-year period (2007–2019): repeated cross-sectional study  
*Abdullah Al-Ta'ar, Nawal Alqaoud, Ali H Zyab, Faheema Alanezi, Monica Subhakaran, Reem Sharaf Aldind, Huiwang Anna Jeng and Muge Akpinar-Elci* 5318

Nutritional value of child-targeted food products: results from the Food Quality Observatory  
*Joséane Gilbert-Moreau, Sonia Pomerleau, Julie Perron, Pierre Gagnon, Marie-Ève Labonté and Véronique Provencher* 5329

Determining the nutritional immunity information-seeking behaviour during the COVID-19 pandemic in India: a Google Trends data analysis  
*Savitesh Kushwaha, Poonam Khanna, Rachita Jain and Rachana Srivastava* 5338

**Assessment and methodology**

School food offer at lunchtime: assessing the validity and reliability of a web-based questionnaire  
*Pascalie Morin, Amélie Boulanger, Myriam Landry, Alexandre Lebel and Pierre Gagnon* 5350

Potential of existing online 24-h dietary recall tools for national dietary surveys  
*Rozenn Gazan, Florent Vieux, Ségolène Mora, Sabrina Havard and Carine Dubuisson* 5361

**Nutritional status and body composition**

Body phenotypes and sexual maturation in Brazilian and US adolescents: evidence for a change in BMI category  
*Jéssica Cumpian Silva, Ana Elisa Madalena Rinaldi, Francisco de Assis Guedes Vasconcelos, Maria Alice Altenburg Assis, Camila Medeiros Mazzeti, Mariane Helen de Oliveira and Wolney Lisboa Conde* 5387

Parent-child resemblance in BMI and obesity status and its correlates in China  
*Lu Ma, Yixin Ding, Xiaozhong Wen, Liwang Gao, Li Zhao, Bo Xue, Yun Wang and Youfa Wang* 5400

Four-site skinfolds thickness percentiles of schoolchildren and adolescents in Turkey  
*Meltem Soylu, Nazlı Şensoy, İsmet Doğan, Nurhan Doğan, M Mümtaz Mazicioğlu and Ahmet Öztürk* 5414

**Nutrition communication**

Upstream and downstream explanations of the harms of ultra-processed foods in national dietary guidelines  
*Madalyn Quinn, Helen Jordan and Jennifer Lacy-Nichols* 5426

**Nutritional epidemiology**

Age of cow milk introduction and growth among 3–5-year-old children  
*Izabela Soczynska, David Dai, Deborah L O'Connor, Catherine S Birken, and Jonathon L Maguire on behalf of the TARGet Kids! collaboration* 5436

The association between dietary patterns with type 2 diabetes mellitus and pre-diabetes in the Henan rural cohort study  
*Yuan Xue, Chang Liu, Bingya Wang, Zhenxing Mao, Songcheng Yu, Yan Wang, Dongdong Zhang, Chongjian Wang, Wenjie Li and Xing Li* 5443

Can Nepal achieve nutritional targets by 2030? A trend analysis of childhood undernutrition in Nepal from 2001 to 2016  
*Sasmita Poudel Adhikari, Huan Zhou, Ramesh Adhikari, Ruixue Ye, Khaled al-Zangabila, Qingzhi Wang and Thankam S Sunil* 5453

Associations of dietary inflammatory index with metabolic syndrome and its components: a systematic review and meta-analysis  
*Qian Yi, Xue Li, Yazhou He, Wei Xia, Jing Shao, Zhihong Ye and Peige Song* 5463

Trends in social inequalities in breastfeeding and infant formulas in Latin American countries between the 1990 and 2010 decades  
*Camila S Ferreira, Catarina M Azeredo and Ana Elisa M Rinaldi* 5471

Prevalence of overweight and obesity and associated factors among women of childbearing age in Brazil  
*Amanda O Lyrio, Elivan S Souza, Sarah dos S Conceição, Josicélia ET Batista, Sheila M Brito, Isaac S Gomes Filho, Ana Claudia MG Figueiredo and Simone S da Cruz* 5481

Do TV viewing and frequency of ultra-processed food consumption share mediators in relation to adolescent anxiety-induced sleep disturbance?  
*André O Werneck, Erin Hoare and Danilo R Silva* 5491

Factors associated with the consumption of table salt with inadequate iodine concentrations: a population analysis at a Peruvian household level  
*Akram Hernández-Vásquez, Rodrigo Vargas-Fernández and Diego Azañedo* 5498

**Economics and environment**

Disentangling food insecurity and maternal depression: which comes first?  
*Layton Reesor-Oyer, Aliye B Cepni, Che Young Lee, Xue Zhao and Daphne C Hernandez* 5506

**Interventions**

Age differences in the impact of a Positive Deviance/Hearth programme on the nutritional status of children in rural Bangladesh  
*Yunjeong Kim, Jaganmay Prajesh Biswas, Md. Iqbal Hossain, Diane Baik, Kathryn Reinsma, Shinye Min and Yunhee Kang* 5514

The contributions of civil society to food security in the context of COVID-19: a qualitative exploration in Uruguay  
*Gerónimo Brunet, Alejandra Girona, Gabriela Fajardo, Valentina Iragola, Leandro Machín, Isabel Bove and Gastón Ares* 5524

**Public policies**

Prevalence and correlates of US adult public opinion on restricting junk food advertising to children on social media: 2020 Health Information National Trends Survey  
*Ariella R Korn, Kelly D Blake, Heather D'Angelo, Jill Reedy and April Oh* 5534

Public health potential of guidelines-based dietary scores for non-communicable diseases mortality prevention: simulation study using the Preventable Risk Integrated Model (PRIME) model  
*Chantal Julia, Pascal Leroy, Moufidath Adjibade, Karen E Assmann, Mathilde Touvier, Serge Hercberg, Louis-Georges Soler and Emmanuelle Kesse-Guyot* 5539

Taxing sugar-sweetened beverages as a policy to reduce overweight and obesity in countries of different income classifications: a systematic review  
*Alexander Itria, Stéfani S. Borges, Ana Elisa M Rinaldi, Luciana Bertoldi Nucci and Carla Cristina Enes* 5550

**Sustainability**

Nutrition transition and chronic diseases in China (1990–2019): industrially processed and animal calories rather than nutrients and total calories as potential determinants of the health impact  
*Anthony Fardet, Kenny Aubrun and Edmond Rock* 5561

Cambridge Core For further information about this journal please go to the journal website at: [cambridge.org/phn](http://cambridge.org/phn)

