proceedings

MDPI

Abstract

The Impact of the Universal Infant Free School Meals Policy on the Ultra-Processed Food Content of Children's Lunchtime Intake in England and Scotland †

Jennie C. Parnham [1,*], Kiara Chang [1], Fernanda Rauber [2], Renata B. Levy [2], Anthony A. Laverty [1], Jonathan Pearson-Stuttard [3,4,5], Martin White [6], Stephanie von Hinke [7], Christopher Millett [8] and Eszter P. Vamos [1]

1 Public Health Policy Evaluation Unit, School of Public Health, Imperial College London, London W6 8RP, UK
2 Department of Preventive Medicine, School of Medicine, University of São Paulo, São Paulo 01246-903, Brazil
3 Department of Epidemiology and Biostatistics, School of Public Health, Imperial College London, London SW7 2AZ, UK; j.pearson-stuttard@imperial.ac.uk
4 Northumbria Healthcare NHS Foundation Trust, Newcastle upon-Tyne NE27 0QJ, UK
5 Health Analytics, Lane Clark & Peacock LLP, London W1U 1DQ, UK
6 MRC Epidemiology Unit, University of Cambridge, Cambridge CB2 0QQ, UK; martin.white@mrc-epid.cam.ac.uk
7 School of Economics, University of Bristol, Priory Road Complex, Bristol BS8 1TU, UK
8 Public Health Research Centre & Comprehensive Health Research Center (CHRC), National School of Public Health, NOVA University of Lisbon, 1600-1500 Lisbon, Portugal; c.millett@imperial.ac.uk
* Correspondence: j.parnham18@imperial.ac.uk
† Presented at the 14th European Nutrition Conference FENS 2023, Belgrade, Serbia, 14–17 November 2023.

Abstract: Background: A universal infant free school meals (UIFSM) policy was introduced in 2014/15 in England and Scotland for schoolchildren aged 4–7 years; as a result, school meal uptake rose sharply. School food in the UK is known overall to be healthier and less processed than food brought from home (packed lunches), but it is unknown as to how UIFSM impacted the level and type of ultra-processed food (UPF) consumed. Therefore, this study aimed to evaluate the impact of the UIFSM policy on the processing levels of food consumed during the school lunchtime period among schoolchildren in England and Scotland. Methods: Data from the National Diet and Nutrition Study (NDNS), a nationally representative repeated cross-sectional survey, were used to conduct a difference-in-difference study. The average intake of UPF (% of total lunch grams and % total lunch Kcal) using the NOVA classification was calculated for each school lunch. The lunchtime intakes in the intervention group (4–7 years, n = 866) were compared to the control (8–11 years, n = 808) pre- (2008–2014) and post-intervention (2014–2019) using linear regression, adjusting for sociodemographic variables and total lunchtime intake (grams). Inverse probability weights were used to balance the characteristics across the intervention groups. Results: Before UIFSM, the consumption of UPFs as a proportion of total lunch energy (UPF % Kcal) was similar in the intervention and control groups (67% Kcal vs. 69% Kcal). After adjustment for covariates, UPF consumption decreased by 6.3 pp (95% CI −11.3, −1.3) after UIFSM. The findings were similar for UPF as the percentage of total lunch grams. These effects were driven by increases in minimally processed dairy and eggs and starchy foods and decreases in salty snacks and ultra-processed bread and drinks consumption. The greatest reduction in UPF consumption was in low-income children (−17.2% Kcal; 95% CI −26.5, −7.8), compared to mid- (0.5% Kcal; 95% CI −4.0, 1.0) or high-income children (−5.3% Kcal; 95% CI −13.6, 2.9). Conclusions: This study builds on previous evidence and shows that UIFSM improved children's dietary intake at school by minimising exposure to UPFs. These results indicate that universal free school meal policies could be an important policy for long-term equitable improvements in children's diet and subsequent health.

Keywords: school meal policy; ultra-processed food; school food

check for updates

Citation: Parnham, J.C.; Chang, K.; Rauber, F.; Levy, R.B.; Laverty, A.A.; Pearson-Stuttard, J.; White, M.; von Hinke, S.; Millett, C.; Vamos, E.P. The Impact of the Universal Infant Free School Meals Policy on the Ultra-Processed Food Content of Children's Lunchtime Intake in England and Scotland. *Proceedings* **2023**, *91*, 424. https://doi.org/10.3390/proceedings2023091424

Academic Editors: Sladjana Sobajic and Philip Calder

Published: 9 April 2024

Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

Author Contributions: J.C.P., E.P.V., K.C., A.A.L. and C.M. contributed to the conception and design of the work. J.C.P. performed the statistical analysis. All authors (J.C.P., K.C., F.R., R.B.L., A.A.L., S.v.H., J.P.-S., M.W., C.M. and E.P.V.) contributed to the interpretation of the findings, writing and approved the final manuscript. J.C.P. had final decision to publish. All authors have read and agreed to the published version of the manuscript.

Funding: This study was funded by the National Institute for Health Research (NIHR) School for Public Health Research (Grant Reference Number PD-SPH-2015). MW is supported by the Medical Research Council (grant number MC/UU/00006/7).

Institutional Review Board Statement: Ethical review and approval were waived for this study due to data being publicly available.

Informed Consent Statement: Not applicable.

Data Availability Statement: The dataset analysed in this study is available in the UK data service (SN: 6533). Accessed from http://doi.org/10.5255/UKDA-SN-6533-19 (accessed 1 November 2022).

Conflicts of Interest: The funding body was not involved in the design, analysis or writing of this study. J.P.-S. is vice-chair of the Royal Society for Public Health, Partner at Lane Clark & Peacock LLP and reports personal fees from Novo Nordisk A/S all outside of the submitted work. All other authors have no conflict of interests.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.