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Participant characteristics in the Health in Vegetarians Consortium: a collaborative analysis of 11

prospective studies. By Y. Dunneram¹, J.Y. Lee¹, C.Z. Watling¹, J.E. Cade², G.E. Fraser³, D. Prabhakaran⁴, K. Shridhar⁴, D. Kondal⁴, T.Y.N. Tong¹, T.H.T. Chiu⁵, D. C. Greenwood⁶, H. Du⁷, Z. Chen⁷, G.K. Reeves¹, K. Papier¹, R. Sinha⁸, L. Liao⁸, T.J. Key¹, A. Perez-Cornago¹ 1. *Cancer Epidemiology Unit, Nuffield Department of Population Health, University of Oxford, Oxford, UK*, 2. *Nutritional Epidemiology Group, School of Food Science and Nutrition, University of Leeds, Leeds, UK*, 3. *Adventist Health Study, School of Public Health, Loma Linda University, Loma Linda, CA, USA*, 4. *Centre for Chronic Conditions and Injuries, Public Health Foundation of India, Gurugram, Haryana, India*, 5. *Department of Nutrition Therapy, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan*, 6. *School of Medicine, University of Leeds, Leeds, UK*, 7. *Clinical Trial Service Unit & Epidemiological Studies Unit, Nuffield Department of Population Health, University of Oxford, UK*, 8. *Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD, USA*.

Previously, the European Prospective Investigation into Cancer and Nutrition-Oxford (EPIC-Oxford)⁽¹⁾, the Adventist Health Study-2⁽²⁾, and the UK Biobank⁽³⁾ have reported that vegetarians (including vegans) had a lower risk for all cancer sites combined compared to meat-eaters. However, for the association of vegetarian diets with site-specific cancers, the results are inconclusive which is likely due to the small numbers of vegetarians in these individual studies. We have pooled data from existing prospective studies with a relatively high number of vegetarians to look at individual cancer sites with sufficient statistical power. The aim of the current report is to describe the contributing cohort studies, and compare baseline dietary, anthropometric and other characteristics between diet groups and between cohorts.

We pooled and harmonized individual-level data from 11 prospective studies that included at least 25% vegetarians or that have at least 5,000 vegetarians in the cohort, together with follow-up data on cancer incidence, to create the Health in Vegetarians Consortium. Participants were categorised into eight diet groups based on dietary questionnaires completed at recruitment. Baseline characteristics, including dietary intakes, were compared across the collaborating studies.

A total of 2.3 million participants were included; 66.2% women and 33.8% men, with average ages at recruitment of 56.9 and 57.3 years, respectively. A total of 1.07 million participants were regular meat eaters and 1.05 million were low meat eaters, while there were 60,100 poultry eaters, 44,159 pescatarians, 46,885 lacto-ovo, 17,859 lacto, 13,609 ovo vegetarians and 13,841 vegans. The majority of vegetarians were from the United Kingdom (UK), followed by the United States (US), then East and South Asia. Vegetarian participants in the Indian studies mostly followed a lacto vegetarian diet, while among vegetarians in the other studies a lacto-ovo vegetarian diet was most common. Among all meat eaters, mean total intakes of red and processed meat ranged from 23.3 g/d in the Adventist Health Study-2 to 76.2 g/d in the Oxford Vegetarian Study, with a median across all studies of 50.5 g/d. In the UK and US studies, as well as in Taiwan, body mass index (BMI) was highest in the regular meat eaters and generally lowest in the vegans, with a gradient across the other diet groups. However, this pattern was not observed in the Indian or Chinese cohorts, and among vegetarians, BMI was highest in Indian vegetarians.

Data from this consortium will enable the study and provide a better understanding of the associations between vegetarian diets and the risk of individual cancer sites.

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