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

Y. Dunneram<sup>1</sup>, J.Y. Lee<sup>1</sup>, C.Z. Watling<sup>1</sup>, G.E. Fraser<sup>2</sup>, F. Miles<sup>2</sup>, D. Prabhakaran<sup>3–6</sup>, K. Shridhar<sup>3</sup>, D. Kondal<sup>3</sup>, V. Mohan<sup>7</sup>, M.K. Ali<sup>5,8–10</sup>, K.M. Venkat Narayan<sup>5,9</sup>, N. Tandon<sup>11</sup>, T.Y.N. Tong<sup>1</sup>, T.H.T. Chiu<sup>12</sup>, D.C. Greenwood<sup>13</sup>, H. Du<sup>14,15</sup>, Z. Chen<sup>14,15</sup>, M.G. Kakkoura<sup>14</sup>, G.K. Reeves<sup>1</sup>, K. Papier<sup>1</sup>, S. Floud<sup>1</sup>, R. Sinha<sup>16</sup>, L. Liao<sup>16</sup>, E. Loftfield<sup>16</sup>, J.E. Cade<sup>17</sup>, T.J. Key<sup>1</sup> and A. Perez-Cornago<sup>1</sup>

<sup>1</sup>Cancer Epidemiology Unit, Nuffield Department of Population Health, University of Oxford, Oxford, UK,

<sup>2</sup>Centre for Nutrition, Healthy Lifestyle, and Disease Prevention, School of Public Health, Loma Linda University, Loma Linda, CA, USA,

<sup>3</sup>Centre for Chronic Disease Control, New Delhi, India,

<sup>4</sup>Public Health Foundation of India, Gurugram, Haryana, India,

<sup>5</sup>Emory Global Diabetes Research Center, Woodruff Health Sciences Center and Emory University, Atlanta, GA, USA,

<sup>6</sup>London School of Hygiene and Tropical Medicine, London, UK,

<sup>7</sup>Madras Diabetes Research Foundation (ICMR Center for Advanced Research on Diabetes), Chennai, Tamil Nadu, India,

<sup>8</sup>Hubert Department of Global Health, Emory University, Atlanta, GA, USA,

<sup>9</sup>Department of Epidemiology, Rollins School of Public Health, Emory University, Atlanta, GA, USA,

<sup>10</sup>Department of Family and Preventive Medicine, School of Medicine, Emory University, Atlanta, GA, USA,

<sup>11</sup>Department of Endocrinology, All India Institute of Medical Sciences, New Delhi, India,

<sup>12</sup>Department of Nutritional Science, Fu-Jen Catholic University, New Taipei City, Taiwan,

<sup>13</sup>School of Medicine, University of Leeds, Leeds, UK,

<sup>14</sup>Clinical Trial Service Unit & Epidemiological Studies Unit, Nuffield Department of Population Health, University of Oxford, Oxford, UK,

<sup>15</sup>Medical Research Council Population Health Research Unit, University of Oxford, Oxford, UK,

<sup>16</sup>Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD, USA and

<sup>17</sup>Nutritional Epidemiology Group, School of Food Science and Nutrition, University of Leeds, Leeds, UK

The European Prospective Investigation into Cancer and Nutrition-Oxford<sup>(1)</sup>, Adventist Health Study-2<sup>(2)</sup>, and UK Biobank<sup>(3)</sup> have reported that vegetarians (including vegans) had a lower risk for total cancer incidence compared to meat-eaters. However, the numbers of vegetarians in these studies were too low to reliably estimate the associations with site-specific cancers. Therefore, we established the Health in Vegetarians Consortium and here we compare the baseline dietary and anthropometric characteristics between diet groups and between cohorts.

We harmonised individual-level data from 11 prospective studies that were estimated to have at least 25% or 5,000 vegetarians, together with data on cancer incidence. Participants were categorised into eight diet groups based on dietary questionnaires completed at recruitment.

2.3 million participants were included; 66.2% women and 33.8% men, with average ages at recruitment being 56.9 (SD: 7.8) and 57.3 (8.6) years, respectively. 1.07 million participants were regular meat-eaters, 1.06 million low meat-eaters, 60,679 poultry eaters, 43,933 pescatarians, 48,162 lacto-ovo, 18,093 lacto, 13,702 ovo vegetarians, and 13,885 vegans. Due to the design of the questionnaires, in some studies the participants classified as vegetarians and vegans reported very low but not necessarily zero intakes of the relevant animal foods. The majority of vegetarians were from studies in the UK, followed by the 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 (26.5) g/d in the Adventist Health Study-2 to 76.2 (39.3) g/d in the Oxford Vegetarian Study; mean vegetable intake was the lowest in the Oxford Vegetarian Study [91.5 (49.3) g/d] and the highest in the Taiwan cohort [427.5 (291.8) g/d]; while mean fruit intake ranged from 38.4 (71.6) g/d in the Indian study to 356.9 (307.4) g/d in a large US study. Among vegetarians (including vegans), mean vegetable intakes ranged from 120.3 (57.3) g/d in the Oxford Vegetarian Study to 523.0 (350.4) g/d in the Taiwan cohort while fruit intake ranged from 66.1 (88.7) g/d in the Indian Study to 494.2 (389.9) g/d in the large US study. In the UK and US studies, as well as in Taiwan, 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 cohorts or the China Kadoorie Biobank, and among vegetarians BMI was highest in the Indians.

The diets and BMI of both non-vegetarians and vegetarians varied markedly across the individual cohorts. Data from this consortium will enable us to assess the associations between vegetarian diets and the risk of site-specific cancers.

### References

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