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Characterising the plant based component of the Irish diet in terms of its nutritional quality

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Abstract

A diet rich in plant-based foods with fewer animal products may offer improved health and environmental benefits. There is little consensus on the definition for a plant-based diet in the literature with some defining it as one rich in vegetables, legumes, fruits, wholegrains, nuts and seeds, excluding animal foods and with heavy restrictions on processed foods. Other definitions make no reference to the inclusion/exclusion of processed foods and refer only to the exclusion of all animal foods from the total diet. This study aimed to examine the nutritional quality of the Irish diet using each of these plant-based diet definitions.

A 4-day semi-weighed food record collected food intake data from 1500 Irish adults (18–90y) in the National Adult Nutrition Survey (NANS). Nutrient intake was analysed using WISP© based on UK and Irish food composition databases. All foods and beverages consumed in the NANS were categorised (included/excluded) into the two definitions; 1.plant-based component of the diet and 2.total diet excluding all animal components. The plant-based component included vegetables, legumes, fruits, wholegrains, nuts and seeds and excluded all animal foods and processed foods. The second categorisation included all non-animal foods regardless of processing. Nutritional quality was assessed by estimating energy-adjusted intakes of macronutrients, saturated fat, free sugars, dietary fibre and sodium. Stastical analysis was conducted using SPSS© v24.

The plant-based component of the diet provided 309 ± 214kcal/d (1.3 ± 0.9MJ/d) comprising of 68% carbohydrate, 20% fat and 12% protein. Mean intakes of saturated fat and free sugars from the plant-based component of the diet were 5% of energy (%E) and 1%E, respectively. Mean intakes of dietary fibre and sodium were 70g/10MJ and 1855mg/10MJ, respectively.

Allowing for inclusion of processed foods, mean energy intake from the total diet excluding all animal foods was 1051 ± 411kcal/d (4.4 ± 1.7MJ/d) comprising of 66% carbohydrate, 23% fat and 10% protein. Mean intakes of saturated fat and free sugars were 7%E and 14%E, respectively. Mean intakes of dietary fibre and sodium were 40g/10MJ and 2642mg/10MJ, respectively.

Overall, the macronutrient profile of the plant-based component of the diet and the total diet excluding animal foods were similar. However, the plant-based component of the diet was of higher nutritional quality; providing lower intakes of saturated fat, free sugar and sodium and higher intakes of dietary fibre compared to the total diet excluding animal foods. This study highlights the variability in nutritional quality between different definitions of plant based-diets.

Conflict of Interest

There is no conflict of interest