

Abstract

Simple Model for Estimating the Dietary Intake of Dietary Fibre [†]

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Abstract: Dietary fibre is an essential part of healthy human nutrition. However, due to the changes in the definition of dietary fibre in 2009, we are still struggling to update the data about dietary fibre content as data obtained with methods that include all dietary fibre components are scarce. This problem is transferred to nutritional studies worldwide and impairs the quality of monitoring the dietary intake of dietary fibre. The aim of our work was to develop a simple yet acceptably accurate model for dietary fibre intake based on analytical data. Based on the national study SI.Menu 2017/2018 we collected the frequency of food items eaten in the food groups that contribute the most to dietary fibre intake. From these groups, the most frequent foods were selected and analysed for dietary fibre content using AOAC methods 991.41 and 2011.25. After obtaining the results, the data were used in our “forced choice” model. The model was created on the data of food intake for 392 people. The cumulative intake of six food groups (vegetables, fruits, grains and grain products, potato and potato products, legumes and nuts) was known; therefore, we could calculate the share of each food selected to the total food group intake. Having calculated the daily intake for each food, analytical data were applied. This allowed us to calculate the daily intake of dietary fibre. The calculated daily intake was 17.6 g/day using data obtained with the AOAC 991.43 method. The daily intake estimated with data obtained with the AOAC 2011.25 method was 34.3 g/day. In order to evaluate our model, the daily intake of dietary fibre was compared with that in another study based on the same population. Our estimation based on 45 food items was only 10.6% lower than the estimation based on all food items reported by people included in the other study. Therefore, we conclude that our simple model can provide a rough estimate based on analytical data and can serve as a good tool to update research on the daily intake of dietary fibre.



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