Development and validation of a new simple Healthy Meal Index for canteen meals - DTU Orbit (30/09/2019)

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OBJECTIVE: Nutrition evaluation tools should be developed both for scientific purposes and to encourage and facilitate healthy nutritional practices. The purpose of the present study was to develop and validate a simple food-based Healthy Meal Index (HMI) reflecting the nutritional profile of individual canteen meals. DESIGN: The development process included overall model selection, setting nutritional goals and defining scoring systems and thresholds. Three index components were included: (i) contents of fruit and vegetables, (ii) fat content and quality and (iii) contents of wholegrain products and potatoes. The development was built on the principles embodied by the Plate Model, but providing more specificity in some areas. The simple HMI was validated against weighed and chemically analysed food and nutrient content of a representative sample of canteen meals. The sample was split into four categories according to the total index score and compared across categories. SETTING: A total of 180 meals from fifteen worksite canteens. RESULTS: Average energy density decreased significantly across categories (from 876 kJ/100 g to 537 kJ/100 g, P <0.001). Also, the content of total and saturated fat, carbohydrate and fruit and vegetables varied across categories with higher score values being closer to dietary guidelines (P <0.001). CONCLUSIONS: The simple HMI was successful in ranking canteen meals according to their nutritional quality. The index provides a valuable tool to both researchers and food and nutrition professionals, e.g. caterers and dietitians, who wish to evaluate nutritional quality of meals in line with the recommendations for healthier eating without the use of nutrition calculation programs.

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