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Use of nutrient profiling to identify healthy versus unhealthy snack foods and whether they can be part of a healthy menu plan

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ABSTRACT

Snacking (eating between meals) is a common behaviour, which is often blamed for poor diets because snack foods can be high in sodium, fat and sugar. In addition, uncompensated calories from snacking could contribute to overweight and obesity. However, the evidence is inconclusive, and to some extent this could be explained by the lack of a universal definition as to what counts as a snack. The present study looks at snack foods as defined by USDA in the LanguaL Thesaurus, and evaluated their nutritional quality using the Nutrient Balance Concept. It also explored whether these USDA-defined snacks could be incorporated into a healthy menu plan (US MyPlate). The results of this study showed that only about a sixth are high in nutrients considered as potentially harmful for human health when consumed in high amounts. By contrast almost three-quarters of these snack foods are poor in nutrients that are considered essential (or very important) for human health. However, overall diet quality, assessed using the Nutrient Balance Concept, was compromised only by those snack foods that are especially high in sodium and/or saturated fatty acids.

Keywords: snacks; diet; nutrition; health

INTRODUCTION

Over the last 40 years, various US surveys have shown a decline in energy intake from main meals, while energy from snacks eaten between meals has increased. Data from NHANES 2007-10 show that almost a quarter of total energy being consumed between meals [1]. This means that the nutritional quality of foods eaten between meals is an increasingly important consideration for health. Eating between meals (snacking) is commonly seen in various countries around the world. Some studies have found that this eating behaviour has been linked with overweight and obesity, whereas others have shown that snacking can be helpful for energy regulation [2].

When snacking is a predictable component of eating behaviour then it seems to be linked to hunger [3], and under these conditions, it would be expected that snacking can be helpful in maintaining energy balance. However, it has long been recognised that many foods eaten between meals can be high in sodium, sugar and fat, and can contribute uncompensated calories to the diet [4]. Eating these types of snack foods can be detrimental to energy balance as well as the nutrient quality of the diet [5].

One of the challenges of doing research on snacking is in defining what counts as a snack, and what counts as a meal. This is because there is no harmonised definition of a snack [2, 6]. Hess et al (2016) have recently used the term “snack foods” to mean energy-dense, nutrient poor foods. Such foods would include bakery items such as cakes and pastries, as well as sugar-sweetened beverages. By contrast, Hess et al (2016) using the term “snacking” to refer to eating between meals, irrespective of whether the food consumed was a “snack food” or any other food item.

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