FRUITS AND VEGETABLES LIKING AMONG EUROPEAN ELDERLY, ACCORDING TO FOOD PREFERENCES, ATTITUDES TOWARDS FOOD AND DEPENDENCY

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Introduction

As the population ages and dependency for food-related activities increases, it becomes crucial to better understand food expectations of elderly consumers to develop and propose adapted products. Fruits and vegetables (F&V) are generally considered by elderly people1-6 compared to younger adults. However, few studies have investigated elderly people’s F&V liking, taking into account their dependency and countries’ specificities. The present study aims to identify the liking for F&V, depending on the country of residence, levels of dependency, eating styles and food selectivity.

Material & Methods: A European survey

- 405 elderly people, from 65 to 98 years old (mean age: 82.4) in 5 countries: Finland, France, Poland, Spain and the UK
- 3 categories of food dependency: (1) living at home, with help for food purchasing; (2) living at home, with help for food purchasing and/or meals-on-wheels; (3) living in nursing homes (all activities relative to food are delegated)
- Used questionnaires:
  + Attitudes towards food (HTAS)1
  + F&V selectivity (76-item questionnaire, inspired from Maître et al., 2014)1
  + Eating styles (general food habits and preferences)3
  + Liking for different cooking modes for vegetables (5-point linking scale)

Food habits and preferences: 3 eating styles

The 3 eating styles were obtained by hierarchical cluster analysis (Euclidean distances, Ward criterion) and consolidated by K-means algorithm.

Style 1 (n=145): “No dessert nor fruit”
30% of men. All categories. Participants drank alcohol more frequently during meals, liked ready-to-eat dishes, deli products and butter cooking. They did not really like fruits, vegetables, rarely seasoned their meals (spices, herbs) and could easily do without a dessert. They were less interested by health aspects (HTAS: 2.5/4) and natural aspects of foods (HTAS: 2.5/4).

Style 2 (n=121): “Fruit lovers and no alcohol”
50% from category 1. Participants liked fruits (fresh, purées), vegetable soups (with pieces), oil cooking, seasoned their meals. They did not like ready-to-eat dishes, deli products and vegetable purées. They rarely drank alcohol during meal, rarely eat sugar and did not need a dessert. They were more interested by health aspects (3.0/4) and natural aspects in foods (HTAS: 2.9/4).

Style 3 (n=126): “Steam cooked vegetables, desserts and no seasoning”
39% from category 3. Participants were very fond of desserts and steam cooked vegetables. They preferred oil cooking, enjoyed fruits, soups and vegetable purées. They considered themselves as meat lovers. They did not like ready-to-eat dishes, rarely seasoned their meals (salt, spices, herbs). They declared to eat more soup, compared to participants from the 2 other styles. No difference in HTAS scores.

Selectivity: Which F&V were not appreciated?

F&V were globally appreciated. However, elderly people’s selectivity towards F&V was very variable. The most selective participants declared disliking up to 31 vegetables among 42 and up to 28 fruits among 34. As shown in Figure 1, more participants declared disliking kiwi, mango, pomelo, spinach in salad, fennel and aubergine. Figure 1 also shows the consensual products (blue bars).

F&V selectivity was significantly influenced by country (p<0.001) and the interaction between dependency and the country (p=0.01); but not by gender nor age (p>0.05)

How to prepare vegetables? Liked cooking modes

All methods of preparing vegetables were globally well appreciated: mean liking scores from 3.9 (steam) to 4.5 (soup) out of 5. Despite the category and country variations, plain boiled vegetables and vegetable soups were consensually well appreciated (mean liking scores higher than 4.3/5).

Figures 2a and 2b show liking variations within dependency categories and countries.

Conclusion

This study shows the interest of tools exploring preferences of elderly people. Our results highlighted differences in elderly people’s liking towards foods, fruits and vegetables. These results can be used as a support to improve products and propose a relevant food offer to the elderly. In a context of malnutrition, our results could help food industries to choose the adapted fruit/vegetable matrix for nutrient and protein fortified products. Finally, tailoring to elderly people’s expectations is important to enable adequate maintenance of their appetite and pleasure while eating.

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