Exploring eating patterns among institutionalized elderly people to prevent malnutrition
Claire Sulmont-Rossé, Virginie van Wymelbeke

To cite this version:
Claire Sulmont-Rossé, Virginie van Wymelbeke. Exploring eating patterns among institutionalized elderly people to prevent malnutrition. Annual meeting of the Society for the Study of Ingestive Behavior (SSIB), Jul 2017, Montreal, Canada. , 1 p., 2017. hal-02785867

HAL Id: hal-02785867
https://hal.inrae.fr/hal-02785867
Submitted on 4 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.
EXPLORING EATING PATTERNS AMONG INSTITUTIONIZED ELDERLY PEOPLE TO PREVENT MALNUTRITION

Claire Sulmont-Rossé 1 and Virginie Van Wymelbeke 1,2

1 CSGA, AgroSup, CNRS, INRA, Univ. Bourgogne Franche-Comté, F-21000 Dijon, France
2 CHU François Mitterrand, Centre Gériatrique Champmaillot, F-21000 Dijon, France

Food intake declines with ageing, which predisposes the elderly to unintentional weight loss and nutritional risk. Without prevention and without care, malnutrition leads to decreased mobility, an increased risk of falls or fractures, increased vulnerability to infectious diseases and exacerbation of chronic diseases.

We intended to explore the eating patterns among institutionalized elderly people. We aimed at characterizing food intake variability among individual as well as among food categories.

Results are expected to provide insights to develop a food supply enabling the elderly to fulfil their nutritional needs while taking into account their eating pattern, i.e. the portion that they are able/willing to ingest for each food category.

Panel characteristics

- Men / women: 11 / 57
- Age mean (standard deviation): 87.4 (0.9) years
- Age range: 66 – 100 years
- IMC mean (standard deviation): 27.3 (0.7)
- IMC range: 16.6 – 43.6
- MNA mean (standard deviation): 21.6 (0.4)
- Not a risk of malnutrition (MNA > 23.5): 26%
- At risk of malnutrition (17 > MNA ≥ 23.5): 59%
- Malnourished (MNA ≤ 17): 15%
- MMSE mean (standard deviation): 23.3 (0.7)
- No cognitive impairment (MMSE ≥ 26): 31%
- Middle cognitive impairment (20 > MMSE > 26): 25%
- Severe cognitive impairment (MMSE ≤ 20): 44%

MNA. Mini-Nutritional Assessment (Guigoz et al, 2002)
MMSE. Mini Mental State examination (Folstein et al, 1975)

We weighted all the foods and drinks consumed by 68 institutionalized elderly people (66-100 yo; 75% of women) over 24 hours.

For each participant, the average intake (g) was computed for 10 food categories selected on nutritional and portion criteria.

Data were submitted to a PCA and the principal components were submitted to a Hierarchical Cluster Analysis.

Cluster 1 (n=12)
Cluster 2 (n=19)
Cluster 3 (n=15)
Cluster 4 (n=22)

<table>
<thead>
<tr>
<th>Category</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat or fish (lunch)</td>
<td>130 a</td>
<td>45 b</td>
<td>74 b</td>
<td>74 b</td>
</tr>
<tr>
<td>Main dish (diner)</td>
<td>126 a</td>
<td>35 b</td>
<td>29 b</td>
<td>47 b</td>
</tr>
<tr>
<td>Bread, cereal product (breakfast)</td>
<td>60 ab</td>
<td>45 a</td>
<td>77 b</td>
<td>51 a</td>
</tr>
<tr>
<td>Cheese</td>
<td>25 a</td>
<td>6 b</td>
<td>14 b</td>
<td>25 b</td>
</tr>
<tr>
<td>Dairy products</td>
<td>98 ab</td>
<td>74 a</td>
<td>126 a</td>
<td>90 b</td>
</tr>
<tr>
<td>Sweet desserts (meal)</td>
<td>89 a</td>
<td>71 ab</td>
<td>53 bc</td>
<td>36 b</td>
</tr>
<tr>
<td>Sweet product (collation)</td>
<td>15 ab</td>
<td>24 a</td>
<td>25 a</td>
<td>9 b</td>
</tr>
<tr>
<td>Soup (diner)</td>
<td>210 a</td>
<td>122 b</td>
<td>240 a</td>
<td>204 a</td>
</tr>
<tr>
<td>Cooked vegetables and fruits</td>
<td>117 a</td>
<td>39 b</td>
<td>65 b</td>
<td>110 a</td>
</tr>
<tr>
<td>Raw vegetables and fruits</td>
<td>64 b</td>
<td>53 bc</td>
<td>36 c</td>
<td>87 a</td>
</tr>
<tr>
<td>Ratio [protein intake / RPA]</td>
<td>35% ab</td>
<td>60% a</td>
<td>70% ab</td>
<td>78% ab</td>
</tr>
</tbody>
</table>

For each food category, values associated with the same letter are not significantly different according to ANOVA (p>0.05). RPA: Recommended Protein Allowance (1.2g/body weight / day).

Cluster 1
- No dietary intervention
Cluster 2
- Oral Nutritional Supplements
Cluster 3
- Protein-enriched soup & bread
Cluster 4
- Protein-enriched soup & veggies purees