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EXPLORING EATING PATTERNS AMONG INSTITUTIONALIZED ELDERLY PEOPLE TO PREVENT MALNUTRITION

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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.

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

Panel characteristics	
Men / women	11 / 57
Age mean (standard deviation)	87.4 (0.9)
Age range	66 – 100
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 Assesment (Guigoz et al, 2002)

MMSE. Mini Mental State examination (Folstein et al, 1975)



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)
Meat or fish (lunch)	130 ^a	45 ^c	74 ^b	74 ^b
Main dish (diner)	126 ^a	35 ^b	29 ^b	47 ^b
Bread, cereal product (breakfast)	60 ^{ab}	45 ^b	77 ^a	51 ^b
Cheese	25 ^a	6 ^b	14 ^b	25 ^a
Dairy products	98 ^{ab}	74 ^b	126 ^a	90 ^b
Sweet desserts (meal)	89 ^a	71 ^{ab}	53 ^{bc}	36 ^c
Sweet product (collation)	15 ^{ab}	24 ^a	25 ^a	9 ^b
Soup (diner)	210 ^a	122 ^b	240 ^a	204 ^a
Cooked vegetables and fruits	117 ^a	39 ^b	65 ^b	110 ^a
Raw vegetables and fruits	64 ^b	53 ^{bc}	36 ^c	87 ^a
Ratio [protein intake / RPA]	95% ^a	60% ^c	70% ^{bc}	78% ^{ab}

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



Centre des Sciences du Goût et de l'Alimentation

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