A WORLD IN TURMOIL:

Opportunities to Focus on the Public’s Health.
Development and validation of a dietary diversity score for French older adults

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Introduction

Lack of a robust dietary diversity score

- reflecting both adequation and moderation (“healthy dietary diversity”)
- easy to implement in health promoting nutrition interventions (e.g. based on occurrences rather than quantities)
- adapted to French older adults

OBJECTIVE

Development and validation of the “ORCHID” score

- An occurrence-based healthy dietary diversity score
- using data from a sample of older adults enrolled in the latest representative French dietary survey
Methods

French Individual and National Food Consumption study 2014-2015 (INCA3)
696 older adults 60 years and +

Recording of consumption occurrences

Positive rating for healthy food groups

- Three 24 hours recalls
  - Fruits
  - Vegetables
  - Poultry
  - Milk and Fresh Dairy products
  - Cheese
  - Refined starches

- Weekly food propensity questionnaire
  - Eggs
  - Legumes
  - Nuts
  - Fatty fish
  - Lean fish
  - Wholemeal products
  - Oils

Threshold rating for unhealthy food groups

- Three 24 hours recalls
  - Butter, margarine and cream
  - Meat excluding poultry
  - Ham
  - Deli meat
  - Salted Aperitif products,
  - Sweetened products,
  - Sweetened drinks
Methods (2)

Content validity assumptions for the ORCHID score:

Consumption occurrence of healthy food groups positively correlated with the ORCHID score

- Association with the food score components

Spearman correlations

Construct validity assumptions for the ORCHID score:

Correlations between the ORCHID score and diet indicators

- No association with total energy intake
- Negative association with solid energy density (SED)
- Positive association with PANdiet

Pearson correlations

Sociodemographic characteristics correlation with the ORCHID

- No association with smoking status
- Positively correlated with education
- Positively correlated with level of physical activity

Chi2 tests
Résults (1)

- normal distribution
- range -35;115
- mean = 53.

<table>
<thead>
<tr>
<th>ORCHID component</th>
<th>Correlation of Spearman</th>
<th>Spearman p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>0.51</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Vegetables</td>
<td>0.54</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Wholemeal Products</td>
<td>0.50</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

ORCHID component most correlated to the ORCHID among older adults (n=696)
Results (2)

- ORCHID not significantly associated with energy intakes ($r = 0.02, p = 0.6$)
- ORCHID inversely associated with SED ($r = -0.37, p < 0.0001$)
- ORCHID significantly and positively associated with PANDiet ($r = 0.43, p < 0.0001$)
Results (3)

Level of study among ORCHID quartiles

- Primary + middle school
- High school
- Bachelor
- Master and over

P-value
Chi2 = 0.02

Physical activity among ORCHID quartiles

- Sedentary
- Active
- Very active
- NA

P-value
Chi2 = 0.05

Smoking among ORCHID quartiles

- Yes, daily
- Yes, sometimes
- No, but I have ever smoked
- No, never smoked
- NA

P-value
Chi2 = 0.02
Conclusion

- ORCHID is a validated score for assessing healthy dietary diversity among French older populations.
- It will be useful to assess the impact of health promoting nutrition interventions.
- It could be adapted to other populations.
Bibliography


