PRM173 Development of a discrete choice experiment to assess patients’ and professionals’ preferences for home enteral nutrition

Authors: Oliveira G1, Martínez-Olmos MA2, Fernández de Bobadilla B1, Ferrer M1, Virgili N1, Vega B1, Blanco M1, Layola M1, Lizán L1, Tribaldos M3

Filiation: 1Hospital Regional Universitario de Málaga, Málaga, Spain; 2Hospital Universitario de Santiago, A Coruña, Spain; 3Hospital General Universitario de Ciudad Real, Ciudad Real, Spain; 4Hospital Universitario Clínico Virgen de la Arrixaca, Murcia, Spain; 5Hospital Universitario de Bellvitge, Barcelona, Spain; 6Hospital Universitario Ramón y Cajal, Madrid, Spain; 7Medical Department Nestlé Health Science, Barcelona, Spain; 8Outcomes 10, Castellon, Spain.

Introduction

• Home enteral nutrition (HEN) allows patients with burdensome nutrition disorders who maintain a functional digestive tract to receive the nutrients and calories needed while in their socio-familial environment with guaranteed safety and efficacy1. In Spain 67 patients/104 inhabitants/year are prescribed with NED, with an increasing trend year after year1.

• Patient engagement on treatment decision increases their knowledge about their own disease, and is associated to higher healthcare benefits. Understanding patients’ and professionals’ preferences can facilitate patient participation in shared-decision making regarding their treatments5.

• Discrete choice experiment (DCE) is a technique used to estimate the importance given to the attributes that define a specific treatment, which permits the elicitation of patients’ and professionals’ preferences4.

Objective

To develop and nourish a DCE according to the conjoint-analysis systematization development procedures that would allow assessing patients’ and professionals’ preferences for the characteristics of HEN via tube feeding, and the concordance of answers between patients and their caregivers in Spain.

Methods

• A DCE was conducted. This technique is based on the assumption that a particular medical product or device, can be described by its attributes (characteristics) and that any individual choice of an item depends on the levels of those attributes5.

• According to the International Society for Pharmacoeconomics and Outcomes Research (ISPOR) good research practices guidelines for conjoint analysis4, the essential steps needed to elicit preferences via a DCE are: attributes and levels identification, attributes and levels selection and construction of tasks or scenarios.

Attributes and levels identification

• A comprehensive literature review was performed. A broad search in computerized databases (Medline/PubMed, Cochrane Library and ISI Web Of Knowledge) was executed. Terms related to HEN, treatment and preferences studies joined by Boolean operators were used, following the recommendations of Cochrane for Systematic Reviews of Interventions6.

• Articles aiming at studding preference for HEN products or most influential aspects of HEN products published until January 2014 were selected.

Attributes and levels selection

• Two focal groups: one formed by patients receiving HEN (n=5) and HEN patients’ caregivers (n=4) and another one composed by HEN experts (n=6) were asked to identify which HEN attributes and levels were relevant according to their personal or professional experience.

• Since the study foresaw that some patients would not have the proper cognitive functions to answer the questionnaires themselves, their caregivers were invited to answer the study questionnaire from the perspective of the patient in their care.

• In addition, patients and caregivers had to assess if the drafting of the selected attributes and levels was intelligible and if not, how to refrase them in order to be easier to understand.

Discrete choice experiment scenarios

• To reduce the number of tasks and decrease the burden of the exercise, a fractional analysis based on an orthogonal matrix defined the scenarios included in the study, maintaining the properties of orthogonality and balance 7.

• Orthogonality ensured that the parameters estimated for each attribute were uncorrelated and were determined independently of the other attributes while balance guaranteed that every level of every attribute appeared in the same frequency across the scenarios8.

• The alternative scenario for each task was obtained by the mix-and-match algorithm, which generated an equal number of input scenarios by adding a constant variation to each level from each attribute for every base scenario. Every alternative scenario was randomly paired with a base scenario, generating the sets of choices that defined the questionaire.

• The fractional factorial analysis and mix-and-match algorithm were performed using the supportCEP package for the statistical software R9.

Results

• Six publications that described HEN products’ attributes and levels were selected from the literature review. Twelve different attributes referring to HEN general information, formulation, organoleptic and packaging characteristics, composed by 2-3 levels each, were chosen from the reviewed publications (Table 1).

Table 1. Attributes identified in the literature.

<table>
<thead>
<tr>
<th>First author, year</th>
<th>Identified attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skipper A, 199910</td>
<td>Brand name visibility, Flavour</td>
</tr>
<tr>
<td>Wada S, 200411</td>
<td>Product effectiveness</td>
</tr>
<tr>
<td>Rahmeltula Z, 200512</td>
<td>Product base, Flavour</td>
</tr>
<tr>
<td>Ribeiro MA, 200813</td>
<td>Appearance, Odour, Mouth sensation, Flavour, Satiety feeling, Aftertaste</td>
</tr>
<tr>
<td>Darmon P, 200814</td>
<td>Product base, Flavour, Aftertaste, Satiety feeling, Tolerance</td>
</tr>
<tr>
<td>Ministerio de Sanidad y Consumo, 200815</td>
<td>Anthropometric and Clinical Nutritional state parameters</td>
</tr>
</tbody>
</table>

• Focus groups selected 6 attributes as relevant, including 2 levels each (Figure 1). The attributes drafting was considered intelligible by patients and caregivers.

Figure 1. Attributes and levels selected.

Tolerance: Easily tolerable / Hardly tolerable

Adaptation to comodities: Adaptable to other present comodities / Not adaptable to other present comodities

Nutrients and calories: Provides the nutrients and calories needed by the patient / Does not provide the nutrients and calories needed by the patient

Container characteristics: Its characteristics make easier to handle the packaging / Its characteristics make harder to handle the packaging

Connections between the container and feeding tube: Product connections are easy to perform / Product connections are hard to perform

Information: The container includes information about the nutriment composition and branding / The container does not include information about the nutriment composition and branding

• From the 64 possible scenarios, the fractional factorial analysis generated 8 scenarios that fulfilled the properties of orthogonality and balance. The mix-and-match algorithm produced 8 choice tasks (Table 2).

Table 2. Choice tasks included in the study.

<table>
<thead>
<tr>
<th>Choice set</th>
<th>Tolerance</th>
<th>Adaptation</th>
<th>Nutrients</th>
<th>Container</th>
<th>Connections</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Easily</td>
<td>Not adaptable</td>
<td>Provides</td>
<td>Harder</td>
<td>Easy</td>
<td>Does not include</td>
</tr>
<tr>
<td>2</td>
<td>Easily</td>
<td>Not adaptable</td>
<td>Provides</td>
<td>Harder</td>
<td>Easy</td>
<td>Includes</td>
</tr>
<tr>
<td>3</td>
<td>Easily</td>
<td>Not adaptable</td>
<td>Provides</td>
<td>Harder</td>
<td>Easy</td>
<td>Includes</td>
</tr>
<tr>
<td>4</td>
<td>Hardly</td>
<td>Adaptable</td>
<td>Does not provide</td>
<td>Easier</td>
<td>Does not include</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Hardly</td>
<td>Adaptable</td>
<td>Does not provide</td>
<td>Easier</td>
<td>Does not include</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Hardly</td>
<td>Adaptable</td>
<td>Does not provide</td>
<td>Harder</td>
<td>Does not include</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Hardly</td>
<td>Adaptable</td>
<td>Does not provide</td>
<td>Easier</td>
<td>Does not include</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Easily</td>
<td>Adaptable</td>
<td>Does not provide</td>
<td>Easier</td>
<td>Does not include</td>
<td></td>
</tr>
</tbody>
</table>

• For each choice task patients were asked to choose which of the presented products they preferred to receive, while professionals were asked to choose which product they preferred to prescribe (Figure 2).

Figure 2. Choice set example used on the CRF (option 1 of 8).

PRODUCT A

PRODUCT B

Easily tolerable.

Composition is not adaptable to other patient's pathologies.

Provides nutrients (proteins, fiber) and calories needed by the patient.

Package characteristics (size, weight, grip, opening and closing, etc.) makes harder its handling.

Connections between package and administration system are easy to perform.

Package does not include information about nutritional composition and branding is not usable.

?Which nutritional product do you prefer?

[ ] I prefer product A

[ ] I prefer product B

• The final questionnaires included sociodemographic and clinical variables and ad-hoc questions about importance of HEN products characteristics and satisfaction related to HEN clinical management and the DCE.

• The inclusion of sociodemographic and clinical data allowed analysis of underlying explanatory variables that could influenced participants preferences.

Conclusions

• The first steps of the conjoint-analysis systematic development procedure, has allowed to describe the final HEN characteristic of importance for patients and professionals that later on will produce each scenario utility values.

References


Sponsored by: Nestle Health Science

ISPOR 18th Annual European Congress, 7-11 November 2015, Milan, Italy