Development and effect assessment of a new computer-based nutrition course for general practice

Bas H.J. Maiburg
Department of General Practice
Maastricht University
To enhance the knowledge, skills and attitude of Dutch general practitioner (GP) trainees on the subject of nutrition by means of computer-based instruction (CBI)
Computer-based nutrition education for general practice

Outline

• Development of the nutrition CBI
  → built-in nutrition aspects

• Effect assessment
  → nutrition performance of GP trainees

• Conclusions
Introduction

Computer-based nutrition education for general practice

SIMG P Voeding in de huisartsenpraktijk

Consultvoering met patient: dr. Derks

Vraagverheldering

U gaat zo een consult voeren met bovengenoemde patiënt. Om kennis te maken met de patiënt en zijn/haar klacht of situatie kunt u eerst een inleidende video bekijken waarin u de patiënt in gesprek ziet met een arts.

Na dit gesprek neemt u het consult als het ware over.

Copyright Universiteit Maastricht 1999. Voor informatie mail a生鲜医者@simgp.unimaas.nl
Computer-based nutrition education for general practice

Guidelines for a healthy diet
The Netherlands Food and Nutrition Council

De Voedingswijzer (Dutch food guide)
The Netherlands Nutrition Centre

General framework

Background information
Computer-based nutrition education for general practice

General framework
### General framework

<table>
<thead>
<tr>
<th>Complete food record</th>
<th>?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add more variety of foods</td>
<td>?</td>
</tr>
<tr>
<td>Adjust percentage of fat</td>
<td>?</td>
</tr>
<tr>
<td>Use semi-skimmed dairy products</td>
<td>?</td>
</tr>
<tr>
<td>Adjust meat intake</td>
<td>?</td>
</tr>
<tr>
<td>Introduce fish meals</td>
<td>?</td>
</tr>
<tr>
<td>Adjust intake of bread and potatoes</td>
<td>?</td>
</tr>
<tr>
<td>Adjust intake of vegetables and fruit</td>
<td>?</td>
</tr>
<tr>
<td>Control weight</td>
<td>?</td>
</tr>
<tr>
<td>Try to achieve weight gain</td>
<td>?</td>
</tr>
<tr>
<td>Lose 5-10% of weight</td>
<td>?</td>
</tr>
<tr>
<td>Lose until BMI &lt; 25 kg/m²</td>
<td>?</td>
</tr>
<tr>
<td>Reduce salt intake</td>
<td>?</td>
</tr>
<tr>
<td>Augment intake of fluids</td>
<td>?</td>
</tr>
</tbody>
</table>
Computer-based nutrition education for general practice

Background information
History-taking item “Smoking”:

- appetite is influenced by smoking (appetite declines; smoking cessation causes a weight gain of about 5 kg)
- it presents one of the risk factors for cardiovascular disease (promotes atherosclerosis and abdominal fat deposition)
Two-round Delphi study

Top Five:

1. Overweight and obesity
2. Diabetes mellitus
3. Hypercholesterolemia
4. Hypertension
5. Intestinal problems
Computer-based nutrition education for general practice

SIMGP: Voeding in de huisartsenpraktijk

Nabespreking van consult met patiënt: dhr. Danks

- beperkte actieradius
- pijn op de borst
- polyurie
- polydipsie
- gewi, verand. (recent)
- sport/leefstijl bew.
- roken
- voedingsanamnese
- familiale belasting

- defecatiespatroon
- overgeven
- misselijkheid
- buikpijn
- jeukklachten
- sexuele functie
- slapeloos
- transpireren (overm.)
- gewichtsverlies

Klik op de start-knop om de video te laten beginnen.
Computer-based nutrition education for general practice

- Development of the nutrition CBI
  → built-in nutrition aspects

- Effect assessment
  → nutrition performance of GP trainees

- Conclusions
Computer-based nutrition education for general practice

Pretest

\[ n = 25 \]

\[ \uparrow \]

3 SPs

\[ n = 24 \]

Posttest

\[ CBI \]

\[ \uparrow \]

3 SPs

\[ n = 24 \]

\[ \downarrow \]

Regular

\[ n = 24 \]

\[ \downarrow \]

\[ n = 23 \]
Nutrition performance

- ‘gross’ effect: 79.6%
- ‘net’ effect: 68.2%
Computer-based nutrition education for general practice

<table>
<thead>
<tr>
<th>Effect cases</th>
<th>‘net’ effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intestinal problems</td>
<td>34%</td>
</tr>
<tr>
<td>Cardiovascular disease</td>
<td>&gt; 100%</td>
</tr>
<tr>
<td>Overweight/diabetes mellitus</td>
<td>&gt; 100%</td>
</tr>
<tr>
<td>General history taking</td>
<td>28%</td>
</tr>
<tr>
<td>Diet history taking</td>
<td>&gt;&gt; 100%</td>
</tr>
<tr>
<td>Physical examination</td>
<td>93%</td>
</tr>
<tr>
<td>Nutrition guidance</td>
<td>65%</td>
</tr>
</tbody>
</table>
Computer-based nutrition education for general practice

Intestinal problems
  fluid intake
  intake vegetables and fruit
Cardiovascular disease
  fat intake as a whole
Overweight/diabetes mellitus
  fat intake as a whole
  physical exercise
Computer-based nutrition education for general practice

- Development of the nutrition CBI
  - built-in nutrition aspects

- Effect assessment
  - nutrition performance of GP trainees

- Conclusions
Effective and attractive educational tool

- Consistent improvement of consultations
- Tailoring of nutritional advice
- Advice on fat-intake issue most promising
- Applicable to GPs
Reference:
Maiburg HJ, Rethans JJ, Schuwirth LW, Mathus-Vliegen LM, van Ree JW.

Controlled trial of effect of computer-based nutrition on knowledge and practice of general practitioners.
