Health literacy, diabetes knowledge and self-management

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Background

Self-management is an important element of diabetes care, in the course of which patients fulfill a significant role in the care for their disease.
Background

• Health literacy a possible barrier for self-management.

• Studies show ambiguous results: some studies indicate no association between health literacy and self-management and others do.

• Research from European countries is underrepresented.
Background

• Diabetes knowledge is considered a possible mechanism linking health literacy to self-management (Von Wagner et al., 2009).

• Little is known on diabetes knowledge as pathways.
Aim

Gain insight into the associations between patients’ health literacy skills, their self-management behavior and to investigate the contribution of diabetes knowledge.
Methods

Study design and data collection

- Data from an observational study between June 2009 to June 2010.
- Data from patient registrations linked to questionnaires.
- Response rate 46% (N=1941).
- For present study respondents with type 2 diabetes and over the age of 24 (N=1675).
Methods

Main variables

- Health literacy (Chew’s Set of Brief Screening Questions).
- Diabetes knowledge (Diabetes Knowledge Test).
- Self-management indicated by smoking behavior, glucose monitoring (control and registration) and physical activity (sports and other than sports).
Methods

Statistical analysis

• Analyses performed with multiple imputed datasets (n=20).
• Multi-level analyses taking GP practice level into account (diabetes duration, age, education and sex as confounders).
• Steps taken in the analyses:
  1. Estimate the association between HL and self-management
  2. Estimate the association between DK and self-management
  3. Estimate the association between HL and DK
## Preliminary results

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Percentage</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>50.4%</td>
<td></td>
</tr>
<tr>
<td>55 years or older</td>
<td>86.5%</td>
<td></td>
</tr>
<tr>
<td>Low level of education</td>
<td>45.5%</td>
<td></td>
</tr>
<tr>
<td>Diabetes 4 to 10 year</td>
<td>46.2%</td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td>14.0%</td>
<td></td>
</tr>
<tr>
<td>Glucose control</td>
<td>40.6%</td>
<td></td>
</tr>
<tr>
<td>Glucose registration</td>
<td>48.5%</td>
<td></td>
</tr>
<tr>
<td>Health Literacy</td>
<td></td>
<td>1.8 (0.8)</td>
</tr>
<tr>
<td>Diabetes Knowledge</td>
<td></td>
<td>9.1 (2.2)</td>
</tr>
<tr>
<td>Physical activity</td>
<td></td>
<td>3.0 (1.8)</td>
</tr>
</tbody>
</table>
Preliminary results

Health literacy, diabetes knowledge and glucose monitoring

Sobel test: association between health literacy and glucose registration (p<0.05) and control (p<0.01) via diabetes knowledge
Preliminary results

Health literacy, diabetes knowledge and smoking

Sobel test: association between health literacy and smoking via diabetes knowledge (p<0.05)
Preliminary results

Health literacy, diabetes knowledge and physical activity

Sobel test: no association between health literacy and physical activity via diabetes knowledge
Discussion

• The relationship between health literacy and diabetes self-management is not straightforward as it differs between type of self-management activity.

• Those who have little diabetes knowledge are less likely to be involved in self-management.
Discussion

Implications

• How do factors such as self-efficacy, beliefs and attitudes exactly relate to health literacy and to self-management?

Limitations

• Limited measure of health literacy.

• Low Internal consistency of the DKT (α = 0.512).
Thank you for your attention

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