Patient’s knowledge of their chronic disease: the influence of socio-demographic characteristics

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Background

• Self-management is central to Wagner’s Chronic Disease Model

• Patients need to understand their condition and the impact of their behaviour

• More engaged patients have better outcomes

• Barrier to self-management if patient is unaware
Aims

To determine:

1. which demographic, socioeconomic & burden of disease factors are associated with patient’s knowledge of their chronic disease
   - Diabetes mellitus
   - Hyperlipidaemia
   - Cardiovascular disease requiring anticoagulation

2. the impact of patient’s awareness on adherence to medications and lifestyle changes.
Methods

• Secondary analysis of data from 4968 patients who participated in the Australian PoCT in GP trial (2005-2007, 19 publications)

• Patient self-report of conditions compared to GP’s record

• Questionnaires
  – socio-demographic factors
  – adherence to medications + lifestyle advice

• Multiple logistic regression analysis

Bubner T et al. Effectiveness of point of care testing on therapeutic control for patients with chronic conditions (diabetes, hyperlipidaemia, anticoagulant therapy) Results from the PoCT Trial in general practice. MJA, 2009;190:624-626
# Key Participant Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Diabetes Freq (%)</th>
<th>Hyperlipidaemia Freq (%)</th>
<th>CVD requiring anticoagulation Freq (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL</strong></td>
<td>1841</td>
<td>3483</td>
<td>822</td>
</tr>
<tr>
<td>Mean Age (range Q1-Q3)</td>
<td>66 (59-73)</td>
<td>66 (59-74)</td>
<td>72 (65-72y)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1007 (55%)</td>
<td>1840 (53%)</td>
<td>482 (59%)</td>
</tr>
<tr>
<td>Female</td>
<td>834 (45%)</td>
<td>1643 (47%)</td>
<td>340 (41%)</td>
</tr>
<tr>
<td>Place of birth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overseas</td>
<td>476 (26%)</td>
<td>755 (22%)</td>
<td>194 (24%)</td>
</tr>
<tr>
<td>Australia</td>
<td>1361 (74%)</td>
<td>2726 (78%)</td>
<td>627 (76%)</td>
</tr>
<tr>
<td>RRMA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural/Remote</td>
<td>1142 (62%)</td>
<td>2263 (65%)</td>
<td>491 (60%)</td>
</tr>
<tr>
<td>Urban</td>
<td>699 (38%)</td>
<td>1220 (35%)</td>
<td>331 (40%)</td>
</tr>
<tr>
<td>No. co-morbidities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>1042 (53%)</td>
<td>1845 (49%)</td>
<td>426 (25%)</td>
</tr>
<tr>
<td>1</td>
<td>692 (35%)</td>
<td>1413 (38%)</td>
<td>865 (51%)</td>
</tr>
<tr>
<td>2 or more</td>
<td>246 (12%)</td>
<td>472 (13%)</td>
<td>403 (24%)</td>
</tr>
</tbody>
</table>
Is the patient AWARE or UNAWARE of their condition?

<table>
<thead>
<tr>
<th>GP's recorded diagnosis</th>
<th>Patient's response “Do you have the condition?”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>YES</td>
<td>Aware</td>
</tr>
<tr>
<td>NO</td>
<td>Excluded</td>
</tr>
</tbody>
</table>
Results

• Different rates of unawareness for each condition

• 27% (923/3483) those with HYPERLIPIDAEMIA

• 19% (160/822) those prescribed ANTICOAGULANTS

BUT

• Only 5% (85/1841) of DIABETICS
WHO are the OWLS?

VS

WHO are the OSTRICHES?
Diabetes

- RURAL and REMOTE OR 2.7 (CI 1.4-5.3)
- LOW EDUCATION OR 5.6 (CI 2.3-13.5)
- OVERSEAS BORN OR 1.9 (CI 1.2-3.2)

OR = Odds ratio
CI = 95% confidence interval
Hyperlipidaemia

MALE
OR 1.6 (CI 1.3-1.8)

LOW SES
OR 1.5 (CI 1.2-1.9)
Cardiovascular condition requiring anticoagulation

- RURAL and REMOTE OR 2.5 (CI 1.4-4.3)
- NO CO-MORBIDITIES OR 2.1 (CI 1.2-3.8)
Are unaware patients less compliant?

• Prescribed medications
  • MARS-5 questionnaire (plus additional question) to grade patient’s adherence
  Median score 24/30 for aware + unaware in all conditions

• Lifestyle advice
  • Non smokers (eg Diabetes 90.3% of aware vs 92.8% of unaware, not significant)
  • Safe levels of alcohol
  • Total exercise (incidental or formal)
Strengths and weaknesses

• Self reporting and questionnaires

• Secondary analysis of an existing dataset
  – Conditions chosen to be studied
  – Difficult to assess causality in an observational study
  – Pros for me - time saved collecting data, cost effective

• The PoCT dataset
  + Large numbers, relevant to question, Australian
  – 5 years old
Key findings

• A proportion of patients with each condition were unaware, the greatest being anticoagulated or hyperlipidaemic patients

• **Rural/remote** is common factor associated with being unaware

• Other factors include
  – low education levels
  – low socioeconomic status

• No association found between being unaware and adherence
Dr Annabelle Forrest

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# Compliance by condition

<table>
<thead>
<tr>
<th>Compliance</th>
<th>Diabetes</th>
<th>Hyperlipidaemia</th>
<th>CVD requiring anticoagulation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aware</td>
<td>Unaware</td>
<td>Aware</td>
</tr>
<tr>
<td>Prescribed medications MARS Median score (-/30)</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Non smokers</td>
<td>90.3%</td>
<td>92.8%</td>
<td>91.1%</td>
</tr>
<tr>
<td>Exercise (most days of week)</td>
<td>60.7%</td>
<td>72.4%</td>
<td>65.7%</td>
</tr>
</tbody>
</table>