The role of patients intentions and beliefs in choosing to attend cardiac rehabilitation

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What is already known about this topic

Many eligible patients do not attend CR
• Little is understood about the beliefs and factors that influence patients willingness and capacity to attend a CR programme

Some points in terms of patients intentions are under discussion
• Patients decisions about attendance at CR are complex
• Patients decisions about attendance are guided by beliefs about CR, the self, other people and various aspects of coronary heart disease
• Patients can play an important role in promoting participation in other patients

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Disease prevention and health promotion in disease management programmes

I. Planning

PROCEED
- Health education, media, advocacy
- Policy, resources, organisation

PRECEDE
- Predisposing
- Reinforcing
- Enabling

II. Organizing

III. Development

Health
- Lifestyle
- Environment
- Clinical outcome
- Health rel. quality of life

Green LW, Wilson RW, Bauer KG.

Data required to measure progress on the objectives for the nation in disease prevention and health promotion

How to estimate treatment effects of cardiac rehabilitation

**Measuring…**

**Doctors targets**
- Clinical domains
  - Hypertension
  - Cholesterol
  - Diabetes
- Behavioural domains
  - Smoking
  - Body mass
  - Exercise capacity

**Patients perception**
- **Functional Classification**
  - CCS - Angina Classification status
  - NYHA - Functional Seattle Angina Questionnaire
- **Health related quality of life**
  - The SF 36 Health Survey
  - Kansas City Cardiomyopathy Questionnaire
  - The MacNew Heart Disease health-related quality of life instrument
- **Illness perception**
  - The Illness Perception Questionnaire

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Patients point of view is sometimes different

After his first MI, Norman speculates about CR:

- ...I don't know what they do there, well, somebody say they do exercise....

Cognitive domain is important

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A qualitative study investigating patients' beliefs about cardiac rehabilitation

## Why patients do not attend CR: differences in illness perceptions and risk factors between diagnostic categories

<table>
<thead>
<tr>
<th></th>
<th>Attenders (n = 55)</th>
<th>Non-attenders (n = 82)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>10 (18.2)</td>
<td>22 (26.8)</td>
<td>NS</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td>p = 0.0002</td>
</tr>
<tr>
<td>Confidence interval Range</td>
<td>55.95 to 60.89</td>
<td>62.55 to 66.71</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>29 (52.7)</td>
<td>22 (26.8)</td>
<td>p = 0.007</td>
</tr>
<tr>
<td>Smoking history</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>15 (27.3)</td>
<td>22 (27.5)</td>
<td></td>
</tr>
<tr>
<td>Past</td>
<td>34 (61.8)</td>
<td>53 (66.3)</td>
<td>NS</td>
</tr>
<tr>
<td>Present</td>
<td>6 (10.9)</td>
<td>5 (6.2)</td>
<td></td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMI</td>
<td>22 (40)</td>
<td>42 (51.2)</td>
<td>NS</td>
</tr>
<tr>
<td>CABG</td>
<td>20 (36.4)</td>
<td>22 (26.8)</td>
<td></td>
</tr>
<tr>
<td>CABG + AMI</td>
<td>13 (23.6)</td>
<td>18 (22)</td>
<td></td>
</tr>
<tr>
<td>Illness perceptions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control/cure</td>
<td>24.9 (24.0 to 25.8)</td>
<td>23.4 (22.7 to 24.1)</td>
<td>p = 0.01</td>
</tr>
<tr>
<td>Consequences*</td>
<td>13.5 (12.6 to 14.5)</td>
<td>12.6 (12.2 to 13.3)</td>
<td>p = 0.08</td>
</tr>
<tr>
<td>Timeline</td>
<td>9.8 (8.9 to 10.6)</td>
<td>9.8 (9.2 to 10.4)</td>
<td>NS</td>
</tr>
<tr>
<td>Causal attribution*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifestyle</td>
<td>3.45 (1.1)†</td>
<td>2.8 (1.2)†</td>
<td>p = 0.008</td>
</tr>
<tr>
<td>Stress</td>
<td>3.6 (1.1)†</td>
<td>3.3 (1.3)†</td>
<td></td>
</tr>
<tr>
<td>Intention to attend</td>
<td>51 (92.7)</td>
<td>48 (58.5)</td>
<td>p = 0.00001</td>
</tr>
<tr>
<td>Knowledge of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood pressure</td>
<td>45 (81.8)</td>
<td>64 (79)</td>
<td>NS</td>
</tr>
<tr>
<td>Total cholesterol</td>
<td>38 (69.1)</td>
<td>40 (48.8)</td>
<td>p = 0.02</td>
</tr>
<tr>
<td>Previous regular exercise</td>
<td>26 (51.0)</td>
<td>37 (54)</td>
<td>NS</td>
</tr>
<tr>
<td>Body mass index (kg/m²)</td>
<td>25.8 (24.4 to 27.1)</td>
<td>25.7 (24.5 to 26.8)</td>
<td>NS</td>
</tr>
<tr>
<td>History of heart disease</td>
<td>31 (62)</td>
<td>42 (58.3)</td>
<td>NS</td>
</tr>
</tbody>
</table>

Where count data are given actual numbers are shown with percentages in parentheses; for continuous data the mean score for each variable is shown with the confidence intervals in parentheses.

*Mann-Whitney U test; †SD.
NS, not significant.

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Illness perception was measured using Weinman’s IPQ.
Patients expectations in cardiac rehabilitation

% of pts.

- quick recovery
- disease management
- vocational issues
- optimise treatment
- meet CR targets

Horres-Sieben B, PhD work (2004) University of Lübeck, Germany
Patients expectations in cardiac rehabilitation

<table>
<thead>
<tr>
<th>Pts. expectations</th>
<th>women</th>
<th>men</th>
<th>p- value</th>
</tr>
</thead>
<tbody>
<tr>
<td>To relax</td>
<td>2.4</td>
<td>1.9</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Disease management</td>
<td>2.1</td>
<td>1.7</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Vocational / house keeping issues</td>
<td>7.8</td>
<td>6.9</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Better treatment</td>
<td>2.9</td>
<td>2.7</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Meeting predefined CR targets</td>
<td>1.9</td>
<td>1.2</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

Horres-Sieben B, PhD work (2004) University of Lübeck, Germany
Patients expectations in cardiac rehabilitation

Horres-Sieben B, PhD work (2004) University of Lübeck, Germany
Patients intentions to participate in the Austrian Outpatient Cardiac Rehabilitation Programme

<table>
<thead>
<tr>
<th>INTENTIONS TO PARTICIPATE (%)</th>
<th>first</th>
<th>second</th>
<th>third</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical fitness</td>
<td>38</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Disease management</td>
<td>15</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Lifestyle changes</td>
<td>10</td>
<td>15</td>
<td>23</td>
</tr>
<tr>
<td>Doctors advise</td>
<td>5</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>Others</td>
<td>32</td>
<td>48</td>
<td>21</td>
</tr>
</tbody>
</table>

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Programme acceptance and treatment satisfaction of patients participating in the Austrian Outpatient Cardiac Rehabilitation Programme

How do you judge the quality of the programme

- Excellent: 26%
- Good: 74%

Did you receive what you expected

- Yes: 72%
- More or less: 28%

Would you recommend your programme to others

- Yes for sure: 90%
- Probably yes: 10%

Questionnaire: ZUF-8

% of patients agreed

Zauner H. AGAKAR - Patients Satisfaction Study. AGAKAR (2010)
Barriers of well documented benefits of cardiac rehabilitation

- Non-attendance /non-completion - many recent studies have examined this phenomenon
  (Yohannes et al 2007; Cooper et al 2007)
- Completion rates range from 58%-89%
  (Sanderson et al 2003; Jennings et al 2006)
- Non-attendance rates range 4%-14%
  (Turner et al 2002; Roblin et al 2004)
- Drop out rates range 30%-50%
  (Farley et al 2003; Chan et al 2005)
The Ontario Exercise-Heart Collaborative Study was a multicenter randomized clinical trial of high intensity exercise for the prevention of recurrent myocardial infarction in 733 men.

Of the 678 subjects who could have participated for at least 3 years, 315 (46.5%) dropped out.

The consistent and statistically significant predictors of dropout in both analyses were smoking and a blue collar occupation.

Oldridge NB et al. Am J Cardiol (1983)51;1:70-74
Conclusions and implications

- Patients decisions about attendance in CR remain complex.
- Patients decisions about attendance are guided by their beliefs about CR. This beliefs are sometimes different from evidence based CR targets.
- Patients cognitive function influences his/her disease and treatment perception.
- Patients role in promoting participation in CR is as important as doctors standpoints.
- A major challenge of CR implementation will be to direct patients beliefs, policy targets and doctors standpoints towards quality approved CR programmes.

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