Clinicians’ preferences for treatments to prevent coronary heart disease: a postal survey

S Bryan, P Gill, S Greenfield, K Gutridge, T Marshall, Birmingham Patient Preferences Group


The decision to offer treatment to prevent coronary heart disease weighs up the benefits of treatment against the disadvantages of treatment. The benefits of treatment are the product of the relative risk of treatment and pre-treatment risk. Relative risk is approximately 0.7 for both aspirin and statins. As adverse effects are infrequent, the principal disadvantages of treatment are medicalisation and inconvenience.

Previous research on clinicians’ preferences for preventive treatments had a number of weaknesses. Clinicians were asked to decide on their own behalf rather than for their patients. Outcome was expressed only as improvement in shortness of breath), and two in 10 die.

All groups

Cardiologists General practitioners Practice nurses Did not understand Understood All groups

<table>
<thead>
<tr>
<th>Lowest 5 year coronary risk at which treatment is recommended*</th>
<th>Number (%) choosing this threshold</th>
<th>Grouped by profession</th>
<th>Grouped by comprehension</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>10 (16%)</td>
<td>2 (4%)</td>
<td>35 (13%)</td>
</tr>
<tr>
<td>6%</td>
<td>14 (33%)</td>
<td>8 (13%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>10%</td>
<td>20 (42%)</td>
<td>17 (28%)</td>
<td>6 (25%)</td>
</tr>
<tr>
<td>15%</td>
<td>25 (42%)</td>
<td>22 (11%)</td>
<td>7 (11%)</td>
</tr>
<tr>
<td>20%</td>
<td>30 (32%)</td>
<td>25 (13%)</td>
<td>8 (13%)</td>
</tr>
<tr>
<td>30%</td>
<td>35 (13%)</td>
<td>25 (13%)</td>
<td>7 (1%)</td>
</tr>
<tr>
<td>Not recommended at 30%</td>
<td>192 (100%)</td>
<td>61 (100%)</td>
<td>24 (100%)</td>
</tr>
</tbody>
</table>

*Approximately equivalent to reductions in 5 year coronary risk of 1%, 2%, 3%, 4.5%, 7%, 9% and >9%, respectively.
701), 60% (43 of 72) cardiologists, 38% (192 of 505) general practitioners, and 49% (61 of 124) practice nurses.

Ninety two per cent of clinicians (262/286) answered both comprehension questions correctly. There were differences between professional groups: all cardiologists answered both correctly, 96% of general practitioners and 73% of practice nurses ($\chi^2; p < 0.0001$). There was considerable variation in the risk thresholds at which clinicians would offer treatment. Fourteen per cent (42/296) would offer treatment to patients at 3% five year coronary risk. Four per cent (13/296) of respondents would not offer treatment to patients at even a 30% five year coronary risk. The median treatment threshold was 15% five year coronary risk (equivalent to 4.5% absolute reduction in risk). For all three professional groups, both modal and median thresholds for treatment were 15% five year risk (equivalent to 4.5% absolute reduction in risk). Differences in median responses between professional groups were not significant by Kruskal-Wallis H test (table 1).

Exclusion of respondents who failed to answer both comprehension questions correctly did not affect the median responses. Modal and median threshold treatments were the same in participants presented with scenarios in descending and ascending order of coronary risk.

The median risk threshold was 6% for respondents who answered both comprehension questions correctly and 15% for those who did not (Mann-Whitney U test, two tailed $p = 0.026$).

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**DISCUSSION**

Despite low response rates from general practitioners, response rates are comparable to those achieved in a similar postal survey.1 Significant numbers of non-specialist clinicians, a quarter of nurses and one in 20 general practitioners, failed to understand the risk information and were more likely to fail to offer treatment to patients at 3% five year coronary risk. Four per cent (13/296) of respondents would not offer treatment to patients at even a 30% five year coronary risk. The median treatment threshold was 15% five year coronary risk (equivalent to 4.5% absolute reduction in risk). For all three professional groups, both modal and median thresholds for treatment were 15% five year risk (equivalent to 4.5% absolute reduction in risk). Differences in median responses between professional groups were not significant by Kruskal-Wallis H test (table 1).

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**DISCUSSION**

Despite low response rates from general practitioners, response rates are comparable to those achieved in a similar postal survey.1 Significant numbers of non-specialist clinicians, a quarter of nurses and one in 20 general practitioners, failed to understand the risk information and were more likely to fail to offer treatment. Our survey may underestimate failures of comprehension as participants who felt they understood the risk thresholds at which clinicians would offer treatment. 3–5 We found similar median coronary risk thresholds to those reported previously.34 Our study concurs with previous studies which concluded that individual clinicians vary widely in the threshold at which they offer treatment.1 2 3 We found similar median coronary risk thresholds to those reported previously.1 2 3 4

Our finding of the same median coronary risk threshold across different professional groups differs from previous research and may reflect recent UK treatment guidelines. These guidelines recommend intervention at 30% 10 year coronary risk (equivalent to 15% five year coronary risk).

In conclusion, there is no consensus among clinicians on a treatment threshold at which to offer preventive treatment. Guidance provided to patients is therefore arbitrary. The extent and implications of poor understanding of risk among clinicians merits further investigation.

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