Evaluating the cost-effectiveness of interventions for the management and treatment of obesity in men – results from the ROMEO study

BACKGROUND

Overweight and obesity are significant population health concerns. Recently published projections suggest that an additional 11 million people could be obese in the UK by 2030. As a result, the UK could lose 6.3 million Quality Adjusted Life Years (QALYs) by 2030 due to the obesity problem. The associated costs to the NHS could increase by up to £2 billion pound per year, with costs due to lost productivity increasing the economic burden even further. Even small reductions in BMI (e.g. 1%) for every adult in the UK could save the UK 3.2 million QALYs by 2030.

In the UK, more men than women are overweight or obese. There is a growing body of evidence that sex and gender can influence the effectiveness of weight loss interventions. As part of the ROMEO (Review Of Men and Obesity) project we reviewed the evidence on cost-effectiveness.

OBJECTIVE

To systematically review and quality assess the evidence on cost-effectiveness of interventions to treat obesity in men.

METHODS

Search strategy: An extensive and highly sensitive search of 7 databases using appropriate subject headings and text word terms.

Inclusion criteria: Men or subgroups of men with mean/median BMI of ≥30kg/m2 (or ≥28 kg/m2 with cardiac risk factors). Interventions included orlistat, diet, physical activity, behaviour change techniques, or combinations of these; compared with each other, placebo or no intervention; in any setting. Studies reporting formal economic evaluations (cost-minimisation, cost-effectiveness, cost-utility or cost-benefit analysis).

Data analysis: A narrative summary of study results is presented. Studies were quality assessed according to the Phillips criteria for decision models.

RESULTS

Five studies met the inclusion criteria, none of which were UK specific. There were no interventions designed especially for men; the included studies reported results for male subgroups of mixed-sex study populations. Three studies evaluated lifestyle interventions, including components of physical activity, dietary advice, professional counselling and group behavioural modification. Two studies evaluated Orlistat versus placebo in addition to standard diabetes management and in addition to dietary and physical activity intervention. All studies measured cost-effectiveness using a form of decision analysis model. Studies compared costs (of intervention, and long-term treatment) with outcomes (life years gained (LYG) or QALYs gained). Cost-effectiveness results were presented using the incremental cost-effectiveness ratio (ICER). This measures the additional cost to the NHS of achieving a single unit improvement in health outcomes (LYG or QALY). The lower the cost (i.e. the lower the ICER), the more likely an intervention is to be deemed cost-effective. Table 1 summarises the five studies.

<table>
<thead>
<tr>
<th>Study</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Outcome measure</th>
<th>ICER range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segal</td>
<td>Behavioural modification</td>
<td>Std. Care</td>
<td>LYG</td>
<td>£7k - £8k</td>
</tr>
<tr>
<td>Olsen</td>
<td>GP or dietician counselling</td>
<td>Std. Care</td>
<td>LYG</td>
<td>£530 – £2,600</td>
</tr>
<tr>
<td>Galani</td>
<td>Lifestyle advice (Physical activity and dietary)</td>
<td>Std. Care</td>
<td>QALY</td>
<td>£97k</td>
</tr>
<tr>
<td>Maelzel</td>
<td>Orlistat + standard diabetes treatment</td>
<td>Standard diabetes</td>
<td>LYG</td>
<td>£7k - £23k</td>
</tr>
<tr>
<td>Janazzo</td>
<td>Orlistat + lifestyle advice (physical activity and dietary)</td>
<td>Lifestyle advice (physical activity and dietary)</td>
<td>QALY</td>
<td>£9k - £74k</td>
</tr>
</tbody>
</table>

CONCLUSIONS

There is evidence that lifestyle interventions (including physical activity and dietary advice) and GP counselling (providing general lifestyle and dietary advice) may be cost-effective treatments. There is some evidence that Orlistat may be cost-effective in addition to a lifestyle intervention (physical activity and dietary advice), but only when targeted at highest risk groups (e.g. those with impaired glucose tolerance).

However, the results should be interpreted in light of their methodological limitations (diseases considered for inclusion in the model; comprehensiveness of the costing process; economic evaluation framework used; assumptions regarding weight maintenance and regain; and time horizon of costs and benefits). Figure 1 outlines some of the methodological limitations which were found in studies.

REFERENCES


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