A lifestyle-based weight management program delivered to employees: examination of health and economic outcomes
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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary
This study assessed the clinical and economic impact of an employer-sponsored weight management programme in employees with a body mass index of 27 or higher plus two or more risk factors, or an index of 30 or higher. The authors concluded that the employer-sponsored, comprehensive weight management programme decreased weight, improved obesity-related outcomes, and decreased costs. The study had several methodological limitations that might affect the validity of these conclusions and further studies are needed to corroborate them.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
This study assessed the clinical and economic impact of an employer-sponsored weight management programme for employees with a body mass index (BMI) of 27 or higher plus two or more risk factors or a BMI of 30 or higher.

Interventions
The programme focused on physical activity, diet or nutrition, behavioural counselling, and physician monitoring. It was implemented in clinics that specialised in weight management and had exercise rooms, with a variety of cardiovascular and weight training machines, instruction rooms, and private behavioural counselling rooms. The personnel included physical trainers, registered dieticians, certified diabetic educators, counsellors, and physicians. The programme lasted for 26 or 52 weeks, depending on the patient’s choice, with an intensive 12-week initial period. The comparator was no intervention.

Location/setting
USA/work place.

Methods
Analytical approach:
The economic evaluation was based on a single study with a one-year time horizon. The authors stated that the perspective of the third-party payer was adopted.

Effectiveness data:
The clinical analysis was based on a within-group comparison study, with a sample of 593 employees who were recruited at three corporations and had job requirements that did not include significant physical activity. The analysis was conducted on 516 of these employees, who provided data at 26 or 52 weeks, and it was then restricted to a subgroup of 46, who provided data for a follow-up period of one year after the intervention. Changes in body weight, BMI, and waist circumference were the key outcomes of the programme.

Monetary benefit and utility valuations:
Not considered.

Measure of benefit:
The health outcomes were not combined and no summary benefit measure was used.
Cost data:
The economic analysis included only the drug costs. The resource use data were from the actual drugs taken by a subgroup of 61 participants from one corporation. Drug prescriptions and costs were compared before and after the programme. The resource use data for medical visits and self-reported sick days were also collected, but not included in the costs. Claims data based on the Drug Cost Management Report were used to estimate the costs of drugs. They were in US dollars ($) and were published in 2003.

Analysis of uncertainty:
Not investigated.

Results
At follow-up assessment, compared with baseline, body weight decreased by 5.4%, mean BMI decreased by 5.2%, and average waist circumference decreased by 7.2%. These were all statistically significant (p<0.001). There was also a statistically significant improvement in psychosocial symptoms measured by the Beck Depression Inventory and the Rosenberg Self-Esteem Scale. In the subgroup of patients with data at one year after the intervention, the average weight loss and BMI reduction was maintained.

The number of prescription drugs taken per participant fell from 7.0 to 3.9 (44%). The total estimated annual drug costs per person were $4,353 at baseline and $1,970 after the intervention, a difference of $2,382. There was also a statistically significant reduction in the number of medical visits and reported sick days.

Authors’ conclusions
The authors concluded that the employer-sponsored, comprehensive weight management programme decreased weight, improved obesity-related outcomes, and decreased costs.

CRD commentary
Interventions:
The comparators were appropriately selected as the proposed programme was compared against the standard care, which was no intervention. An extensive description of the weight management programme was given.

Effectiveness/benefits:
The clinical evidence came from one group of patients, who acted as their own controls, with baseline data used to represent the outcomes in the absence of the intervention. Participation was voluntary, which means that these employees might not have been representative of all individuals eligible for the intervention. There were key differences between the dropouts and the intervention completers. No formal justification for the size of the sample was provided. These issues might affect the validity of the clinical analysis.

Costs:
The economic analysis was restricted to the drug costs. The inclusion of other medical services would have been interesting. The cost of the programme was not calculated, but the authors stated that it could have been as high as $6,000 and still have been cost saving; it was not clear how this figure was estimated. Limited information on the unit costs and resource quantities was provided. The authors stated that the cost savings were calculated in a speculative manner, because the actual prices of drugs used by the participants were not available. The cost estimates were treated deterministically.

Analysis and results:
The results were clearly reported, but the economic and the clinical outcomes were not synthesised and a cost-consequences analysis was conducted. The issue of uncertainty was not investigated. The authors acknowledged some limitations of their analysis, such as the non-randomised study design, the risk of selection bias, the exclusion of some cost categories, and the small sample for the long-term analysis.

Concluding remarks:
The study had several methodological limitations that might affect the validity of the authors’ conclusions. Further studies are needed to corroborate these findings.
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