Title	**Obesity – Problems and Interventions**
Agency	**SBU, The Swedish Council on Technology Assessment in Health Care** Box 5650, SE-114 86 Stockholm, Sweden; tel: +46 8 412 3200, fax +46 8 411 3260, info@sbu.se
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Aim

The Project Group reviewed the evidence for preventive interventions in adults and children and a range of treatment methods, including diet, exercise, behavioral therapy, medications, alternative medicine, and surgery.

Methods

MEDLINE and Cochrane Library databases were searched for literature published on obesity between 1966 and 2001. For costs, economic assessments, ethics, quality of life and alternative medicine, searches in the Cinahl, EmBase, HEED, NHS Center for Reviews and Dissemination and PsycInfo databases were added. Reference lists, international contacts, and review articles were also used.

The literature review and quality evaluation was done in several steps. Two Project Group members independently of each other, according to pre-established criteria, first selected possibly relevant studies from abstract lists. In the second step, relevant studies fulfilling the minimum requirements were included in the critical appraisal procedure. The quality evaluations were conducted using a review format with pre-established criteria. Two members from the Project Group graded all studies, and the value of the evidence presented was ranked as high, moderate, or poor. Thereafter, facts were extracted from the studies. A synthesis of the results, particularly from the studies that received a high or moderate grade, was carried out and conclusions were drawn. Only statistically significant differences in the results were reported.

Finally, the conclusions in the report were graded according to the strength of the evidence: strong scientific evidence (Grade 1), moderate scientific evidence (Grade 2), and limited scientific evidence (Grade 3).

Results

The prevalence of obesity and its complications is increasing rapidly. The number of individuals with obesity (both adults and children) has increased substantially during the past 20 years, and approximately 500 000 individuals in Sweden are now obese. Obesity - particularly when localized to the abdomen - is associated with an increased risk for several serious diseases, eg, diabetes, cardiovascular diseases, and joint disorders. The correlation between obesity and certain types of cancer is strong. Obesity - particularly severe obesity - also has a strong negative influence on the quality of life.

It is difficult to prevent obesity

Most population-based preventive programs that have been scientifically assessed have not demonstrated any favorable effects on the prevalence of obesity. However, there are examples of successful programs for both adults and children. New outreach strategies - to change dietary habits and motivate individuals, especially children to become more physically active – need to be developed and assessed. Concurrently, public policy initiatives are needed to reduce the incidence of obesity.

Scientific assessment of treatment methods

As presented in the table (see next page) it is possible to reduce body weight by almost every method for a year. The reduction is meaningful for patients and good for health. The major problem however, is that the achieved weight loss is not usually permanent. Within a few years most who had initially succeeded in losing weight had returned to

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Treatment	Studies, no	Weight loss Kg/1 year	Degree of evidence
Diet	25	3–10	1
Physical activity	4	4	1
Fibres	3	1–2 ?	–
Very Low Calorie Diets	8	2	3
Behavioral Therapy	4	1–2 ?	–
Drugs			
Orlistat (Xenical®)	6	3	2
Sibutramin (Reductil®)	3	4–5	2
Alternative medicine	11	–	–

their original weight. Therefore, it is particularly important to develop and assess long-term treatments that aim at permanent weight loss.

Intervening against other risk factors – even when weight reduction does not succeed can also reduce the risks of obesity. Such interventions would include increased physical activity, smoking cessation, and improved control of diabetes, high blood pressure, and elevated blood lipids.

Surgical treatment, which is an option in severely obese patients, reduces weight, on average, by somewhat more than 25% (eg, from 125 to 90 kg) up to 5 years after surgery. After 10 years, a weight loss of 16% remains, on average slightly over 20 kg. This has substantial health effects especially for improving or preventing diabetes. There are also quality of life benefits for this patient group. The intervention, however, carries risks for complications.

Limited information on cost effectiveness

The cost effectiveness of preventive methods cannot be calculated due to the uncertainty surrounding their effects. In treating obesity, the costs are relatively low for the weight reduction that is achieved through dietary counselling, behavioral therapy, dietary replacement formulas with low energy content, and surgery, but substantially higher for pharmacological treatment. No studies were found that estimated cost effectiveness based on an observed reduction in morbidity or mortality, or an improvement in the quality of life.

Prejudice against obesity must be opposed

Those affected by obesity should not be treated with disrespect and prejudice – many people risk becoming obese, but no one desires it. The reduced quality of life that individuals with obesity experience is partly attributed to the attitudes of people around them. Increased understanding for the origins of obesity and how difficult it is to treat may help reduce the prejudice against obese individuals, which occurs both within the health services and in society at large.

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