



# Critical Appraisal

## Lose weight to lose erectile dysfunction

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**Esposito K, Giugliano F, Di Palo C, Giugliano G, Marfella R, D'Andrea F, et al. Effect of lifestyle changes on erectile dysfunction in obese men. *JAMA* 2004;291:2978-84.**

### Research question

Do lifestyle changes that reduce obese men's weight have a beneficial effect on their erectile dysfunction (ED)?

### Type of article and design

Randomized controlled trial.

### Relevance to family physicians

With advertisements for Viagra and the Atkins Diet overwhelming our media, I could not resist reviewing this interesting Italian trial that studied two key objectives of our patients: losing weight and sustaining erectile function. The prevalence of obesity increased dramatically in the United States during the 1990s; nearly one third of adults (30.5%) were classified as obese in the 1999-2000 National Health and Nutrition Examination Survey. Since 1960, the prevalence of obesity in American adults has increased by 17.5%. When rates of "overweight" and "obesity" are combined, the estimated prevalence among American adults is 64.5%.<sup>1</sup> A Canadian population survey of people older than 12 (aboriginal

people excluded) found that a quarter of all women and a third of all men were obese (body mass index [BMI] 27 or greater).<sup>2</sup>

Estimates of rates of ED are less precise. The Health Professionals Follow-Up Study revealed ED rates of 12% in men younger than 59, 22% in men 60 to 69, and 30% in men older than 70.<sup>3</sup> Epidemiologic evidence links well recognized risk factors for coronary artery disease, such as obesity, hypertension, and hypercholesterolemia, with ED. Some even suggest that ED can be a sentinel event for coronary artery disease in asymptomatic men.<sup>4,5</sup>

While obesity is perhaps the biggest source of many problems we see in family medicine, no trials show that we know how to help patients achieve sustainable weight loss. American studies have shown that, at any given time, 40% of women and 20% of men are dieting. Most studies show, however, that one third to two thirds of any initial weight loss is regained within a year, and almost all the weight is regained within 5 years.<sup>6,7</sup>

Weight loss typically comes from both reduced calorie intake and increased physical activity, but it seems to be increased physical activity that could help reduce rates of ED. Men who initiated physical activity in midlife in the Massachusetts Male Aging Study had a 70% reduced ED rate compared with sedentary controls.<sup>8</sup> My own opinion is that

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advertising for products and diets plays a big role: it both helps by increasing awareness and hinders by suggesting that using the product or diet leads to instant fabulous sex or weight loss. This trial asks whether there can be a common solution to two common problems: can lifestyle change effect weight loss and improve ED?

### Overview of study and outcomes

This 2-year trial studied 110 obese Italian men experiencing ED who sought care at a university weight-loss clinic. The International Index of Erectile Function (IIEF) was used to determine presence of ED. Patients with coronary artery disease, diabetes, high alcohol intake, psychiatric problems, and hypertension were excluded. Baseline biometric measurements were taken, as were inflammatory markers of the oxidative process and endothelial function changes (eg, interleukins and C-reactive protein) that seem to occur in obese people.

Men randomly assigned to the intervention were put on an intensive weight-loss program that included personal dietary counseling, exercise advice, regular meetings with a nutritionist, and a personal trainer. They met monthly with experts during the first year and bimonthly during the second year. Target weight loss was 10%. The control group received general oral and written guidance on weight loss at the beginning and visited the program bimonthly. Of the 140 men recruited for this trial, 110 met the eligibility criteria. Average age was 43.5, and average weight was 103 kg with a BMI of 36.9. Outcomes included change in IIEF score, in indices of endothelial and cytokine function, in BMI, and in rates of physical activity.

### Results

After 2 years, three men had dropped out in each group. The intervention group consumed about 300 fewer calories a day and increased activity time from 48 to 195 min/wk compared

with 84 min/wk for controls. At the beginning of the trial, the intervention group averaged 103 kg, and controls averaged 101 kg. At the end of the trial, the intervention group averaged 88 kg (BMI 31.2), and the control group averaged 99 kg (BMI 35.7). Men in the intervention group lost on average 15 kg (33 lbs) or 15%. Endothelial and inflammatory markers all reduced with weight loss. In the group that made lifestyle changes, 31% of men had erectile function restored, but only 5% of the sedentary group had it restored.

### Analysis of methodology

This well executed trial had good follow up and intention to treat analysis. Obvious flaws are related to both selection bias and the reality of repeating this intervention in our own clinics. The men who entered this trial were likely more motivated than patients we would typically see because they were culled from a university-based weight-loss clinic. The attention they received from trained experts (eg, nutritionists, personal trainers) would be difficult to replicate.

### Application to clinical practice

Although difficult to do, this trial provides evidence supporting a nonpharmacologic option for restoring ED that also has other benefits. The authors cite biochemical changes that occurred with weight loss and attempt to attribute improved penile function to these changes. While I found the improved oxidative and inflammatory activity at this level interesting and one more reason to lose weight, I cannot help thinking that other side effects of a better lifestyle, such as mental health improvement and increased self-esteem, contributed. The authors make the final point that, regardless of mechanism, the lifestyle changes were effective. If only we could take the budget for ED drugs and apply it to lifestyle interventions!

## Bottom line

- About one third of obese men with ED were able to cure this problem by making lifestyle changes and losing weight.
- The obese men in this trial were motivated, had close contact with an expert team, and lost 15% of their weight. This would not reflect our typical patient, nor what most of us could offer obese patients. ❁

## Points saillants

- Environ le tiers des hommes obèses souffrant d'une dysfonction érectile ont été en mesure de régler ce problème en changeant leur mode de vie et en perdant du poids.
- Les hommes obèses dans cette étude étaient motivés, étaient en étroite communication avec une équipe d'experts et ont perdu 15% de leur poids. Cela ne ressemble pas à nos patients typiques ni à ce que la plupart d'entre nous sommes en mesure d'offrir aux patients obèses.

## References

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