


Review: several pharmacological therapies promote modest weight loss

Li Z, Maglione M, Tu W, *et al.* Meta-analysis: pharmacologic treatment of obesity. *Ann Intern Med* 2005;142:532–46.


Clinical impact ratings GP/FP/Primary care ★★★★★☆ IM/Ambulatory care ★★★★★☆ Endocrine ★★★★★☆

Q How effective and safe are pharmacological therapies in the treatment of obesity?


METHODS



Data sources: Medline (to July 2003), the Cochrane Central Register of Controlled Trials, and existing systematic reviews.



Study selection and assessment: randomised controlled trials that evaluated pharmaceutical agents for weight loss in patients with body mass index ≥ 27 kg/m² and reported ≥ 6 month weight outcomes. Study quality was assessed using the 5 point Jadad scale (5=highest quality) and considered study design, method of random assignment, blinding, and withdrawal.



Outcomes: weight loss and side effects.

MAIN RESULTS

The studies meeting inclusion criteria were 3 existing meta-analyses (39 RCTs) evaluating sibutramine, phentermine, and diethylpropion, and 47 RCTs that evaluated orlistat, bupropion, topiramate, and fluoxetine. All comparisons were with placebo, and most trials had a hypocaloric diet cointervention. Meta-analyses were done using random effects. Most medications led to modest weight loss compared with placebo; side effects varied by drug (table).

CONCLUSION

On average, sibutramine, phentermine, orlistat, diethylpropion, bupropion, topiramate, and fluoxetine led to 1–7 kg of weight loss by 6 months in obese adults with body mass index ≥ 27 kg/m².

For correspondence: Dr Z Li, West LA Veterans Affairs Medical Center, Los Angeles, CA, USA. zhaoping.li@med.va.gov

Source of funding: Agency for Healthcare Quality and Research.

Abstract and commentary also appear in *ACP Journal Club*.

COMMENTARY APPEARS ON NEXT PAGE.

Medical therapies v placebo for obesity*

Drug	Number of placebo controlled RCTs	Follow up	Weight loss (kg) (95% CI or range)	Commonly reported side effects
Sibutramine	12	16–24 weeks	–3.4 to –6.0	Increased heart rate (4 beats/minute)
	5	44–54 weeks	–4.5 (–5.3 to –3.6)	
Phentermine	6	2–24 weeks	–3.6 (–6.0 to –0.6)	Palpitations, tachycardia, increased blood pressure, central nervous system and gastrointestinal effects
Diethylpropion	9	6–52 weeks	–3.0 (–11.5 to 1.6)	Central nervous system effects, dizziness, headache, insomnia, restlessness, increased blood pressure, palpitations, tachycardia, gastrointestinal effects, rash
Orlistat	12	6 months	–2.6 (–3.5 to –1.7)	Diarrhoea, flatulence, bloating, abdominal pain, dyspepsia
	22	12 months	–2.9 (–3.5 to –2.3)	
Fluoxetine	7	6 months	–0.9 to –9.1	Nervousness, sweating, tremors, nausea, vomiting, fatigue, asthenia, hypersomnia, somnolence, insomnia, diarrhoea
	6	12 months	–14.5 to 0.4	Dry mouth
Bupropion	3	6–12 months	–2.8 (–4.5 to –1.1)	Paraesthesia, taste perversion, central nervous system effects, constipation, dry mouth, upper abdominal symptoms, fatigue
Topiramate (percentage weight loss)	6	6 months	–6.5% (–8.3 to –4.8)	

*RCT = randomised controlled trial; CI defined in glossary. A random effects model was used.