

New anti-obesity medications

Considerations and future directions in people with concurrent eating disorders

Gemma Sharp, Teresa Girolamo, Phillipa Hay, Deborah Mitchison, Kelly Cooper, Priya Sumithran, Hiba Jebeile

This article is part of a longitudinal series on nutrition and diet.

PS and HJ are the two co-senior authors.

Everybody looks so great. When I look around this room, I can't help but wonder 'Is Ozempic right for me?'

– Jimmy Kimmel

The above quote is from Jimmy Kimmel's opening speech at the Academy Awards in March 2023 as he gazed across the star-studded audience.¹ The fact that such a comment was met with universal laughter suggests widespread public awareness of the effectiveness of semaglutide in promoting weight loss. In Australia, semaglutide 1.0 mg weekly is approved by the Therapeutic Goods Administration (TGA) for the treatment of type 2 diabetes.² Semaglutide 2.4 mg weekly is approved (but not currently available) for chronic weight management in adults with a body mass index of ≥ 30 kg/m² or ≥ 27 kg/m² with at least one weight-related comorbidity.² The widespread promotion of semaglutide on social media as a short-term weight

loss method (eg '#Ozempic'-tagged posts viewed over 250 million times on TikTok),³ has raised concerns over potential non-prescribed use in people with eating disorders. The aim of this viewpoint is to discuss considerations of eating disorders in people seeking treatment for obesity and recommendations for future research.

Glucagon-like peptide-1 (GLP-1) receptor agonists such as semaglutide reduce food intake by acting at GLP-1 receptors in appetite and reward centres in the brain (including the hypothalamus, hindbrain and mesolimbic pathway) to reduce hunger and food reward and increase satiation. They also control blood glucose levels by stimulating insulin secretion in the presence of hyperglycaemia, reducing glucagon secretion and slowing gastric emptying.⁴ Semaglutide (2.4 mg weekly) is the first obesity medication for which weight loss of >10% was achieved in most (69%) clinical trial participants (mean weight loss 15% at 68 weeks).⁵ Regulatory approval for an obesity indication is expected to be sought in 2023 for tirzepatide, a dual GLP-1 and glucose-dependent insulinotropic polypeptide receptor agonist that resulted in a mean weight loss of 21% over 72 weeks in a clinical trial for obesity management.⁶ Both medications are associated with greater improvements in cardiometabolic risk factors (including

waist circumference and blood pressure, blood glucose and lipid levels) and health-related quality of life compared with placebo.⁵ Both semaglutide and tirzepatide (as well as all other medications for obesity management) are intended to be used alongside behavioural/lifestyle interventions. Most agents, including semaglutide, are intended for long-term use to maintain weight loss and associated health improvements. Cessation of effective medications for weight management results in loss of effect, often leading to rapid weight regain. Short-term use, and the associated weight rebound, might cause distress in some people, especially in those experiencing eating disorders due to overconcern about body weight and shape, and their control.⁶

Eating disorders, characterised by an overvaluation of body weight and shape in the context of binge eating and/or extreme weight control behaviours, are incorrectly and stereotypically associated with low body weight. In fact, eating disorders of all phenotypes are more common in people with higher weight.⁷ Individuals with eating disorders and higher weight are more likely to seek and be referred to weight loss interventions, including pharmacological interventions, than addressing eating disorder symptoms.⁸ As a result, screening for previously undiagnosed eating disorders and enquiring about body image concerns

and disordered eating behaviours, including binge eating, fasting, purging or night eating, is recommended as part of screening and assessment of comorbidities prior to obesity treatment.⁹ The 2022 National Eating Disorders Collaboration (NEDC) guidelines⁹ encourage screening using the five-item Eating Disorder Screen for Primary Care (see Box 1)¹⁰ when patients with a higher weight seek support for weight loss. Although most people will usually experience a reduction in eating disorder symptoms during obesity treatment, a subset might experience the onset of new symptoms.¹¹ Therefore, monitoring for the emergence of disordered eating during obesity treatment is also warranted. For example, loss of control over eating, obsessive behaviours, rigidity (eg rigid calorie counting), greater than expected weight loss, excessive self-weighing and/or weight fluctuations.⁹

Approaches to the co-treatment of obesity and eating disorders have been trialled. Specialist programs (eg a Healthy Approach to weight management and Food in Eating Disorders [HAFIFED] in Australia)¹² combine evidence-based psychological therapy for eating disorders with behavioural weight loss interventions. Although these programs show promise for eating disorder outcomes, they are often not associated with sustained improvement in cardiometabolic health. Research on combined programs that include

more effective obesity treatments, such as anti-obesity pharmacotherapy, is needed. There are currently clinical trials in progress investigating the impacts of 2.4 mg semaglutide coupled with behavioural weight loss on eating disorder symptoms in people with obesity (<https://clinicaltrials.gov/ct2/show/NCT05548647>). We encourage more research in this space, including the specific examination of the effects of obesity medications on diagnosed binge eating disorder with concurrent obesity. People with both obesity and eating disorders have complex medical needs requiring multidisciplinary care. Improved linkages and referral pathways between obesity and eating disorders are strongly needed to facilitate effective concurrent treatment of both conditions.

Authors

Gemma Sharp PhD, Associate Professor and National Health and Medical Research Council (NHMRC) Emerging Leadership Fellow, Department of Neuroscience, Monash University, Melbourne, Vic; Senior Clinical Psychologist, Alfred Health, Melbourne, Vic

Teresa Girolamo MBBS, DCH, FRACGP, Director and Co-Founder Re:You Health, Adelaide Weight Management Solutions, Adelaide, SA

Phillipa Hay DPhil, MD, MBChB, Foundation Chair of Mental Health and Academic Lead: Eating Disorders and Body Image, Translational Health Research Institute, School of Medicine, Western Sydney University, Sydney, NSW; Director Mental Health Research, South West Sydney Local Health District, Sydney, NSW

Deborah Mitchison PhD, Associate Professor in Clinical Psychology, Graduate School of Health, University of Technology Sydney, Sydney, NSW; Adjunct Associate Professor, Translational Health Research Institute, School of Medicine, Western Sydney University, Sydney, NSW; Clinical Psychologist, Basten and Associates, Sydney, NSW; Adjunct Fellow, Centre for Emotional Health, Macquarie University, Sydney, NSW

Kelly Cooper APD, Program Manager, The Obesity Collective, Sydney, NSW

Priya Sumithran MBBS (Hons), FRACP, PhD, Principal Research Fellow, Department of Surgery, Central Clinical School, Monash University, Melbourne, Vic; Endocrinologist, Department of Endocrinology, Alfred Health, Melbourne, Vic

Hiba Jebile PhD, NHMRC Emerging Leadership Fellow Children's Hospital at Westmead Clinical School, The University of Sydney, Westmead, NSW

Competing interests: GS has received grant funding from the NHMRC. TG has participated in Medical advisory boards and received honoraria for educational sessions sponsored by Inova Pharmaceuticals and Novo Nordisk; is a board member of the Australia & New Zealand Metabolic and Obesity Surgery Society, a committee member of the National Association of Clinical Obesity Services and a leadership committee member of the Obesity Collective. PH declares payments to Western Sydney

University from the NHMRC, Australian Institute of Sport ASPIRE, Australian Health Research Alliance: National Women's Health Research, MTPConnect Targeted Translator Research Acceleration Grant Round 2, The Massage Therapy Foundation, Butterfly Foundation, Australia and New Zealand Academy for Eating Disorders, NSW Centre for Oral Health Strategy, APPRISE-Ramsay First Nations, honoraria from BiomedCentral, royalties from Hogrefe, honoraria and speaker fees and to Western Sydney University from Takeda Pharmaceuticals, payments to Western Sydney University from Health Education and Training Institute, and is a member of the National Eating Disorders Collaboration Steering Committee. DM declares payments to Western Sydney University from the Butterfly Foundation (tender to evaluate the Wandl Nerida residential eating disorder program), and Australian Sports Commission (research grant). PS declares payments to Monash University from the NHMRC; participating in a not-for-profit investigator-initiated study (dietary intervention, sponsored by the University of Adelaide); being a council member of the Australia and New Zealand Obesity Society (2017-2022) and a leadership group member of The Obesity Collective; and having co-authored manuscripts with medical writing assistance provided by Novo Nordisk and Eli Lilly. HJ declares grant funding from the NHMRC. Funding: None.

Provenance and peer review: Not commissioned, externally peer reviewed.

Correspondence to:
gemma.sharp@monash.edu

References

- O'Brien SA. The name on everybody's lips at the Oscars: Ozempic. *The Wall Street Journal*, 2023. Available at www.wsj.com/livecoverage/oscars-academy-awards-2023/card/the-name-on-everybody-s-lips-at-the-oscars-ozempic-YpUAWmnmqxCUJAOnfP00 [Accessed 4 May 2023].
- Therapeutic Goods Administration (TGA). About the Ozempic (semaglutide) shortage 2022 and 2023. TGA, 2023. Available at www.tga.gov.au/safety/shortages/information-about-specific-shortages/about-ozempic-semaglutide-shortage-2022-and-2023#why-the-tga-cant-stop-offlabel-prescribing [Accessed 19 February 2023].
- Burki T. Social media and misinformation in diabetes and obesity. *Lancet Diabetes Endocrinol* 2022;10(12):845. doi: 10.1016/S2213-8587(22)00318-7.
- Jastreboff AM, Aronne LJ, Ahmad NN, et al for the SURMOUNT-1 Investigators. Tirzepatide once weekly for the treatment of obesity. *N Engl J Med* 2022;387:205-16. doi: 10.1056/NEJMoa2206038.
- Wilding JPH, Batterham RL, Calanna S, et al. Once-weekly semaglutide in adults with overweight or obesity. *N Engl J Med* 2021;384(11):989-1002. doi: 10.1056/NEJMoa2032183.
- Wilding JPH, Batterham RL, Davies M, et al; STEP 1 Study Group. Weight regain and cardiometabolic effects after withdrawal of semaglutide: The STEP 1 trial extension. *Diabetes Obes Metab* 2022;24(8):1553-64. doi: 10.1111/dom.14725.
- Duncan AE, Ziobrowski HN, Nicol G. The prevalence of past 12-month and lifetime DSM-IV eating disorders by BMI category in US men and women. *Eur Eat Disord Rev* 2017;25(3):165-71. doi: 10.1002/erv.2503.
- Puhl R, Suh Y. Stigma and eating and weight disorders. *Curr Psychiatry Rep* 2015;17(3):552. doi: 10.1007/s11920-015-0552-6.

Box 1. Eating disorder screen for primary care¹⁰

- Are you satisfied with your eating patterns? (A 'no' counts as a score)
- Do you ever eat in secret? (A 'yes' to this and all other questions counts as a score)
- Does your weight affect the way you feel about yourself?
- Have any members of your family suffered with an eating disorder?
- Do you currently suffer with or have you ever suffered in the past with an eating disorder?

Note: All items are rated on a yes/no scale, a score of ≥ 2 suggesting further assessment (see National Eating Disorders Collaboration guidelines)⁹

9. Ralph AF, Brennan L, Byrne S, et al. Management of eating disorders for people with higher weight: Clinical practice guideline. *J Eat Disord* 2022;10(1):121. doi: 10.1186/s40337-022-00622-w.
10. Cotton MA, Ball C, Robinson P. Four simple questions can help screen for eating disorders. *J Gen Intern Med* 2003;18(1):53–56. doi: 10.1046/j.1525-1497.2003.20374.x.
11. Jebeile H, Libesman S, Melville H, et al. Eating disorder risk during behavioral weight management in adults with overweight or obesity: A systematic review with meta-analysis. *Obes Rev* 2023;24(6):e13561. doi: 10.1111/obr.13561.
12. Hay P, Palavras MA, da Luz FQ, et al. Physical and mental health outcomes of an integrated cognitive behavioural and weight management therapy for people with an eating disorder characterized by binge eating and a high body mass index: A randomized controlled trial. *BMC Psychiatry* 2022;22(1):355. doi: 10.1186/s12888-022-04005-y.

correspondence ajgp@racgp.org.au