

GLP-1 RECEPTOR AGONISTS AND NURSING CARE: A SYSTEMATIC REVIEW

Berna Dincer^{1,2}, Kirsty Winkley²

¹ *İstanbul Medeniyet University, Health Science Faculty, Nursing Department, İstanbul, Türkiye.*

² *King's College London & Florence Nightingale Faculty of Nursing & Midwifery, London, UK.*

1. Introduction

GLP-1 receptor agonists (semaglutide, liraglutide, dulaglutide, exenatide) stimulate glucose-dependent insulin secretion, slow gastric emptying, and suppress appetite. Tirzepatide (Mounjaro®/Zepbound®), a dual GIP/GLP-1 receptor co-agonist, demonstrates superior glycaemic control and weight reduction compared to selective GLP-1 agents in head-to-head trials and has rapidly become the most commonly prescribed agent in this class in the United Kingdom (1). The expanding prescribing landscape underscores the need for updated nursing competencies addressing tirzepatide's distinct pharmacological profile alongside established GLP-1 receptor agonists (2,3).

2. Methods

This review followed PRISMA guidelines. PubMed, CINAHL, Cochrane Library, and Scopus were searched using terms including "GLP-1 receptor agonist," "tirzepatide," "Mounjaro," "GIP/GLP-1 receptor co-agonist," and "nursing care," covering 2015–2026. Tirzepatide-specific terms were added as it was not reliably captured by GLP-1-only search strings. Sixty-one studies underwent full-text review; 24 were excluded, yielding 37 included studies, of which 9 specifically addressed tirzepatide.

3. Results

3.1 Patient Education and Self-Management

Seventy-six percent of included studies demonstrated that nurse-led education significantly improved therapy adherence. Core content included injection technique, storage, dose titration, and adverse-effect management. For tirzepatide, nurses must guide patients through mandatory step-wise titration (2.5 mg/week initial priming dose, escalating to 15 mg/week maximum), with injection-technique training occurring before the first self-administered dose.

3.2 Clinical Monitoring

Monitoring HbA1c, body weight, blood pressure, and renal function is central to nursing protocols. A UK hospital audit identified pancreatitis cases among tirzepatide-treated patients, reinforcing vigilance for severe abdominal pain. Nurses must also counsel patients on tirzepatide's boxed warning regarding thyroid C-cell tumours (neck mass, dysphagia, hoarseness).

3.3 Psychosocial Support

Holistic nursing incorporating meal planning, physical activity counselling, and motivational interviewing positively influences outcomes.

Tirzepatide's superior weight-loss efficacy amplifies psychosocial considerations around rapid body change.

3.4 Tirzepatide-Specific Considerations

Tirzepatide carries a higher injection-site pain rate than some GLP-1 agents; site rotation across the abdomen, thigh, and upper arm is essential. Co-administration with insulin requires separate, non-adjacent injections. Gastric emptying delay necessitates additional barrier contraception for four weeks after initiation and each dose escalation for patients using oral hormonal contraceptives.

4. Conclusion

GLP-1-based therapies are reshaping chronic disease management and nursing practice. Given tirzepatide's dominant prescribing position in the UK, future research should evaluate long-term effectiveness, safety, and cost-efficiency of nurse-led care models specific to tirzepatide, with attention to diverse and underserved patient populations.

References

1. Pancreatitis in Patients Receiving Tirzepatide (Mounjaro): A One-Year Audit in a UK District General Hospital. (2025).
2. Karagiannis T, Avgerinos I, Liakos A, Del Prato S, Matthews DR, Tsapas A, Bekiari E. (2022). Management of type 2 diabetes with the dual GIP/GLP-1 receptor agonist tirzepatide: A systematic review and meta-analysis. *Diabetologia*, 65, 1251-1261.
3. Real-World Safety Concerns of Tirzepatide: A Retrospective Analysis of FAERS Data (2022–2025). (2025). *Healthcare*, 13(18), 2259.