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## RESEARCH ARTICLE

### **IMPACT OF STRUCTURED NURSING EDUCATION ON ADHERENCE AND SYMPTOM MANAGEMENT AMONG PATIENTS INITIATING GLP-1 RECEPTOR AGONIST THERAPY: A CLINICAL OBSERVATIONAL STUDY**

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#### ABSTRACT

**Background:** Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) are widely recommended first-line therapies for Type 2 Diabetes Mellitus (T2DM) in 2025 due to their glycemic, cardiovascular, and weight-reducing benefits. However, gastrointestinal adverse effects frequently result in early treatment discontinuation. **Aim:** To assess the impact of a nurse-led structured education program on medication adherence and symptom management among patients initiating GLP-1 RA therapy. **Methods:** A 12-week retrospective observational study was conducted among 20 adults newly prescribed weekly GLP-1 RA therapy in a diabetes outpatient clinic. Nursing interventions included individualized education on injection technique, gradual dose titration, dietary modifications, and scheduled telephonic follow-up. **Results:** Eighteen patients (90%) successfully continued therapy and reached maintenance dosage. Mean HbA1c reduced by 0.8% over 12 weeks. Most gastrointestinal symptoms resolved following nursing-led dietary counselling and titration adjustments. **Conclusion:** Structured nursing education plays a critical role in improving adherence, minimizing side effects, and ensuring continuity of advanced diabetes therapies. Nurse-led interventions are essential for optimizing metabolic health outcomes in patients receiving GLP-1 RA therapy.

## INTRODUCTION

Type 2 Diabetes Mellitus (T2DM) has emerged as a major global public health challenge. According to the International Diabetes Federation, approximately 589 million adults were living with diabetes worldwide in 2025, with over 90% diagnosed with T2DM. Contemporary diabetes management has evolved from a glucose-centric model to a comprehensive metabolic-health approach emphasizing cardiovascular, renal, and weight outcomes. The 2025 American Diabetes Association (ADA) Standards of Care recommend early initiation of GLP-1 receptor agonists due to their proven metabolic and cardioprotective benefits. Despite these advantages, adverse gastrointestinal effects such as nausea, vomiting, and delayed gastric emptying frequently lead to poor adherence and premature discontinuation. Nurses play a pivotal role in supporting patients during therapy initiation through education, counselling, monitoring, and follow-up. In 2025, the nursing role has expanded to include pharmacological education, lifestyle counselling, tele-health follow-ups, and psychological support. This study evaluates the impact of structured nurse-led education on treatment adherence and symptom management in patients initiating GLP-1 RA therapy.

## MATERIALS AND METHODS

Study Designwas retrospective observational study conducted over a 12-week period. Participants were coming tooutpatient diabetic clinic and were newly initiated on one-week GLP-1 RA therapy.The randomlycollected 20 samples in that 12 participants were female and 8 were male. The most of the participants age were among 56 to 59 tears of age and maximum samples have their HbA1c is 8.2%.

The structured nursing education program included Initial Education Sessionin that a 30-minute one-to-onesession included subcutaneous injection technique, site rotation, medication storage, andsafety precautions. In Dietary Counsellingincluded Education on consuming smaller, frequent meals, adequate hydration, and avoidance of high-fat foods to reduce gastrointestinal symptoms and carbohydrates free diet.In Follow-up ProtocolTaught about Nurse-led telephonic follow-ups at Week 1 and Week 4 to assess symptoms, reinforce education, and support dose titration.

## RESULTS

Adherence: 18 out of 20 patients (90%) remained on GLP-1 RA therapy at 12 weeks. Symptom Management: 14 patients experienced mild nausea during initial weeks. Following nursing interventions, 11 patients reported symptom resolution by Week 4. Clinical Outcomes: Mean HbA1c decreased from 8.2% to 7.4%. Average weight loss was 4.2 kg over 12 weeks. Discontinuation: Two patients discontinued therapy—one due to persistent vomiting and one due to financial constraints.

## DISCUSSION

The high adherence rate observed in this study highlights the effectiveness of nurse-led structured education in managing GLP-1 RA-related side effects. Proactive counselling, early follow-up, and patient-centered dietary guidance enabled patients to tolerate therapy and achieve glycemic improvement. Nurses act as the primary link between prescriber recommendations and patient behaviour. Anticipatory guidance and continuous support during the titration phase reduce anxiety, improve confidence, and prevent unnecessary treatment discontinuation.

## CONCLUSION

Structured nursing education significantly improves adherence and symptom management among patients initiating GLP-1 receptor agonist therapy. Nurses play a central role in ensuring therapeutic success by providing education, monitoring adverse effects, and supporting lifestyle modification. Strengthening nurse-led interventions is essential for effective diabetes management in modern clinical practice.

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