



GLP-1 Agonists and Dyspeptic Symptoms: A Case Series in the Ambulatory Setting

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Introduction

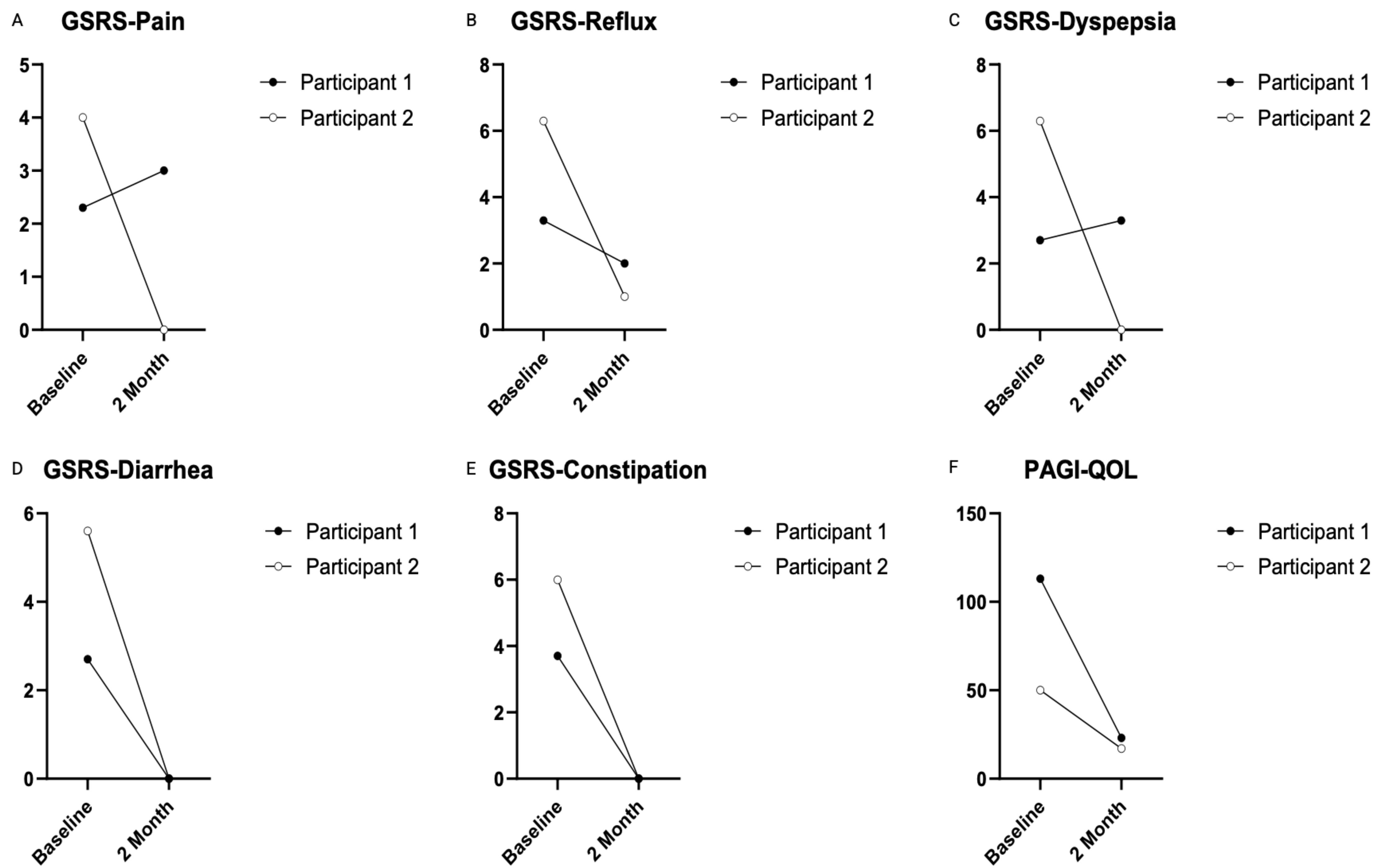
- **GLP-1 receptor agonists** are widely used for **Type 2 Diabetes (T2DM)** management.
- They **enhance insulin**, **control postprandial glucose**, and **delay gastric emptying**.
- **Diabetic patients** may already have **delayed gastric emptying** or **gastroparesis** from hyperglycemia.
- The **effect of GLP-1 agents** on these symptoms remains **poorly studied**.
- **Case series:** Two T2DM patients tracked with **validated symptom scales** after starting **GLP-1 therapy**.

Methods

- **T2DM patients** in the **ambulatory clinic** who met criteria for **GLP-1 agonist therapy** were identified (*see Table 1 for demographics*).
- Baseline assessment included three validated surveys:
- ***Gastroparesis Cardinal Symptom Index (GCSI)***
- ***Patient Assessment of Upper GI Quality of Life (PAGI-QOL)***
- ***Gastrointestinal Symptom Rating Scale (GSRS)***
- **Inclusion criteria:** Negative GCSI screen for gastroparesis prior to therapy initiation.
- **Follow-up surveys** conducted at clinic visits or via **telephone interviews** to monitor symptom changes over time.

Results

Participant 1	Participant 2
Age/Sex: 47, Female	Age/Sex: 33, Male
A1c (prior to initiation of GLP-1 agonist): 8.30%	A1c(Prior to Initiation of GLP-1 Agonist): 8.60%
Use of Insulin prior to GLP-1 agonist: Yes	Use of Insulin Prior to GLP-1 Agonist: No
History of gastroparesis: No	History of Gastroparesis: No
History of abdominal surgery: No	History of Abdominal Surgery: No
GLP-1 agonist: Tirzepatide	GLP-1 Agonist: Semaglutide
Reason for seeking GLP-1 agonist therapy: Improved glycemic control and weight loss	Reason for Seeking GLP-1 Agonist Therapy: Weight Loss
Relevant medical history: HIV on highly-active antiretroviral therapy, Hypertension, Hyperlipidemia, Longstanding Type 2 Diabetes Mellitus	Relevant medical history: Bipolar 1 Disorder, Hypertension, Recently Diagnosed Type 2 Diabetes Mellitus



Discussion

- **PAGI-QOL scores** trended **downward**, indicating **improved upper GI-related quality of life** after GLP-1 therapy.
- **GSRS subscores** generally **decreased**, suggesting symptom improvement; however, **reflux and dyspepsia** showed **mixed or persistent responses**.
- It remains **unclear whether these changes are transient** effects of GLP-1 initiation or **sustained over time**.
- Despite **different diabetes durations**, participants demonstrated **similar symptom responses** to GLP-1 therapy.
- **Comparable outcomes** were observed **across different GLP-1 agents** used.
- We now have 9 participants who **remain on GLP-1 therapy**, and **additional recruitment** is ongoing to assess **long-term symptom trajectories**. Follow up data will be collected soon.

Figure 1. GSRS and PAGI-QOL Scores

(A-E): GSRS was divided into its subscores, calculated as the average of the Likert graded responses for the symptom domains of reflux, dyspepsia, pain, diarrhea and constipation. (F) PAGI-QOL was calculated with simple addition of all Likert graded questions, with lower scores indicating reduced symptom burden.