Application of prevalent new-user cohort designs to a claims data study of incidence of nutritional deficiency in people with diabetes using GLP-1 Receptor Agonists

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AIMS

Apply prevalent **new-user cohort design** to real-world data for comparison of **incidence of nutrition deficiencies** in patients using and not using Glucagon-like Peptide-1 Receptor Agonists (GLP-1RAs)

CONCLUSIONS

- The application of this technique demonstrates **feasibility** of comparing patients using and not using a medication, while **mitigating time-zero bias**.
- GLP-1RA users had higher incidence of nutrition deficiencies than non-users (18.6% vs 16.5%) after 12 months.
- Healthcare providers should proactively address nutrition in patients starting GLP-1RA treatment

ACKNOWLEDGEMENTS

METHODS

Between 07/2017-06/2023, formed from Inovalon Insights claims data.

Cohorts of patients with **type 2 diabetes** prescribed **metformin** with or without an additional prescription for **GLP-1RAs**

Excluded patients using insulin, with type 1 diabetes, without continuous 6-months of enrollment at baseline or with prior diagnosis of nutrition deficiency
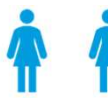
Patients were observed **longitudinally** to identify when GLP-1RAs were prescribed.

2017   2023

METHODS

Monthly hazard for GLP-1RA prescriptions were calculated for all patients using sociodemographic variables, comorbidities, and baseline health care costs

Each GLP-1RA patient was matched to the closest non-GLP-1RA patient using **hazard of GLP-1RA prescription** with exact match on cohort year and the **months of metformin use.**
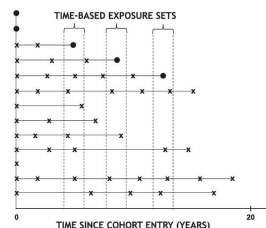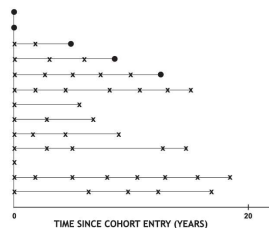

Figure 1. Time-based propensity matching

METHODS

4,557 GLP-1RAs users included

4,505 GLP-1RAs users matched with a non-user using prevalent new-user cohort design matching

GLP-1 ⟷ Metformin user not prescribed GLP-1

Matching **reduced** the **standardized mean difference** between GLP-1RA users and non-users to less than 0.1 for almost all variables

RESULTS

Incidence of Nutrition Deficiencies

18.6% vs **16.5%**

p<0.01

Incidence of Vitamin D Deficiencies

10.9% vs **9.2%**

p<0.01

GLP-1   Metformin user not prescribed GLP-1

➤ GLP-1 users had **higher incidence of nutrition deficiencies** in the year following GLP-1RA prescription than non-users