EPH61

Obesity and Glycemic Control Among People with Type 2 Diabetes in Europe: A Retrospective Cohort Analysis

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BACKGROUND

- In people with type 2 diabetes (PwT2D) who also have obesity, efforts targeting weight loss, including lifestyle, medication and surgical interventions, are recommended.[1]
- Modest and sustained weight loss has been shown to improve glycemic control and reduce the need for glucose-lowering agents (GLAs).[2]
- Guidelines recommend a target glycated hemoglobin (HbA1c) of <7% for most adult PwT2D.[1,3]

OBJECTIVE

- To evaluate the prevalence of glycemic control by body mass index (BMI) and explore the relationship between obesity and glycemic control among PwT2D in Europe (France, Germany, Italy, Spain and UK).

METHODS

Data Sources

- This retrospective study utilized IQVIA electronic medical records (EMR) databases
  - Longitudinal patient database (LPD) in France (general practitioner [GP] and endocrinologist/diabetologist [E/D] panels), Italy (GP) and Spain (all specialties); IQVIA Medical Research Data (IMRD) in the UK (GP); Disease Analyzer in Germany (GP and E/D).

Patient Selection

- Adults with ≥1 diagnosis for diabetes between 1/2014-12/2019.
- ≥1 recorded HbA1c result and BMI value measured within 90 days of each other between 1/2015-12/2018 (second record termed the 'index date').
- 1-year pre-index period ('baseline') with ≥1 diagnosis for diabetes.
- ≥1 recorded HbA1c at 1-year post-index (index date + 359 [+/- 90 days]).
- Without diagnosis of type 1 diabetes, gestational diabetes, pregnancy or cancer, or BMI <18.5kg/m².

METHODS (CONT'D)

Study Measures

- Patient demographics at index and baseline clinical characteristics.
- Baseline HbA1c and BMI: values on or closest (prior) to index date.
- Post-index HbA1c: value closest to index date + 359 days.

RESULTS

- The final sample comprised 191,330 PwT2D (**Table 1**).
- Across countries/panels, mean (SD) baseline HbA1c ranged from 6.9 (1.3) to 7.6 (1.6) %. Mean (SD) baseline BMI ranged from 29.3 (5.3) to 31.6 (6.3) kg/m².
- At baseline, 44.9-60.6% did not have obesity (BMI <30.0 kg/m²) and 42.0-63.2% were below HbA1c target (<7.0%).
- At baseline, a higher proportion of PwT2D without obesity were below HbA1c target compared to their counterparts with obesity (**Figure 1**).
- At 1-year post-index, mean (SD) HbA1c ranged from 6.8 (1.0) to 7.5 (1.5) %.
- A higher proportion of patients without obesity at baseline had post-index HbA1c below target compared to their counterparts with obesity (**Figure 2**).

LIMITATIONS

- The study is limited to PwT2D who visit office-based physicians participating in the database panels. With the exception of Spain, data are available for a patient from one practice only, and patients cannot be tracked across practices.
- The information provided by physicians in health records may be underreported and may only reflect information collected as part of ongoing patient care. In particular, BMI may be underreported for patients within normal ranges.

CONCLUSIONS

- This study presents updated demographic statistics on trends in BMI and HbA1c in several EU populations with T2D.
- Higher BMI appears to be associated with poorer glycemic control.
- Therapies that both improve glycemic control and reduce weight, could have substantial impact towards improving health outcomes in PwT2D.

Table 1. Baseline Characteristics

Baseline Characteristics	France GP N=7,064	France E/D N=719	Germany GP N=39,589	Germany E/D N=8,635	Italy GP N=21,515	Spain N=9,942	UK GP N=103,866
Mean (SD) age	65.5 (11.2)	65.5 (11.5)	67.3 (12.0)	65.3 (12.6)	69.5 (10.7)	67.3 (11.2)	65.4 (12.1)
Male (%)	56.9%	53.8%	52.4%	54.1%	53.7%	53.2%	57.0%
Mean (SD) CCI score	0.5 (0.9)	0.3 (0.7)	1.0 (1.3)	0.8 (1.3)	0.7 (1.0)	0.4 (0.8)	0.2 (0.5)
Mean (SD) DCSI score	0.5 (1.1)	0.6 (1.1)	1.3 (1.7)	1.2 (1.7)	0.8 (1.3)	0.6 (1.2)	0.2 (0.6)
GLA use (%)*							
OAD	87.5%	79.4%	64.4%	60.0%	77.8%	85.8%	74.3%
Insulin	7.8%	38.1%	20.8%	50.8%	16.5%	17.0%	11.4%
GLP-1 RA	3.9%	16.3%	2.5%	10.6%	2.1%	1.3%	4.3%
No GLA	11.2%	13.5%	29.2%	18.5%	16.2%	11.2%	24.9%
Mean (SD) HbA1c (%)	7.0 (1.3)	7.3 (1.1)	6.9 (1.3)	7.1 (1.3)	7.1 (1.3)	7.3 (1.5)	7.6 (1.6)
HbA1c <7% (%)	59.1%	42.7%	63.2%	55.3%	54.3%	55.7%	42.0%
Mean (SD) BMI (kg/m²)	30.7 (5.8)	29.8 (5.5)	31.2 (6.0)	31.5 (6.2)	29.3 (5.3)	30.6 (5.3)	31.6 (6.3)
BMI <30.0 (%)	50.8%	56.9%	46.9%	44.9%	60.6%	50.2%	45.0%

*OAD, insulin and GLP-1 RA use are not mutually exclusive
Abbreviations: BMI, Body mass index; CCI, Charlson comorbidity index; DCSI, Diabetes complication severity index; E/D, endocrinologist/diabetologist; GP, General practitioner; GLA, Glucose lowering agent; GLP-1 RA, glucagon-like peptide 1 receptor agonist; HbA1c, Glycated hemoglobin; kg, Kilogram; m, Meter; OAD, Oral antidiabetic drug; SD, Standard deviation

Figure 1. Baseline HbA1c (binary) by baseline BMI (binary)

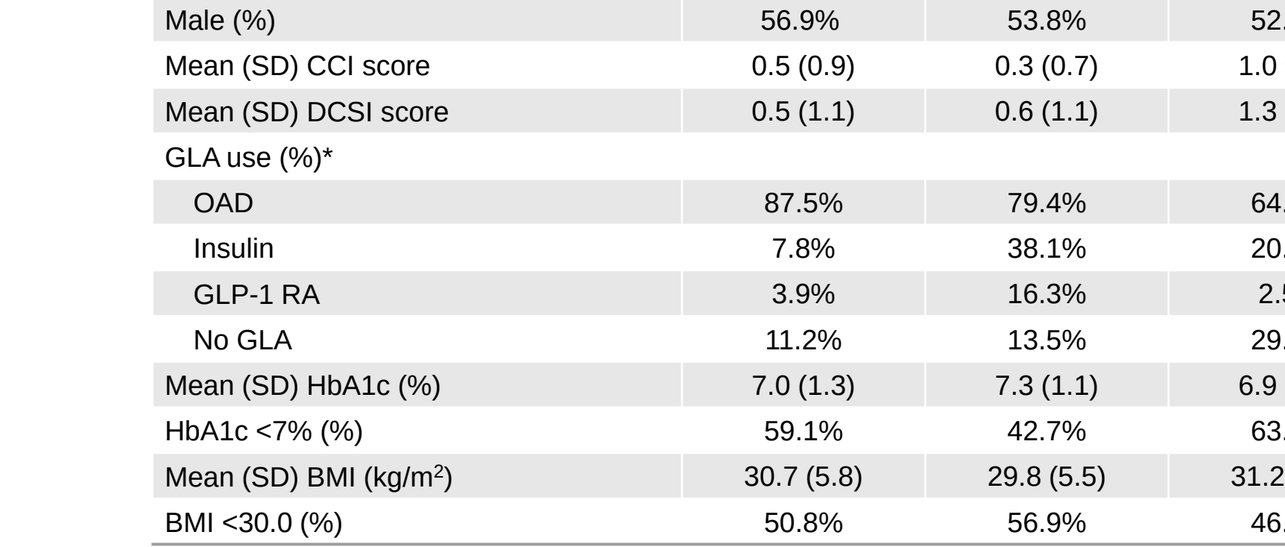
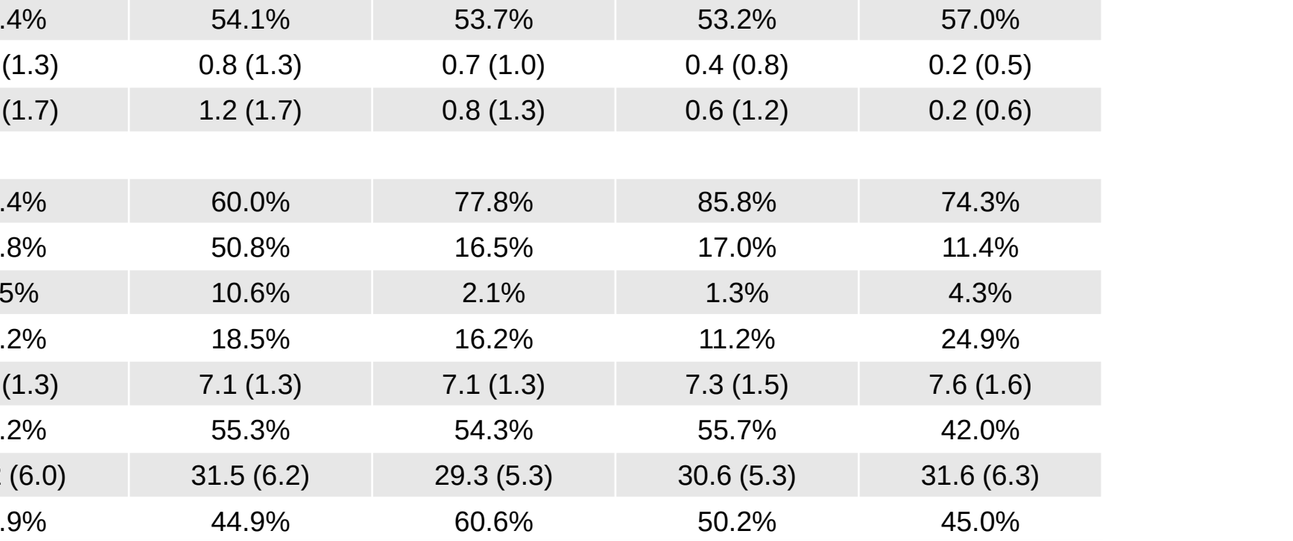


Figure 2. Post-index HbA1c (binary) by baseline BMI (binary)



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Disclosures: RSN, CV, KR and KSB are employees of Eli Lilly. VD, MD and JC are employees of IQVIA, which received consulting fees from Eli Lilly for this study.

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