Clinical characteristics and healthcare resource utilization among patients initiating semaglutide 2.4 mg versus those not treated with anti-obesity medications

EPH120

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Aim

- This study was conducted to describe the baseline demographic and clinical characteristics of patients with overweight and ≥1 obesity-related comorbidity (ORC) or obesity initiating treatment with semaglutide 2.4 mg compared with those not treated with an anti-obesity medication (AOM). Baseline healthcare resource utilization (HCRU) among these patient populations is also described.

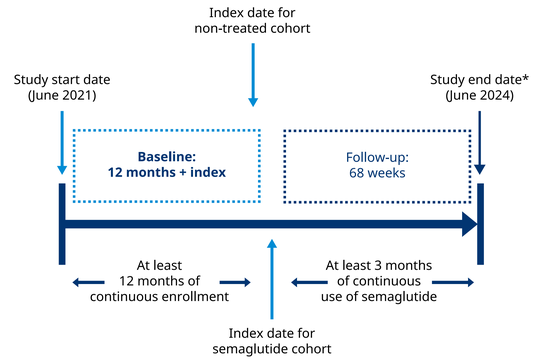
Introduction

- The global prevalence of obesity is increasing;[1] a survey from 2017–2020 identified 41.9% adults living with obesity in the USA.[2,3]
- People living with obesity have an increased risk of ORCs, such as type 2 diabetes (T2D) and cardiovascular disease (CVD), which may lead to an increased healthcare burden.[1,4]
- An increased healthcare burden due to obesity has a financial impact on both patients and the healthcare system. In 2019, the annual medical cost due to obesity in the USA was estimated at $173 billion.[3]

Methods

- This retrospective observational study used closed pharmacy and medical claims linked to electronic medical records from the Komodo Health database collected between 1 June 2021 and 30 April 2024 (**Figure 1**).
- Patients in the semaglutide cohort were ≥18 years of age with ≥1 dispensing claim for semaglutide 2.4 mg and had ≥1 body mass index (BMI) record of ≥30 kg/m^2, or a BMI ≥27 kg/m^2 and ≥1 ORC.
- Patients in the non-treated cohort did not receive any AOM, had ≥1 BMI record of ≥30 kg/m^2, or BMI ≥27 kg/m^2 and ≥1 ORC.
- The index date was classified as the date of the first prescription of semaglutide 2.4 mg for the semaglutide cohort and date of a random visit with BMI measurement for the non-treated cohort.
- Demographic and clinical characteristics, and HCRU, were assessed ≥12 months prior to index date and including index.

Figure 1: Study design



*Study follow-up ended at the earliest semaglutide cohort discontinuation, insurance plan disenrollment, death or June 2024, whichever occurred first

Results

- In total, 32,933 patients were included in the semaglutide cohort and 15,406,569 patients in the non-treated cohort.
- Baseline characteristics and demographics are summarized in **Table 1**.
  - Females comprised 76.8% of the semaglutide cohort and 53.1% of the non-treated cohort.
  - Mean (standard deviation [SD]) age was 46.7 (10.8) years in the semaglutide cohort and 51.6 (15.8) years in the non-treated cohort.
- Baseline clinical characteristics are summarized in **Table 2**.
  - Mean (SD) number of ORCs during the baseline period was 2.8 (2.1) in the semaglutide cohort and 3.1 (2.4) in the non-treated cohort.
  - The prevalence of most ORCs was similar between cohorts.
    - Some ORCs were less prevalent in the semaglutide cohort versus the non-treated cohort: T2D (5.8% versus 20.1%), CVD (47.1% versus 56.4%), and atherosclerotic CVD (3.7% versus 10.3%).
- HCRU across the baseline period for both cohorts is presented in **Figure 2**.
  - Mean (SD) number of outpatient visits was higher in the semaglutide cohort versus the non-treated cohort (19.3 [18.2] versus 17.2 [22.0]).
  - Mean (SD) number of inpatient and emergency room visits was slightly lower in the semaglutide cohort versus the non-treated cohort.
- The use of pharmacotherapies at baseline for both cohorts is shown in **Figure 3**.
  - A lower proportion of patients had ≥1 prescription for antidiabetic and cardiovascular medications in the semaglutide cohort versus the non-treated cohort, including statins (35.2% versus 50.5%), basal insulin (0.6% versus 4.4%), and beta blockers (24.1% versus 29.8%), respectively.

Table 1: Baseline characteristics and demographics of the cohort initiating semaglutide 2.4 mg and the cohort not treated with an anti-obesity medication

Characteristics and demographics	Semaglutide 2.4 mg cohort (N=32,933)	Non-treated cohort (N=15,406,569)
Age (years), continuous		
Mean (SD)	46.7 (10.8)	51.6 (15.8)
Sex		
Male	7367 (22.4%)	7,084,452 (46.0%)
Female	25,309 (76.8%)	8,186,986 (53.1%)
Unknown/missing	257 (0.8%)	135,131 (0.9%)
Race/ethnicity		
White	16,071 (58.6%)	6,886,636 (51.6%)
Black or African American	3108 (11.3%)	2,051,276 (15.4%)
Hispanic/Latino	3930 (14.3%)	2,468,644 (18.5%)
Asian or other Pacific Islanders	693 (2.5%)	528,808 (4.0%)
Other races	1256 (4.6%)	583,174 (4.4%)
Unknown/missing race	2353 (8.6%)	833,224 (6.2%)
Healthcare insurance provider		
Commercial	28,010 (85.1%)	8,478,302 (55.0%)
Medicare	951 (2.9%)	2,650,117 (17.2%)
Medicaid	3784 (11.5%)	3,722,540 (24.2%)
Medicare/Medicaid	124 (0.4%)	508,549 (3.3%)
Unknown/missing	64 (0.2%)	47,061 (0.3%)

Demographics and clinical characteristics were assessed ≥12 months prior to index date and including index. The index date was classified as the date of the first prescription of semaglutide 2.4 mg for the semaglutide cohort and date of a random visit with BMI measurement for the non-treated cohort
BMI, body mass index; SD, standard deviation; N, number of patients

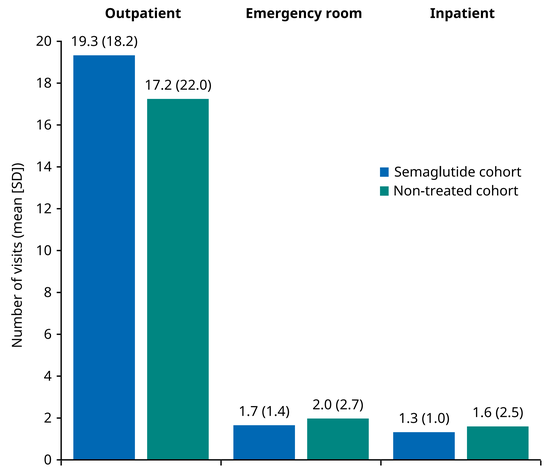
Table 2: Baseline clinical characteristics of the cohort initiating semaglutide 2.4 mg and the cohort not treated with an anti-obesity medication

Clinical characteristics	Semaglutide 2.4 mg cohort (N=32,933)	Non-treated cohort (N=15,406,569)
Weight (lbs)		
n	11,218	5171,608
Mean (SD)	237.1 (48.1)	211.4 (42.5)
BMI (kg/m²*), continuous		
n	32,933	15,406,569
Mean (SD)	35.2 (3.6)	33.1 (4.3)
Number of ORCs during baseline period		
n	32,933	15,406,569
Mean (SD)	2.8 (2.1)	3.1 (2.4)
ORCs		
Hypertension	13,213 (40.1%)	7,672,001 (49.8%)
T2D	1924 (5.8%)	3,103,479 (20.1%)
CVD	15,499 (47.1%)	8,690,690 (56.4%)
Atherosclerotic CVD	1222 (3.7%)	1,580,357 (10.3%)
Dyslipidemia	14,759 (44.8%)	7,440,207 (48.3%)
Obstructive sleep apnea	5988 (18.2%)	2,010,813 (13.1%)

*Evaluated as of their index date, or where applicable, the most proximal value to this date. The index date was classified as the date of the first prescription of semaglutide 2.4 mg for the semaglutide cohort and date of a random visit with BMI measurement for the non-treated cohort
Baseline period was ≥12 months prior to index date
BMI, body mass index; CVD, cardiovascular disease; ORC, obesity-related comorbidity; SD, standard deviation; T2D, type 2 diabetes

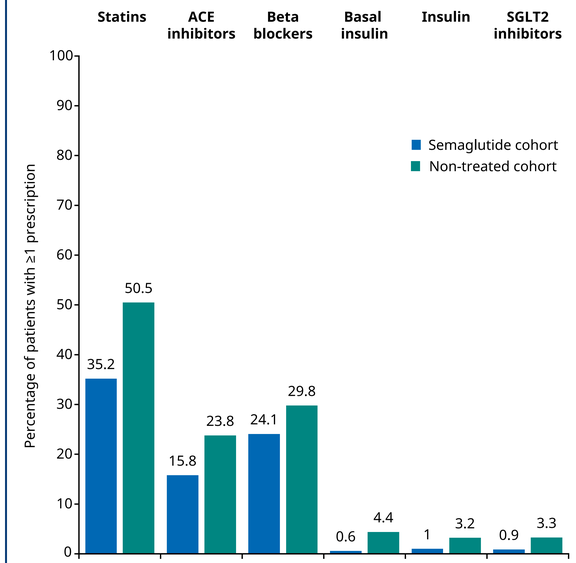
Figure 2: Baseline healthcare resource utilization

Key result



Healthcare resource utilization was assessed ≥12 months prior to index date and including index. The index date was classified as the date of the first prescription of semaglutide 2.4 mg for the semaglutide cohort and date of a random visit with BMI measurement for the non-treated cohort
BMI, body mass index; SD, standard deviation

Figure 3: Baseline use of pharmacotherapies



Pharmacotherapies were assessed ≥12 months prior to index date and including index. The index date was classified as the date of the first prescription of semaglutide 2.4 mg for the semaglutide cohort and date of a random visit with BMI measurement for the non-treated cohort
ACE, angiotensin-converting enzyme; BMI, body mass index; SGLT2, sodium-glucose cotransporter-2

Limitations

- The data used in this study were collected as per routine clinical practice rather than mandatory assessment at prespecified timepoints. This may have impacted the amount of data available and the interpretation of the results.
- The study period was limited to the initial availability of semaglutide 2.4 mg, which means that patients initiating treatment during this time may not represent the general population of patients treated with semaglutide 2.4 mg.

Conclusions

- In this study, patients in the non-treated cohort had a higher prevalence of some ORCs, and higher utilization of antidiabetic and cardiovascular medications at baseline, versus those initiating semaglutide 2.4 mg, potentially due to the higher mean age at baseline among the non-treated cohort.
- In addition, patients in the non-treated cohort had a higher number of inpatient and emergency room visits across the baseline period compared with patients initiating semaglutide 2.4 mg.
- These findings highlight an unmet need among patients meeting the eligibility criteria for obesity medications, especially patients ≥65 years with Medicare insurance.

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