Real world evidence on the prescribing trends of glucagon-like peptide-1 agonists in UK primary care

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Aim

The use of glucagon-like peptide-1 (GLP-1) agonists in type 2 diabetes is increasing. We present a description of their current use and prescribing trends in UK primary care and compare the characteristics of people prescribed GLP-1 agonists with phase 3 trial populations.

Background

GLP-1 agonists have the dual benefits of improved glycaemic control and weight loss. Current UK guidelines suggest restriction of use of these medications predominantly to people who are overweight[1]:

- BMI ≥ 35kg/m^2 or
- BMI < 35kg/m^2 and adding insulin would have significant occupational implications or significant obesity-related complications which would benefit from weight loss.

Methods

A large cohort of people with type 2 diabetes (N=34,278) was identified from the University of Surrey-Lilly Real World Evidence (RWE) centre database, using routinely collected primary care data. Monthly prescription data was extracted from primary care records on the use of GLP-1 agonists in this group. We report prescription numbers over time and the demographics of people prescribed these medications compared to those of phase 3 trial populations (Table 1).

Results

Prescribing rates of GLP-1 agonists in primary care have been consistently climbing since 2008 (Figure 1). Rates in our sample were found to be increasing by 36.7 prescriptions per 10,000 people with type 2 diabetes per year. 1776 people (5.2%) had been prescribed GLP-1 agonists of whom 53.8% were male (51.1% male in aggregated clinical trials). The mean age of those prescribed GLP-1 agonists was 58.0 (SD 10.7) years (trials aggregate 57.1; SD 9.4 years). The mean BMI of 37.5 (SD 6.5) kg/m^2 was significantly higher than in trials (31.8; SD 5.3kg/m^2, p<0.001). The proportion of people prescribed GLP-1 agonists was highest in areas of lowest deprivation (upper quintile 6.3%; 95% CI 5.8-6.8%, lower quintile 4.5%; 95% CI 4.1-5.0%).

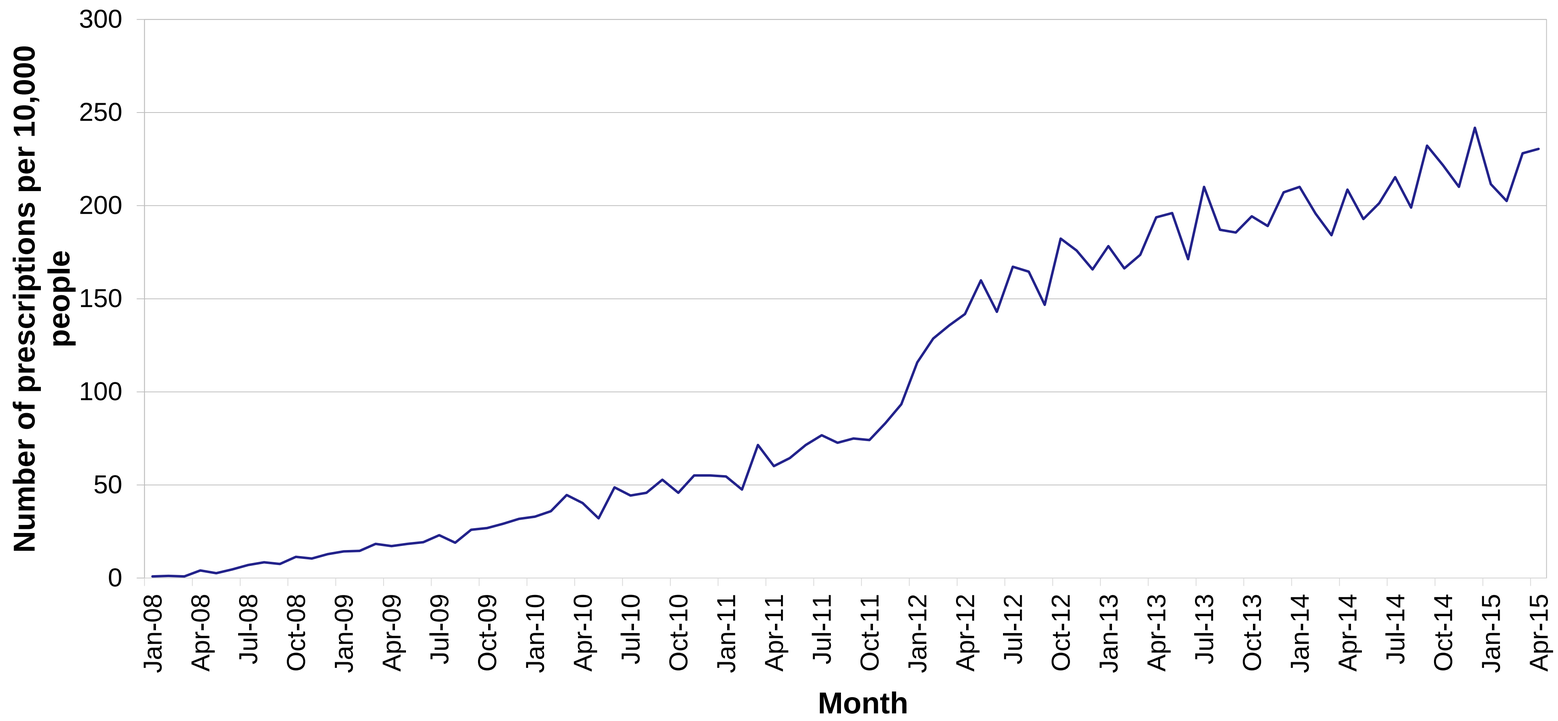

Figure 1. Rates of prescribing for GLP-1 analogues dispensed per month in a population of 34,278 people with T2DM. Prescriptions for exenatide, liraglutide, and lixisenatide are included.

Conclusion

GLP-1 agonists have been prescribed to over 5% of the type 2 diabetes population. They are used in practice in a population with a higher BMI than in trials. Further evidence is needed to confirm clinical effectiveness in this high BMI population.

Key findings

- GLP-1 prescribing rates are rapidly increasing.
- People prescribed GLP-1 agonists in the real world had a significantly higher BMI than people included in phase 3 trials.

Trial	Background treatment	Intervention	Trial duration	N	Males n (%)	Age mean (SD)	Baseline HbA1C % mean (%)	BMI kg/m^2 mean (SD)
Buse et al (2011)[3]	Glargine ± metformin, pioglitazone, or both	Exenatide vs placebo	30 weeks	259	148 (57.1)	59 (9.5)	8.4 (0.9)	33.5 (6.0)
DeVries et al (2012)[4]	Metformin and liraglutide	Detemir vs no detemir	26 weeks (after 12 week liraglutide run-in phase)	323	177 (54.8)	57 (9.6)	8.2 (0.7)	34.4 (6.3)
Li et al (2012)[5]	Basal insulin or premixed insulin ± oral therapies	Liraglutide vs no liraglutide	12 weeks	84	50 (59.5)	52 (10.7)	8.7 (0.9)	30.4 (3.1)
Seino et al (2012)[6]	Basal insulin ± sulfonylurea	Lixisenatide vs placebo	24 weeks	311	149 (47.9)	58 (10.2)	8.5 (NR)	25.2 (3.8)
Riddle et al (2013)[7]	Glargine plus metformin ± thiazolidinedione	Lixisenatide vs placebo	24 weeks	446	222 (49.8)	56 (10.0)	7.6 (NR)	31.8 (6.3)
Riddle et al (2013)[8]	Basal insulin ± metformin	Lixisenatide vs placebo	24 weeks	495	228 (46.1)	57 (10.0)	8.4 (NR)	32.1 (6.3)
Diamant et al (2014)[9]	Glargine plus metformin	Exenatide vs insulin lispro	30 weeks	510	261 (51.2)	59 (9.5)	8.2 (NR)	32.5 (5.0)
Lane et al (2014)[10]	CSII or MDI ± metformin	Liraglutide vs no liraglutide	24 weeks	37	17 (45.9)	60 (10.8)	7.8 (0.7)	39.6 (6.3)
Mathieu et al (2014)[11]	Degludec plus metformin	Liraglutide vs insulin aspart	28 weeks	177	116 (65.5)	61 (9.2)	7.7 (0.6)	32.2 (5.1)
Rosenstock et al (2014)[12]	Glargine ± metformin, pioglitazone, or both	Albiglutide weekly vs insulin lispro	26 weeks	566	268 (47.3)	56 (9.0)	8.5 (0.9)	NR (NR)
Shao et al (2014)[13]	Glargine	Exenatide vs insulin aspart	12 weeks	60	29 (48.3)	43 (3.7)	7.6 (0.6)	30.4 (1.0)
De Wit et al (2014)[14]	Basal insulin ± bolus insulin or metformin, sulfonylurea, or both	Liraglutide vs no liraglutide	26 weeks	50	31 (62.0)	58 (9.1)	7.4 (0.7)	33.0 (6.1)
Totals				**3,318**	**1,696 (51.1)**	**57 (9.4)**	8.2 (0.8)	**31.8 (5.3)**

Table 1. Characteristics of GLP-1 agonist phase 3 trial participants. List of clinical trials excerpted from a recent review[2]. NR = not reported.

References

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