

**Supplementary Table 1.** Baseline characteristics of case and control subjects before matching

Characteristic	Total	GLP-1 RA	DM control	Non-DM	Standardized mean difference		
					GLP-1 RA vs. DM control	GLP-1 RA vs. non-DM	DM control vs. non-DM
Number	385,450	3,485	169,679	212,286			
Age, yr	50.8 ± 12.1	52.3 ± 12.3	51.7 ± 11.6	50.0 ± 12.4	0.048	0.188	0.145
Diabetes duration, yr	2.8 ± 3.1	7.4 ± 4.7	2.7 ± 3.0	-	1.183	-	-
Diabetes duration, yr					0.128	-	-
<5	132,570 (76.6)	1,121 (32.2)	131,449 (77.5)	-			
5–10	34,254 (19.8)	1,191 (34.2)	33,063 (19.5)	-			
≥10	6,340 (3.7)	1,173 (33.7)	5,167 (3.0)	-			
Sex					0.125	0.085	0.040
Male	192,348 (49.9)	1,562 (44.8)	86,624 (51.1)	104,162 (49.1)			
Female	193,102 (50.1)	1,923 (55.2)	83,055 (48.9)	108,124 (50.9)			
Height, m <sup>2</sup>	163.1 ± 9.1	163.8 ± 9.4	162.8 ± 9.2	163.4 ± 9.0	0.109	0.043	0.067
Weight, kg	65.4 ± 12.9	77.9 ± 16.9	68.6 ± 13.6	62.5 ± 11.4	0.603	1.066	0.487
BMI, kg/m <sup>2</sup>	24.5 ± 3.7	28.9 ± 5.0	25.8 ± 3.9	23.3 ± 3.0	0.690	1.349	0.706
Fasting glucose, mg/dL	114.7 ± 43.3	157.6 ± 66.1	140.6 ± 52.5	93.2 ± 10.1	0.283	1.361	1.256
eGFR, mL/min/1.73 m <sup>2</sup>	87.6 ± 39.7	88.6 ± 62.6	87.0 ± 39.6	88.1 ± 39.2	0.029	0.010	0.026
Smoking status					0.098	0.074	0.095
Never smoker	234,625 (60.9)	2,138 (61.4)	98,917 (58.3)	133,570 (63.0)			
Ex-smoker	62,901 (16.3)	636 (18.3)	29,321 (17.3)	32,944 (15.5)			
Current smoker	87,694 (22.8)	707 (20.3)	41,328 (24.4)	45,659 (21.5)			
Alcohol consumption, times/wk					0.160	0.231	0.126
0	215,250 (55.9)	2,267 (65.2)	98,550 (58.1)	114,433 (54.0)			
1–2	116,493 (30.3)	850 (24.4)	46,078 (27.2)	69,565 (32.8)			
3–4	37,078 (9.6)	252 (7.2)	16,864 (10.0)	19,962 (9.4)			
≥5	16,196 (4.2)	110 (3.2)	7,987 (4.7)	8,099 (3.8)			
Antidiabetic drugs	173,164 (44.9)	3,485 (100.0)	169,679 (100.0)	-			
Metformin	139,358 (36.2)	3,166 (90.8)	136,192 (80.3)	-	0.304	4.455	2.852
Sulfonylureas	78,770 (19.9)	2,305 (66.1)	74,465 (43.9)	-	0.459	1.977	1.251
α-Glucosidase inhibitor	14,347 (3.7)	279 (8.0)	14,068 (8.3)	-	0.010	0.417	0.425
Meglitinide	3,308 (0.9)	98 (2.8)	3,210 (1.9)	-	0.061	0.241	0.196
SGLT2 inhibitor	4,945 (1.3)	576 (16.5)	4,369 (2.6)	-	0.489	0.629	0.230
Thiazolidinedione	40,266 (10.4)	980 (28.1)	39,286 (23.2)	-	0.114	0.885	0.776
Insulin	23,961 (6.2)	1,887 (54.1)	22,074 (13.0)	-	0.968	1.537	0.547
Comorbidity	239,038 (62.0)	3,465 (99.4)	155,200 (91.5)	80,373 (37.9)	0.389	1.774	1.354
Hypertension	124,316 (32.3)	2,720 (78.0)	101,173 (59.6)	20,423 (9.6)	0.406	1.904	1.235
Stroke	26,601 (6.9)	655 (18.8)	20,027 (11.8)	5,919 (2.8)	0.195	0.534	0.352
Acute myocardial infarction	5,897 (1.5)	226 (6.5)	4,658 (2.7)	1,013 (0.5)	0.179	0.332	0.181
Chronic kidney disease	3,613 (0.9)	168 (4.8)	3,007 (1.8)	438 (0.2)	0.171	0.298	0.159
Dyslipidemia	196,604 (51.0)	3,380 (97.0)	135,569 (79.9)	57,655 (27.2)	0.555	2.072	1.246
Liver disease	73,884 (19.2)	1,783 (51.2)	53,518 (31.5)	18,583 (8.8)	0.407	1.044	0.593
Health screening exam, <i>n</i>	3.1 ± 2.0	3.3 ± 2.0	2.8 ± 1.8	3.4 ± 2.1	0.244	0.049	0.289

Values are presented as mean ± standard deviation or number (%).

GLP-1 RA, glucagon-like peptide-1 receptor agonist; DM, diabetes mellitus; BMI, body mass index; eGFR, estimated glomerular filtration rate; SGLT2, sodium-glucose cotransporter 2.