Supplementary Table

Table S1. Data source of genome-wide association studies included in the Mendelian randomization analysis

Category	Phenotype	Sample size	Case	Controls	Population
Exposure	Painful gums	461113	13314	447799	European ancestry
	Dentures	461113	77732	383381	European ancestry
	Excessive attrition of teeth	195687	292	195395	European ancestry
	Loose teeth	461113	18981	442132	European ancestry
	wisdom teeth surgery	462933	18098	444835	European ancestry
	Chronic periodontitis	198441	3046	195395	European ancestry
	Acute periodontitis	195762	367	195395	European ancestry
	Dental caries	199565	4170	195395	European ancestry
	Bleeding gums	461113	60218	400895	European ancestry
	Deposits [accretions] on teeth	196169	774	195395	European ancestry
	Mouth ulcers	336138	34398	301740	European

					ancestry
	Impacted teeth	218792	884	217908	European ancestry
Outcome	Copd	112583	1658	110925	European ancestry
	Copd in elder	215284	3087	212197	European ancestry

Table S2. Characteristics of the genetic variants used for Mendelian randomization analysis of implant denture on COPD risk.

SNP	Chromosome position	Alleles (E/A)	EAF	F	SNP-denture association			SNP-COPD association		
					Beta	SE	P value	Beta	SE	P value
rs10048146	16:86710660	G/A	0.189087	26.92735	0.00722	0.000989	2.80E-13	0.000659	0.000782	0.399925
rs105290	11:17292068	C/T	0.407902	26.54101	-0.00407	0.00079	2.70E-07	-0.00063	0.000627	0.315415
rs10772314	12:10704350	A/T	0.392276	32.4367	-0.0042	0.000798	1.40E-07	-0.00062	0.000632	0.330402
rs10811723	9:22542285	G/A	0.710634	49.49101	0.005623	0.000859	5.80E-11	0.000649	0.000682	0.34155
rs1083479	2:147941762	C/T	0.583822	22.89541	-0.00385	0.00079	1.10E-06	-0.00086	0.000627	0.168307
rs10869805	9:79340206	G/A	0.16149	28.97109	0.007016	0.001053	2.60E-11	0.000512	0.000834	0.538871
rs10880627	12:44599081	T/C	0.485402	31.40408	-0.004	0.000786	3.70E-07	-0.00085	0.000623	0.173161
rs10883553	10:102635475	A/C	0.445828	21.78592	-0.00498	0.00078	1.80E-10	-0.00064	0.000619	0.299469
rs10912857	1:174928902	G/A	0.248838	26.56428	-0.00463	0.000898	2.60E-07	-0.00042	0.000713	0.559961
rs10956340	8:127891479	C/A	0.576643	22.93958	-0.00453	0.000785	8.00E-09	4.00E-05	0.000622	0.948695
rs10987006	9:128651539	G/C	0.642991	25.4987	0.005813	0.00081	7.00E-13	0.001944	0.000643	0.002483
rs1108343	16:51211595	C/T	0.645843	25.74604	-0.00431	0.00081	1.00E-07	-0.00095	0.000643	0.139589

rs111289033	3:193306987	G/A	0.030472	23.4881	0.013083	0.00226	7.10E-09	2.60E-05	0.001789	0.988405
rs1122171	5:134509987	T/C	0.594488	25.51789	0.011619	0.00079	5.90E-49	-0.00063	0.000627	0.314885
rs11235556	11:72356021	A/G	0.535997	80.7908	-0.0039	0.000779	5.60E-07	-0.00022	0.000618	0.718727
rs115880342	4:1365635	G/A	0.040327	23.99793	-0.00942	0.001967	1.70E-06	0.002059	0.001549	0.183753
rs115926813	5:131790662	A/G	0.038369	37.82393	-0.01023	0.002022	4.20E-07	0.001262	0.001609	0.432712
rs11628890	14:68782300	A/G	0.645491	30.90159	0.004014	0.00081	7.30E-07	-0.00143	0.000644	0.026557
rs11658746	17:79356598	C/T	0.370071	23.71046	-0.00442	0.000804	3.90E-08	0.000567	0.000638	0.374232
rs11668776	19:12690011	A/G	0.685205	26.05232	-0.00387	0.000834	3.50E-06	-0.00067	0.000661	0.310626
rs11676272	2:25141538	G/A	0.486137	25.1068	0.004115	0.000774	1.10E-07	-0.00147	0.000614	0.016973
rs11745103	5:26927356	C/T	0.456838	26.92926	0.004517	0.000783	8.00E-09	-8.89E-05	0.000621	0.886209
rs117674901	16:77224636	G/C	0.024407	21.69177	-0.01164	0.00251	3.50E-06	-0.00054	0.001991	0.78697
rs117684643	15:52791472	C/T	0.014253	38.15869	-0.01495	0.003266	4.70E-06	-0.00316	0.002593	0.222501
rs117737827	15:63804248	T/C	0.155832	26.04018	0.006386	0.00107	2.40E-09	0.001189	0.00085	0.161721
rs118164185	14:47032766	A/G	0.03304	26.1607	0.010338	0.002188	2.30E-06	0.001198	0.001743	0.491951
rs11984403	7:67945971	T/C	0.18195	28.27475	-0.00503	0.001005	5.50E-07	6.52E-06	0.000797	0.993472
rs12061998	1:234714414	T/A	0.27777	33.78276	0.004702	0.000874	7.30E-08	-0.00044	0.000693	0.524429
rs121908120	2:219755011	A/T	0.027087	20.88526	-0.02171	0.002415	2.50E-19	0.000426	0.001916	0.824121
rs12449524	17:17596461	A/C	0.269262	27.22241	0.004362	0.000876	6.30E-07	0.000481	0.000694	0.488687
rs12914891	15:98188263	C/T	0.036344	22.04079	0.010063	0.002146	2.70E-06	-0.00171	0.001703	0.316321
rs13035874	2:201109553	A/G	0.34737	23.46783	0.004169	0.000815	3.10E-07	0.000408	0.000645	0.527609
rs13113372	4:182290436	A/G	0.145868	41.21096	-0.00527	0.00111	2.00E-06	-0.00175	0.000889	0.049528
rs1342614	6:51302464	C/G	0.778071	33.50264	-0.00464	0.000933	6.60E-07	-0.00083	0.000737	0.259138
rs1352724	5:107083487	A/C	0.221721	21.9882	-0.00528	0.000934	1.60E-08	-0.00085	0.00074	0.249007
rs138096894	4:99532231	C/A	0.009925	23.60585	0.021856	0.004343	4.80E-07	-0.00275	0.003429	0.42269
rs139226952	15:97959928	G/T	0.324352	38.63512	0.004203	0.000831	4.20E-07	1.99E-05	0.000658	0.97589
rs1411182	8:132016965	T/A	0.449654	36.26877	0.003631	0.00078	3.20E-06	0.001505	0.000618	0.014864

rs1429414	2:198162430	A/G	0.369255	22.49822	0.004097	0.000803	3.30E-07	-0.00097	0.000637	0.126924
rs143623567	4:71239123	G/A	0.058853	22.27317	-0.00783	0.001651	2.10E-06	0.00153	0.001302	0.239924
rs1458595	1:234282895	G/A	0.144233	22.91791	0.005727	0.001104	2.10E-07	0.000825	0.000877	0.346601
rs1482698	5:44539453	C/G	0.384854	25.32782	0.00515	0.000802	1.40E-10	0.000812	0.000636	0.201242
rs1542652	8:65088503	G/A	0.922198	22.5551	-0.00723	0.001447	5.90E-07	-0.00068	0.001139	0.55013
rs1569599	20:7659347	T/C	0.285648	21.23518	-0.00492	0.000862	1.20E-08	-0.00067	0.000683	0.329198
rs1654552	19:51412666	A/C	0.460552	25.58837	-0.00373	0.000776	1.60E-06	0.000205	0.000615	0.738436
rs17069578	5:167435994	G/A	0.165213	33.2865	0.005218	0.001044	5.80E-07	0.000404	0.000829	0.625912
rs17170141	7:146243485	A/T	0.200511	216.2792	-0.00445	0.000968	4.30E-06	0.000385	0.000768	0.616178
rs172745	2:76221196	G/T	0.542408	23.87153	0.003788	0.000782	1.30E-06	0.000143	0.00062	0.817274
rs1730966	16:8763715	C/T	0.163711	32.30665	0.005725	0.001053	5.50E-08	1.75E-06	0.000835	0.998331
rs17413120	9:37517457	T/C	0.099248	25.27303	-0.00604	0.001298	3.20E-06	2.16E-05	0.001026	0.983198
rs17744041	3:7989017	C/A	0.114791	31.9874	-0.00572	0.00122	2.70E-06	-0.00099	0.000967	0.306339
rs1847583	11:91200329	G/T	0.024614	21.30773	0.013312	0.002501	1.00E-07	0.001814	0.001995	0.363154
rs1891025	9:110166861	A/C	0.310652	21.41025	-0.00389	0.00084	3.70E-06	-0.00062	0.000668	0.354446
rs191471183	1:74564233	A/C	0.013952	24.99157	-0.01661	0.003469	1.70E-06	-0.0024	0.002723	0.377341
rs2024125	7:43158477	A/G	0.463575	41.20251	0.004104	0.000777	1.30E-07	-0.00041	0.000615	0.507842
rs2046850	1:210304319	T/C	0.19357	24.7247	-0.00497	0.000984	4.40E-07	-0.00116	0.000779	0.13651
rs2070902	1:161187665	T/C	0.258463	27.86424	0.004507	0.000888	3.90E-07	0.000659	0.000704	0.349248
rs2075833	15:90016491	C/T	0.376837	75.49859	-0.00405	0.000799	4.00E-07	0.000565	0.000634	0.372233
rs2084131	5:60850522	G/A	0.628807	41.50083	0.003956	0.00081	1.00E-06	0.000134	0.000642	0.83513
rs2115920	18:58251081	A/G	0.445602	118.5237	-0.00372	0.000785	2.10E-06	7.60E-05	0.000622	0.902853
rs2238651	19:18718846	T/C	0.239931	23.24921	0.004426	0.000913	1.20E-06	-0.00013	0.000724	0.860526
rs2241527	2:219537224	A/G	0.391498	23.37498	0.004049	0.000793	3.30E-07	-0.00016	0.000629	0.797579
rs230647	21:44919654	T/C	0.394233	21.16821	-0.00366	0.000794	4.00E-06	-0.00034	0.000628	0.584589
rs2349034	5:137021606	A/T	0.534529	21.60076	0.004419	0.000777	1.30E-08	0.000578	0.000616	0.348557

rs2369925	8:80503857	A/G	0.681069	27.92529	-0.00409	0.000833	9.00E-07	-0.00031	0.00066	0.640538
rs2421616	10:93363288	G/A	0.412013	21.10816	-0.00428	0.000792	6.20E-08	-0.00035	0.000628	0.582593
rs2468964	8:38333062	G/T	0.60044	25.08275	-0.00367	0.00079	3.50E-06	-0.00083	0.000626	0.184225
rs2618617	20:17793412	A/G	0.274669	24.13385	-0.00432	0.000867	6.00E-07	0.000741	0.00069	0.282533
rs263771	2:185921692	A/C	0.233007	33.27329	0.004508	0.00092	9.60E-07	0.000481	0.000729	0.509739
rs2652452	2:155670203	C/A	0.552664	33.03926	0.004516	0.000777	6.20E-09	0.000738	0.000616	0.230645
rs28529403	16:30134656	C/T	0.398691	22.29397	-0.00425	0.000793	8.20E-08	-0.00114	0.00063	0.070844
rs28708698	14:80819698	A/G	0.356155	23.18954	0.004138	0.000815	3.90E-07	-8.79E-05	0.000647	0.891871
rs28822480	18:57924823	A/G	0.297671	24.93108	0.005459	0.00085	1.40E-10	0.001226	0.000674	0.068732
rs2893871	10:62662781	G/A	0.1549	21.68184	0.005888	0.001084	5.60E-08	2.68E-05	0.000861	0.975118
rs34559440	17:68399112	C/T	0.31519	21.50659	0.005424	0.000839	1.00E-10	0.000141	0.000664	0.831622
rs34579518	1:199755595	T/C	0.043719	44.42068	0.008886	0.001904	3.00E-06	-0.00116	0.001499	0.437289
rs34677431	14:65458925	T/A	0.301894	42.88309	0.004214	0.000848	6.80E-07	0.00151	0.000671	0.02434
rs34733120	11:102500783	G/A	0.137569	21.39994	0.005815	0.001133	2.80E-07	0.000795	0.000895	0.374302
rs374100168	8:36392647	T/C	0.01604	27.0649	0.014959	0.003106	1.50E-06	0.002696	0.002463	0.273705
rs3820640	1:226868918	C/T	0.156233	23.51398	-0.00599	0.001069	2.10E-08	0.00079	0.000864	0.360815
rs4284742	19:52131733	G/A	0.764029	21.69146	0.005388	0.00093	6.90E-09	0.000847	0.000738	0.250757
rs4352801	8:27435201	C/T	0.401333	51.53218	-0.00375	0.000794	2.30E-06	-0.00142	0.00063	0.024643
rs4445705	12:86936207	T/A	0.886782	21.33268	-0.00687	0.001224	2.00E-08	0.000399	0.000966	0.679438
rs4650282	1:75173257	A/C	0.106316	25.47359	-0.00605	0.001265	1.70E-06	-0.00095	0.001002	0.340994
rs4667711	2:164769973	C/A	0.749746	29.28608	0.00449	0.000896	5.40E-07	0.000588	0.000712	0.408572
rs479667	11:111484034	T/C	0.70452	25.03421	0.004429	0.000849	1.80E-07	0.00226	0.000674	0.000806
rs4847401	1:93628013	G/C	0.650315	29.49506	-0.00418	0.000811	2.50E-07	-0.00023	0.000643	0.718391
rs4881129	10:3293719	G/A	0.230635	21.15218	0.004933	0.000918	7.70E-08	4.27E-05	0.000727	0.953134
rs537414	9:73435315	A/G	0.647218	24.78619	-0.00376	0.000814	3.90E-06	0.000445	0.000644	0.489561
rs55903108	10:86420607	A/G	0.092905	28.87114	0.006661	0.001338	6.40E-07	0.002759	0.001054	0.008858

rs55958997	15:78915872	A/C	0.362204	25.14057	0.00444	0.00081	4.20E-08	0.002223	0.000642	0.000531
rs56158918	10:63768959	A/G	0.271408	40.67816	0.004466	0.000885	4.50E-07	0.000914	0.000701	0.192527
rs6007032	22:45830784	G/C	0.248824	25.04579	0.005113	0.000898	1.30E-08	-0.00092	0.000714	0.195299
rs61733476	14:20585924	G/A	0.010126	27.23657	-0.01807	0.00387	3.00E-06	-5.59E-05	0.003083	0.985531
rs62106258	2:417167	C/T	0.048534	28.3368	-0.01109	0.001802	7.70E-10	-0.00189	0.001432	0.187179
rs62254667	3:78597788	G/A	0.007302	26.45403	0.023441	0.004839	1.30E-06	-0.00067	0.003847	0.862747
rs62362384	5:103691600	A/T	0.134907	26.35189	0.005707	0.001135	5.00E-07	6.84E-05	0.000897	0.939223
rs62393868	5:178175388	G/A	0.199226	21.22206	0.004511	0.000975	3.70E-06	0.000204	0.000772	0.791216
rs62474594	7:122012143	T/C	0.254842	31.47821	-0.00409	0.000888	4.20E-06	-0.00082	0.000703	0.242115
rs6503796	17:45765249	C/T	0.554318	25.83407	0.004077	0.000781	1.80E-07	0.000693	0.000619	0.263531
rs6546524	2:69719177	C/A	0.539065	27.7063	0.004812	0.000779	6.50E-10	-0.00139	0.000618	0.024434
rs660745	19:49219459	C/T	0.544548	29.2125	0.006116	0.000779	4.20E-15	0.000173	0.00062	0.779889
rs66637616	5:77446603	A/T	0.3661	24.53246	0.003751	0.000813	3.90E-06	-0.00027	0.000644	0.679595
rs693906	6:31835164	C/G	0.156779	21.80803	0.009299	0.00107	3.70E-18	0.002971	0.000845	0.00044
rs7190448	16:51771104	C/G	0.260486	24.67364	-0.00421	0.000884	1.90E-06	-0.00047	0.0007	0.501589
rs7217268	17:70338127	G/A	0.611957	25.75356	-0.00474	0.000807	4.30E-09	-0.0017	0.00064	0.008098
rs7236339	18:77579773	A/G	0.227723	22.32912	0.004669	0.00093	5.10E-07	0.002467	0.000735	0.000793
rs72636697	4:68016609	T/C	0.134023	25.60822	0.005407	0.001146	2.40E-06	0.001809	0.00091	0.046794
rs72694438	1:104364878	A/G	0.208916	20.94701	0.005447	0.000956	1.20E-08	0.000428	0.00076	0.573224
rs72731412	15:40329613	C/T	0.133736	86.64801	0.005591	0.001145	1.00E-06	0.001926	0.000903	0.033023
rs72748935	15:63639416	C/T	0.551712	25.69935	0.007261	0.00078	1.30E-20	-2.39E-05	0.000619	0.969169
rs73121884	7:54653608	T/C	0.079392	23.85888	0.006706	0.001443	3.40E-06	-0.00053	0.00114	0.639876
rs73152978	7:133455493	G/A	0.088016	30.05398	-0.00665	0.001376	1.30E-06	-0.00105	0.001095	0.335643
rs73330410	10:102596247	G/A	0.043035	21.99224	0.009555	0.00191	5.60E-07	-0.00027	0.001509	0.86006
rs7367897	1:155083289	T/A	0.436283	35.64701	0.005492	0.000781	2.00E-12	0.001199	0.000619	0.052735
rs7428430	3:50174184	T/C	0.48832	22.72751	-0.00498	0.000776	1.40E-10	-0.0019	0.000616	0.002019

rs7429279	3:25118637	C/A	0.589232	28.28033	-0.00476	0.00079	1.70E-09	0.001412	0.000625	0.024
rs75808855	6:33903427	T/C	0.059013	21.51989	0.00905	0.001715	1.30E-07	-2.14E-05	0.001353	0.987389
rs7607172	2:100492135	C/T	0.422232	28.76845	0.003659	0.000786	3.20E-06	0.001361	0.000623	0.028971
rs7650824	3:35588581	G/A	0.720845	53.33116	0.004059	0.000865	2.70E-06	0.000836	0.000686	0.22261
rs78140211	16:63045512	T/G	0.019957	29.54705	0.013078	0.002768	2.30E-06	0.004173	0.002186	0.056312
rs7855703	9:137123347	T/G	0.552401	22.32483	-0.00378	0.00078	1.20E-06	-0.00061	0.000618	0.327172
rs786272	2:145670892	A/G	0.662699	27.22947	0.004561	0.00082	2.70E-08	-0.0013	0.000651	0.046475
rs78679266	2:29623927	T/C	0.096064	24.81546	0.006902	0.00133	2.10E-07	-9.14E-05	0.001053	0.930858
rs7893754	10:107403241	G/A	0.28183	34.49225	0.003973	0.000864	4.20E-06	3.60E-05	0.000685	0.958089
rs7896518	10:65104500	G/A	0.427918	30.19381	-0.00397	0.000791	5.30E-07	6.21E-05	0.000628	0.921262
rs79036813	9:98217610	A/G	0.047519	41.81297	-0.00946	0.001818	2.00E-07	-0.00186	0.001427	0.191298
rs855398	6:10047914	G/A	0.55533	33.22515	0.003815	0.000791	1.40E-06	-0.00053	0.000627	0.398858
rs898797	8:9229689	T/C	0.589317	41.20711	0.004543	0.00079	9.00E-09	0.001546	0.000627	0.013677
rs921226	3:11324794	T/C	0.148821	25.22282	-0.0053	0.00109	1.20E-06	-0.00077	0.000867	0.373666
rs9274488	6:32634152	G/A	0.472485	22.53131	0.005616	0.000872	1.20E-10	0.002779	0.000729	0.000138
rs932206	2:136825272	T/C	0.641074	61.58946	0.004037	0.000799	4.40E-07	0.001114	0.000651	0.086794
rs9358912	6:26211146	T/G	0.273427	23.027	-0.00947	0.00087	1.30E-27	-0.00056	0.000692	0.416552
rs9537784	13:58291621	A/G	0.753683	33.56464	-0.00487	0.000901	6.50E-08	-0.00151	0.000713	0.034449
rs9608819	22:30260809	C/A	0.411933	23.52175	-0.0043	0.000788	4.90E-08	0.000212	0.000625	0.734641
rs9831002	3:18852697	G/T	0.509599	21.52627	0.004833	0.000778	5.10E-10	0.000161	0.000616	0.794317
rs9853960	3:136487989	A/G	0.358748	32.56502	0.004215	0.000808	1.80E-07	-5.64E-05	0.000641	0.929838
rs986803	12:84683848	G/T	0.471684	24.90184	0.003574	0.000776	4.10E-06	0.000305	0.000615	0.620075
rs9905793	17:46635649	G/A	0.912314	21.27444	-0.00792	0.001374	8.20E-09	0.000384	0.001093	0.72505
rs997245	3:61844601	T/C	0.039248	32.40516	-0.00912	0.001996	4.90E-06	-0.00092	0.001591	0.564728

Table S3. Characteristics of the genetic variants used for Mendelian randomization analysis of excessive attrition of teeth on elder COPD.

SNP	Chromosome position	Alleles (E/A)	EAF	F	SNP-Excessive attrition of teeth association			SNP-elder COPD association		
					Beta	SE	P value	Beta	SE	P value
rs10901147	9:135129777	A/G	17280.78	0.2153	0.5084	0.1042	1.07E-06	0.0566	0.0331	0.08769
rs116492377	5:78660213	A/G	23501.82	0.0157	2.0211	0.4057	6.31E-07	0.0824	0.1102	0.4551
rs148082328	19:35908458	T/G	28275.04	0.02135	1.5589	0.3381	4.02E-06	0.0065	0.0936	0.9448
rs181330722	6:37812606	A/C	49677.42	0.001739	7.6364	1.6137	2.22E-06	0.5259	0.3459	0.1284
rs1877052	18:56754306	T/G	17115.03	0.359	0.405	0.0885	4.77E-06	0.0228	0.0287	0.4271
rs290006	2:77644958	A/G	18725.57	0.5973	-0.4107	0.0857	1.66E-06	-0.0382	0.0277	0.1671
rs67110142	14:105274945	A/G	18225.89	0.2824	0.4585	0.0949	1.35E-06	0.0104	0.0304	0.7323
rs72740167	5:16228613	C/T	15978.6	0.02667	1.4371	0.2999	1.66E-06	-0.0012	0.0855	0.9889
rs930110	7:90949831	G/A	22118.56	0.483	0.4013	0.0837	1.63E-06	0.0659	0.0271	0.01493

Table S4. Heterogeneity and pleiotropy, investigating MR assumption violation.

outcome	Exposure	Heterogeneity tests						Directional horizontal pleiotropy test		
		Inverse variance weighted			MR Egger					
		Q	Q_df	Q_pval	Q	Q_df	Q_pval	egger intercept	se	pval
COPD	denture	173.653756	119	0.000808	176.193428	120	0.000641	0.000338	0.000256	0.189625
	loose teech	17.166151	15	0.309029	14.147654	14	0.438770	0.001578	0.000913	0.105917
	painful gums	11.169166	8	0.192297	10.155071	7	0.179955	0.001144	0.001369	0.430722
	excessive attrition of teeth	6.066597	7	0.531995	7.634608	8	0.469951	-0.000449	0.000359	0.250711
	wisdom teeth surgery	13.999722	25	0.961737	13.954544	24	0.947670	-0.000103	0.000486	0.833473
	acute periodontitis	6.425195	5	0.267015	6.281650	4	0.179079	0.000241	0.000797	0.777466
	bleeding gums	35.303363	37	0.548722	35.301007	36	0.501643	0.000016	0.000335	0.961554

	chronic periodontits	10.032303	11	0.527484	6.488646	10	0.772676	0.001077	0.000572	0.089162
	deposits [accretions] on teeth	8.977038	10	0.534284	8.280435	9	0.506151	0.000545	0.000653	0.425527
	impacted teeth	0.992450	4	0.910939	0.918405	3	0.820984	-0.000310	0.001139	0.803188
	mouth ulcers	72.406401	64	0.220314	67.962086	63	0.312062	-0.000383	0.000188	0.056612
	dental caries	5.772074	7	0.566601	5.199734	6	0.518463	0.000588	0.000777	0.477973
elder COPD	**denture**	133.149694	114	0.106194	132.949628	113	0.096826	0.004321	0.010479	0.680853
	loose teech	11.907645	14	0.613720	11.810794	13	0.543217	-0.012469	0.040066	0.760577
	painful gums	14.599007	7	0.041497	14.189979	6	0.027585	-0.030721	0.073872	0.691967
	excessive attrition of teeth	5.633814	8	0.688174	4.247601	7	0.750858	0.024807	0.021070	0.277521
	wisdom teeth surgery	27.107928	26	0.403691	25.952918	25	0.410115	-0.022730	0.021550	0.301605
	acute periodontitis	17.873603	7	0.012553	17.186388	6	0.008622	-0.020546	0.041946	0.641659
	bleeding gums	54.174201	38	0.042995	54.097623	37	0.034439	0.004414	0.019286	0.820240
	chronic periodontits	7.928817	11	0.719666	7.667699	10	0.661259	-0.014585	0.028541	0.620444
	deposits [accretions] on teeth	7.978962	10	0.630892	7.188247	9	0.617527	0.029634	0.033326	0.397029
	impacted teeth	5.164759	4	0.270806	1.223718	3	0.747322	0.102920	0.051843	0.141340
	mouth ulcers	78.437246	64	0.105833	78.154362	63	0.094562	0.004504	0.009432	0.634639
	dental caries	6.498710	7	0.482867	5.191355	6	0.519515	0.041853	0.036604	0.296434

Supplementary Figures

Figure S1. Forest plot for the causal effect of each SNP on COPD risk.

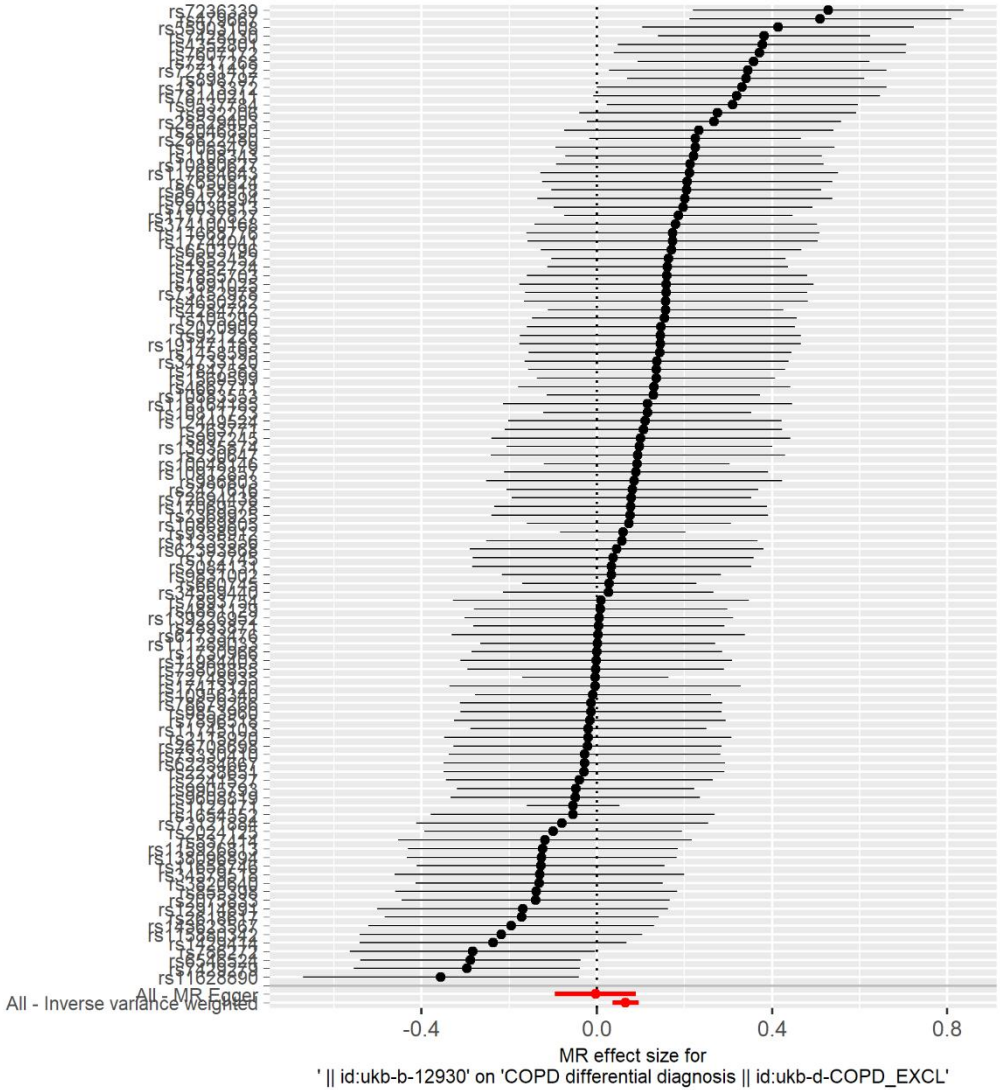
All - MR Egger
All - Inverse variance weighted
-0.4
0.0
0.4
0.8
MR effect size for
' || id:ukb-b-12930' on 'COPD differential diagnosis || id:ukb-d-COPD_EXCL'

Figure S2. Funnel plot for the overall heterogeneity in the effect of denture on COPD risk.

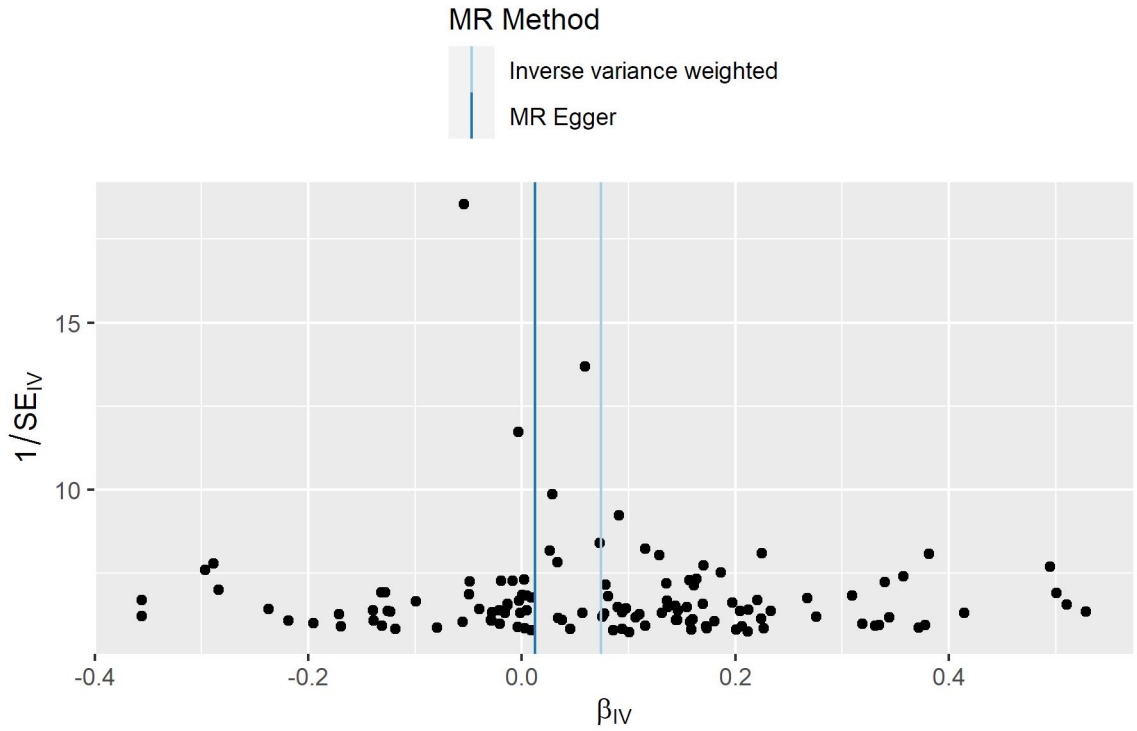

Figure S3. Forest plot for the causal effect of each SNP on elder COPD risk.

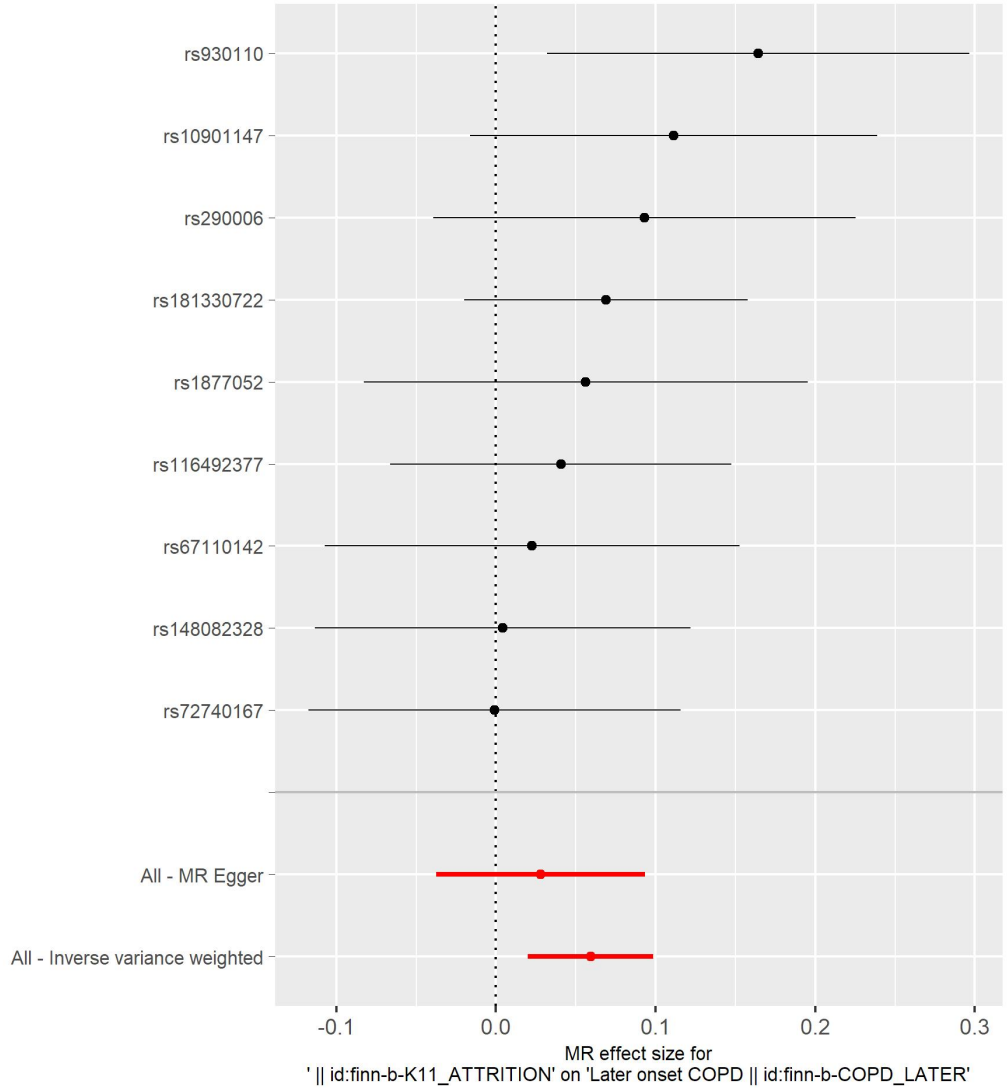
rs930110
rs10901147
rs290006
rs181330722
rs1877052
rs116492377
rs67110142
rs148082328
rs72740167
All - MR Egger
All - Inverse variance weighted
-0.1
0.0
0.1
0.2
0.3
MR effect size for
' || id:finn-b-K11_ATTRITION' on 'Later onset COPD || id:finn-b-COPD_LATER'

Figure S4. Funnel plot for the overall heterogeneity in the effect of excessive attrition of teeth on elder COPD.