Supplementary Materials

Table S1. Characteristics of participants according to rheumatoid arthritis status.

		Non-RA	RA *	*p*-Value
Total		39,392(100)	794(100)	
Sex				
	Men	17,182(43.6)	158(19.9)	<0.0001
	Women	22,210(56.4)	636(80.1)	
Age				
	20–39	11,512(29.2)	62(7.81)	<0.0001
	40–59	15,308(38.9)	252(31.7)	
	60–79	11,653(29.6)	447(56.3)	
	≥80	919(2.3)	33(4.2)	
House Income				
	Low	17,009(43.2)	458(57.7)	<0.0001
	High	22,383(56.8)	336(42.3)	
Education				
	High school or below	28,198(71.6)	698(87.9)	<0.0001
	College or above	11,194(28.4)	96(12.1)	
Smoking				
	Non-/ex-smoker	31,867(80.9)	719(90.6)	<0.0001
	Current smoker	7525(19.1)	75(9.5)	
Diabetes mellitus				
	No	34,926(88.7)	667(84.0)	<0.0001
	Yes	4466(11.3)	127(16.0)	
Tooth brushing				
	<3	20,544(52.2)	454(57.2)	0.005
	≥3	18,848(47.9)	340(42.8)	
Oral examination within 1 year				
	No	27,630(70.1)	603(75.9)	0.0004
	Yes	11,762(29.9)	191(24.1)	

* Rheumatoid arthritis.

Table S2. Odds ratios of self-perceived oral health according to rheumatoid arthritis excluding the person with the complete dentures.

		Model1 [†]	Model2 [‡]	Model3 [§]
Total		1.213(1.1–1.337)	1.108(1.005–1.223)	1.108(1.004–1.223)
Sex				
	Men	1.22(0.985–1.511)	1.139(0.92–1.411) [a]	1.14(0.92–1.412) [b]
	Women	1.233(1.105–1.377)	1.103(0.987–1.232) [a]	1.102(0.987–1.232) [b]
Age				
	20–39	1.044(0.693–1.573)	1.047(0.695–1.578)	1.048(0.695–1.579)
	40–59	1.175(0.985–1.401)	1.205(1.01–1.35)	1.207(1.012–1.44)
	60–79	1.104(0.973–1.254)	1.109(0.976–1.26)	1.107(0.974–1.258)
	≥80	0.914(0.546–1.529)	0.903(0.54–1.512)	0.907(0.542–1.519)
House income				
	Low	1.129(0.996–1.281)	1.073(0.945–1.218)	1.071(0.944–1.216)
	High	1.249(1.07–1.458)	1.158(0.991–1.354)	1.164(0.996–1.36)
Education				

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High school or below	1.16(1.048–1.285)	1.113(1.004–1.234)	1.113(1.004–1.233)
College or above	1.067(0.761–1.495)	1.009(0.719–1.415)	1.013(0.722–1.421)
Smoking			
No	1.258(1.134–1.395)	1.114(1.003–1.236)[c]	1.113(1.003–1.236)[d]
Yes	1.17(0.875–1.564)	1.049(0.783–1.405)[c]	1.048(0.783–1.404)[d]
Diabetes mellitus			
No	1.195(1.072–1.332)	1.089(0.976–1.215)	-
Yes	1.211(0.97–1.511)	1.206(0.965–1.509)	-
Tooth brushing			
<3	1.166(1.027–1.323)	1.111(0.978–1.262)	1.108(0.975–1.258)
≥3	1.26(1.081–1.469)	1.102(0.944–1.286)	1.106(0.948–1.291)
Oral examination within 1 year			
No	1.211(1.085–1.352)	1.108(0.992–1.238)	1.107(0.99–1.237)
Yes	1.178(0.954–1.454)	1.091(0.883–1.349)	1.095(0.886–1.354)

† Crude odds ratio was calculated by Poisson analysis; ‡ Adjusted odds ratio was calculated by Poisson analysis after adjusting for sex, age and smoking; § Adjusted odds ratio was calculated by Poisson analysis after adjusting for sex, age, smoking and diabetes mellitus; [a] Adjusted for age, smoking; [b] Adjusted for age, smoking and diabetes mellitus; [c] Adjusted for sex, age; [d] Adjusted for sex, age and diabetes mellitus.
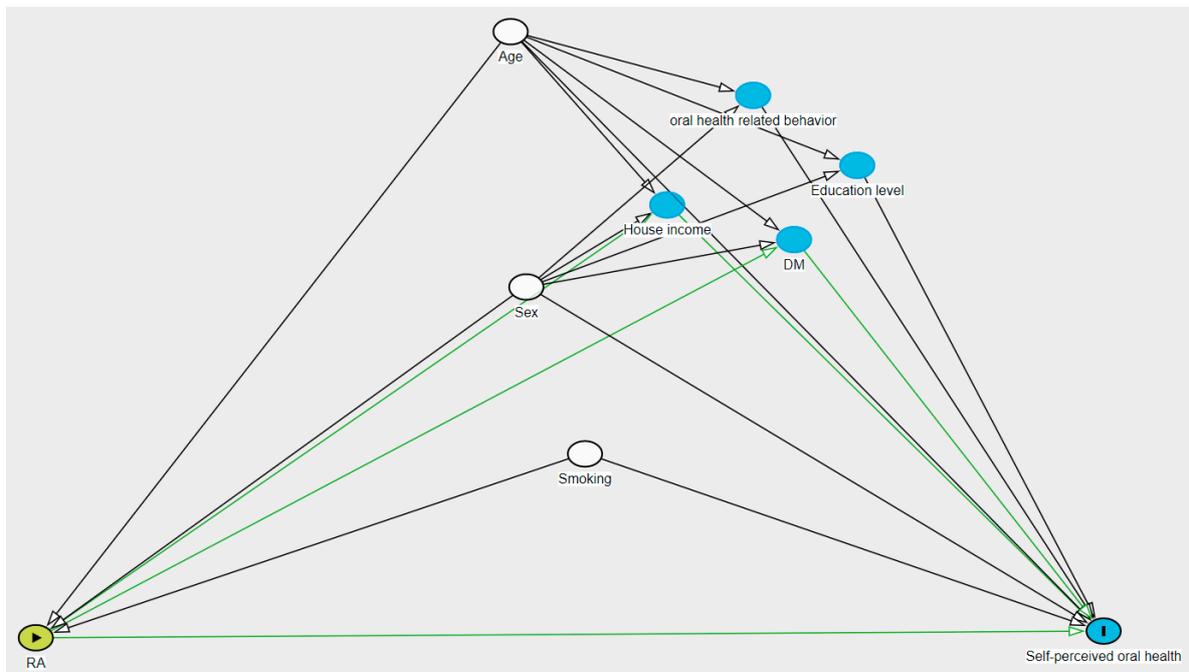

Figure S1. Directed acyclic graphs for variable selection.

Directed acyclic graphs (DAGs) to show the hypothesized causal associations among rheumatoid arthritis (RA) (yellow-green circle), self-perceived oral health ("I" in a blue circle), and covariates. The proposed adjustment variable using the DAGitty is indicated by white circles. Ancestor variables of the outcome and not proposed adjustment variables are indicated by blue circles.
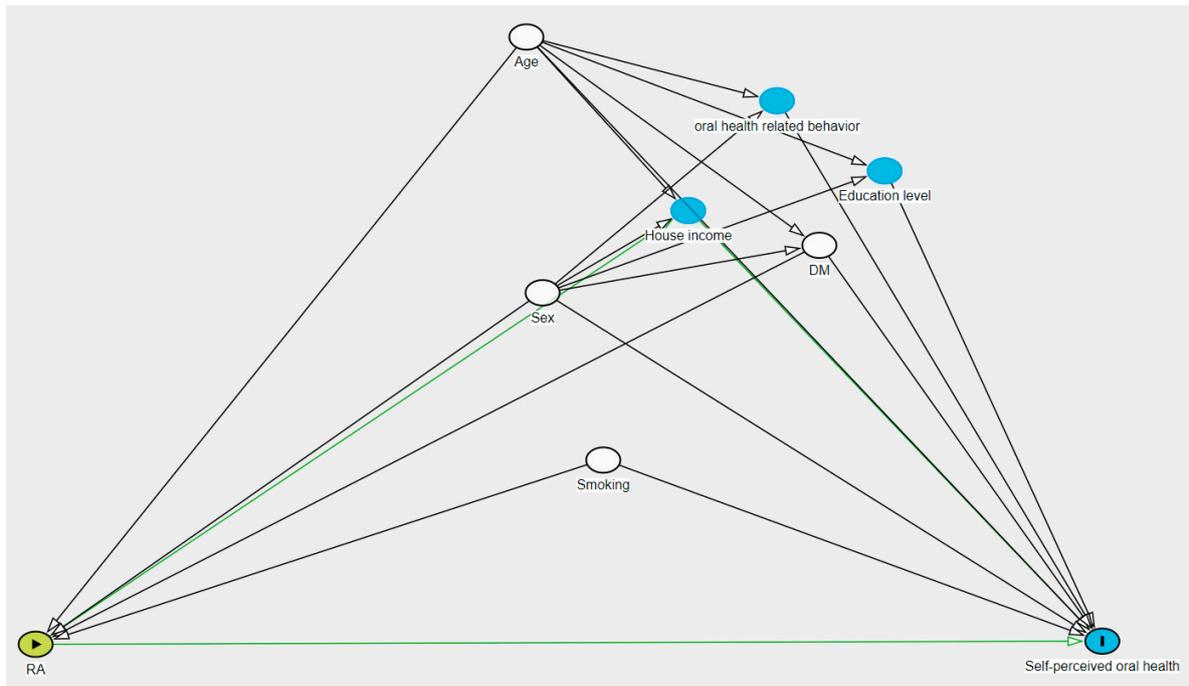
Figure S2. Directed acyclic graphs for variable selection.

Directed acyclic graphs (DAGs) to show the hypothesized causal associations among rheumatoid arthritis (RA) (yellow-green circle), self-perceived oral health ("I" in a blue circle), and covariates. The proposed adjustment variable using the DAGitty is indicated by white circles. Ancestor variables of the outcome and not proposed adjustment variables are indicated by blue circles.