

# 박기찬 논문 정리

A nationwide cohort study of cigarette smoking and risk of neovascular age-related macular degeneration in East Asian men

# Does Maternal Smoking during Pregnancy Have a Direct Effect on Future Offspring Obesity? Evidence from a Prospective Birth Cohort Study FREE

Abdullah Al Mamun ✉, Debbie A. Lawlor, Rosa Alati, Michael J. O'Callaghan, Gail M. Williams, Jake M. Najman

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1. 결혼 상태

1. 현재 낳은 자식에 대한 인구학적 정보..

# Serum thyroid-stimulating hormone levels and smoking status: Data from the Korean National Health and Nutrition Examination Survey VI

Suyeon Park, Won Gu Kim, Min Ji Jeon, Mijin Kim, Hye-Seon Oh, Minkyu Han, Tae Yong Kim,  
Young Kee Shong, Won Bae Kim✉

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Research

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## Fetal Thyroid Function, Birth Weight, and *in Utero* Exposure to Fine Particle Air Pollution: A Birth Cohort Study

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해당 논문은, 대기 오염의 상태가 산모의 갑상선 기능에 영향을 주고, 해당 산모가 낳은 아기의 출산시 무게 감소에 기여한다는 논문.

Clinical science

# A nationwide cohort study of cigarette smoking and risk of neovascular age-related macular degeneration in East Asian men

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Author affiliations +

[https://bjo.bmj.com/content/early/2017/03/14/bjophthalmol-2016-309952?utm\\_source=trendmd&utm\\_medium=cpc&utm\\_campaign=ip&trendmd-shared=1&utm\\_term=TrendMDPhase4&utm\\_content=Journalcontent&casa\\_token=3hD4ZmKRDZwAAAAA:9FTdrF8iKIVPx7IJSINrMZpUr2Ff372CaexecrAYJiPQNZQiLlvsX6ssSneVU1zuwOID5FabKGRM](https://bjo.bmj.com/content/early/2017/03/14/bjophthalmol-2016-309952?utm_source=trendmd&utm_medium=cpc&utm_campaign=ip&trendmd-shared=1&utm_term=TrendMDPhase4&utm_content=Journalcontent&casa_token=3hD4ZmKRDZwAAAAA:9FTdrF8iKIVPx7IJSINrMZpUr2Ff372CaexecrAYJiPQNZQiLlvsX6ssSneVU1zuwOID5FabKGRM)

7회 인용..

한국인을 대상으로 흡연과, 노화 관련 황반 변성의 위험성의 관계에 대한 연구

## 대상

1. 건보공단 표본DB에서 2002년, 2003년에 건강검진을 받은 사람
2. 남자(노화 관련 황반 변성에 걸린 사람이 대부분 남자이고, 흡연 또한 남자들이 많이 하기 때문)
3. 나이가 40이상, 79세 이하인 사람(40세 이하에는 황반 변성 환자가 거의 없음)
4. 첫 건강 검진을 받은 날(2002,2003) 이전에 AMD(황반 변성)이 있었던 사람 제외
5. BMI, 혈압 등의 변수에서 상위,하위 1%안에 드는 환자 제외

## 총 표본 수

Unmatched whole cohort (n=157 614)

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Never smoker

Smoker (past/current)

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n=72 347

n=85 267

p Value

Confounder variables(40개..)

	Unmatched whole cohort (n=157 614)			Propensity score-matched cohort (n=129 120)		
	Never smoker	Smoker (past/current)		Never smoker	Smoker (past/current)	
Characteristic	n=72 347	n=85 267	p Value	N=64 560	n=64 560	p Value
Neovascular AMD—no. (%)	192 (0.3)	257 (0.3)	0.181	154 (0.2)	227 (0.4)	<0.001
Age—years	56.3±8.2	54.1±7.6	<0.001	55.3±7.8	55.3±7.8	0.159
Body mass index—kg/m <sup>2</sup>	24.2±2.6	23.9±2.6	<0.001	24.1±2.6	24.1±2.6	0.118
Systolic blood pressure—mm Hg	130.2±16.7	128.7±16.5	<0.001	129.6±16.6	129.6±16.6	0.642
Diastolic blood pressure—mm Hg	81.8±10.6	81.1±10.6	<0.001	81.6±10.6	81.5±10.6	0.160
Fasting glucose—mg/dL	98.5±23.3	98.6±23.8	0.525	98.4±23.3	98.6±23.6	0.226
Total cholesterol—mg/dL	198.0±33.7	199.7±34.2	<0.001	198.7±33.8	198.8±33.8	0.827
Haemoglobin—g/dL	14.7±1.1	14.8±1.1	<0.001	14.7±1.1	14.7±1.1	0.645
Urine pH	6.1±0.6	6.1±0.6	<0.001	6.1±0.6	6.1±0.6	0.982
Aspartate aminotransferase—U/L	27.3±9.4	27.4±10.0	<0.001	27.3±9.5	27.4±9.7	0.521

수축기 혈압

이완기 혈압

공복 혈당

전체 혈당

해모글로빈

소변 ph

Confounder variables(40개..)

Alanine aminotransferase—U/L	27.2±13.4	27.5±13.9	<0.001	27.4±13.6	27.3±13.6	0.342	
Charlson Comorbidity Index	0.5±1.0	0.4±0.9	<0.001	0.5±1.0	0.5±1.0	0.636	합병증 지수
Hypertension—no. (%)	14 432 (20.0)	12 300 (14.4)	<0.001	11 006 (17.1)	11 155 (17.3)	0.271	고혈압
Hyperlipidaemia—no. (%)	4540 (6.3)	4369 (5.1)	<0.001	3719 (5.8)	3708 (5.7)	0.895	고지혈증
Acute myocardial infarction—no. (%)	346 (0.5)	307 (0.4)	<0.001	276 (0.4)	278 (0.4)	0.932	급성 심근 경색
Heart failure—no. (%)	2180 (3.0)	1771 (2.1)	<0.001	1619 (2.5)	1630 (2.5)	0.845	심장 마비
Peripheral vascular disease—no. (%)	938 (1.3)	922 (1.1)	<0.001	786 (1.2)	784 (1.2)	0.959	말초 혈관 질환
Cerebrovascular disease—no. (%)	1622 (2.2)	1335 (1.6)	<0.001	1206 (1.9)	1206 (1.9)	>0.999	뇌혈관 질환
Chronic pulmonary disease—no. (%)	5471 (7.6)	5863 (6.9)	<0.001	4732 (7.3)	4731 (7.3)	0.991	만성 폐병
Liver diseases—no. (%)	5222 (7.2)	5699 (6.7)	<0.001	4563 (7.1)	4553 (7.1)	0.913	간 질환
Uncomplicated diabetes—no. (%)	5348 (7.4)	5133 (6.0)	<0.001	4288 (6.6)	4339 (6.7)	0.570	비복합 당뇨
Complicated diabetes—no. (%)	1645 (2.3)	1549 (1.8)	<0.001	1306 (2.0)	1331 (2.1)	0.623	복합 당뇨
Cancer—no. (%)	1259 (1.7)	988 (1.2)	<0.001	917 (1.4)	907 (1.4)	0.814	암



# Confounder variables(40개..)

## Antidiabetes mellitus medication

Metformin	2594 (3.6)	2739 (3.2)	<0.001	2214 (3.4)	2199 (3.4)	0.818
Sulfonylurea	3790 (5.2)	3943 (4.6)	<0.001	3189 (4.9)	3218 (5.0)	0.710
Meglitinide	131 (0.2)	140 (0.2)	0.420	110 (0.2)	107 (0.2)	0.838
Thiazolidinedione	78 (0.1)	89 (0.1)	0.835	67 (0.1)	68 (0.1)	0.931
α-Glucosidase inhibitors	1200 (1.7)	1256 (1.5)	0.003	1003 (1.6)	1006 (1.6)	0.946
Insulin	44 (0.1)	55 (0.1)	0.771	40 (0.1)	39 (0.1)	0.910

## Antihypertensives

Angiotensin II receptor antagonist	3768 (5.2)	3326 (3.9)	<0.001	2979 (4.6)	2964 (4.6)	0.842
ACE inhibitor	7314 (10.1)	6169 (7.2)	<0.001	5551 (8.6)	5607 (8.7)	0.579
Calcium channel blocker	12 488 (17.3)	11 078 (13.0)	<0.001	9761 (15.1)	9859 (15.3)	0.447
Diuretics	7928 (11.0)	7129 (8.4)	<0.001	6259 (9.7)	6310 (9.8)	0.632
β-blocker	8113 (11.2)	7112 (8.3)	<0.001	6292 (9.8)	6374 (9.9)	0.443
Others	1092 (1.5)	1012 (1.2)	<0.001	869 (1.4)	869 (1.4)	>0.999

진성 당뇨병 약물

고혈압 약물

## Confounder variables(407||..)

Statins	3559 (4.9)	3627 (4.3)	<0.001	3011 (4.7)	2963 (4.6)	0.525
Aspirin	2029 (2.8)	1744 (2.1)	<0.001	1564 (2.4)	1580 (2.5)	0.773
Exposure to medical care in 2002	62 681 (86.6)	70 211 (82.3)	<0.001	55 144 (85.4)	55 180 (85.5)	0.776
Exposure to medical care in 2003	64 533 (89.2)	72 215 (84.7)	<0.001	56 846 (88.1)	56 909 (88.2)	0.588
Exposure to ophthalmologist in 2002	15 827 (21.9)	14 826 (17.4)	<0.001	12 712 (19.7)	12 711 (19.7)	0.994
Exposure to ophthalmologist in 2003	16 862 (23.3)	15 320 (18.0)	<0.001	13 403 (20.8)	13 440 (20.8)	0.800

- AMD, age-related macular degeneration.

**Supplementary table 2 Korean Standard Classification of Disease (KCD) for hypertension, hyperlipidemia, and Charlson comorbidities index**

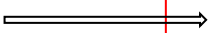
Comorbidities	KCD	Weight
Hypertension	I10	NA
Hyperlipidemia	E78, E78.0, E78.1, E78.2, E78.3, E78.4, E78.5	NA
Charlson Comorbidities Index		
Myocardial infarction	I21.x, I22.x, I25.2	1
Congestive heart failure	I11.0, I13.0, I13.2, I25.5, I42.x, I43.x, I50.x	1
Peripheral vascular disease	I70.x, I71.x, I73.1, I73.8, I73.9, I77.1, I79.0, I79.2, K55.1, K55.8, K55.9, Z95.8, Z95.9	1
Cerebrovascular disease (CVD)	I60.x, I61.x, I62.x, I63.x, I64.x, I65.x, I66.x, I67.x, I68.x  , I69.x	1
Dementia	F00.x, F01.x, F02.x, F03.x, F05.1, G30.x, G31.1	1
Chronic pulmonary diseases (CPD)	I27.8, I27.9, J40.x, J41.x, J42.x, J43.x, J44.x, J45.x, J46.x, J47.x, J60.x, J61.x, J62.x, J63.x, J64.x, J65.x, J66.x, J67.x, J68.4, J70.1, J70.3	1
Connective tissue disease	M05.x, M06.x, M32.x, M33.x, M34.x, M31.5, M35.1, M35.3, M36.0	1
Peptic ulcer	K25.x, K26.x, K27.x, K28.x	1
Mild liver diseases	B18.x, K73.x, K74.x, K70.0, K70.1, K70.2, K70.3, K70.9, K71.3, K71.4, K71.5, K71.7, K76.0, K76.2, K76.3, K76.4, K76.8, K76.9, Z94.4	1
Uncomplicated diabetes	E10, E11, E12, E13, E14, E10.0, E10.1, E10.6, E10.8, E10.9, E11.0, E11.1, E11.6, E11.8, E11.9, E12.0, E12.1, E12.6, E12.8, E12.9, E13.0, E13.1, E13.6, E13.8, E13.9, E14.0, E14.1, E14.6, E14.8, E14.9	1
Diabetes complicated with retinopathy, neuropathy, renal disease	E10.2, E10.3, E10.4, E10.5, E10.7, E11.2, E11.3, E11.4, E11.5, E11.7, E12.2, E12.3, E12.4, E12.5, E12.7, E13.2, E13.3, E13.4, E13.5, E13.7, E14.2, E14.3, E14.4, E14.5, E14.7	2
Hemiplegia	G81.x, G82.x, G04.1, G11.4, G80.1, G80.2, G83.0, G83.1, G83.2, G83.3, G83.4, G83.9	2
Moderate or severe renal diseases	I12.0, I13.1, N03.2-N03.7, N05.2-N05.7, N18.x, N19.x, N25.0, Z49.0-Z49.2, Z94.0, Z99.2	2
Non-metastatic solid cancer, leukemia, lymphoma, multiple myeloma	C00.x-C26.x, C30.x-C34.x, C37.x-C41.x, C43.x, C45.x-C58.x, C60.x-C76.x, C81.x-C85.x, C88.x, C90.x-C97.x	2
Moderate or severe liver diseases	I85.0, I85.9, I86.4, I98.2, K70.4, K71.1, K72.1, K72.9, K76.5, K76.6, K76.7	3
Metastatic solid cancer	C77.x, C78.x, C79.x, C80.x	6
AIDS (AIDS is not available in this database)	B20.x, B21.x, B22.x, B24.x	6


NA = not available

## 분석

1. 앞서 보여준 40개의 혼란 변수를 사용하여 propensity score을 계산.(logit을 사용)  
(current/past smoker vs non smoker)

2. 각 환자에 대한 propensity score을 계산 하여 처치군과 대조군에 대해 1:1 matching을 시행  
(해당 부분에 대해서 정확히 어떤 matching 기법을 사용하였는지는 없으나,

Optimal matching에서 가장 성능이 좋은 1:N을 일반적으로 사용하면 될 것 같습니다)  Model 1

3. 계산한 propensity score, age를 공변량으로 넣어서 보정.  Model 2

4. 각각의 model에 대해 Cumulative incidence curve 작성

결과

Parameters	Propensity score-adjusted analysis (n=157 614)			Propensity score-matched analysis (n=129 120)		
	Never smoker	Smoker		Never smoker	Smoker	
	N=72 347	Past smoker n=24 801	Current smoker n=60 466	N=64 560	Past smoker n=19 688	Current smoker n=44 872
Total follow-up (PYs)	300 315	103 156	247 808	268 375	81 875	184 027
No. of neovascular AMD	192	65	192	154	60	167
Incidence (no./10 000 PYs, 95% CI)	6.4 (5.6 to 7.4)	6.3 (4.9 to 8.0)	7.7 (6.7 to 8.9)	5.7 (4.9 to 6.7)	7.3 (5.7 to 9.4)	9.1 (7.8 to 10.6)
HR (95% CI)	1 (reference)	1.15 (0.87 to 1.52)	1.66 (1.35 to 2.04)	1 (reference)	1.21 (0.90 to 1.63)	1.65 (1.32 to 2.05)
p Value		0.337	<0.001		0.217	<0.001

- AMD, age-related macular degeneration; PYs, person-years.

# 결과

Table 4

Association of neovascular AMD with duration of smoking and daily cigarette consumption

Smoking status	No. of cases	Crude %	HR	95% CI	p value
Duration of smoking (N=129 120)					<i>p&lt;0.001 for trend</i>
Never smoked	154/64 560	0.24	1 (reference)		
≤9 years	17/7275	0.23	1.12	0.68 to 1.86	0.647
10–29 years	69/31 740	0.22	1.24	0.93 to 1.66	0.140
≥30 years	141/25 545	0.55	1.76	1.40 to 2.22	<0.001
Daily consumption of cigarettes (N=109 432)					<i>p&lt;0.001 for trend</i>
Never smoked	154/64 560	0.24	1 (reference)		
<10 cigarettes	46/11 672	0.39	1.42	1.02 to 1.97	0.039
10–19 cigarettes	78/23 602	0.33	1.54	1.18 to 2.03	0.002
≥20 cigarettes	43/9598	0.45	2.33	1.66 to 3.27	<0.001

