

임상에서의 비약물적 금연 치료 전략

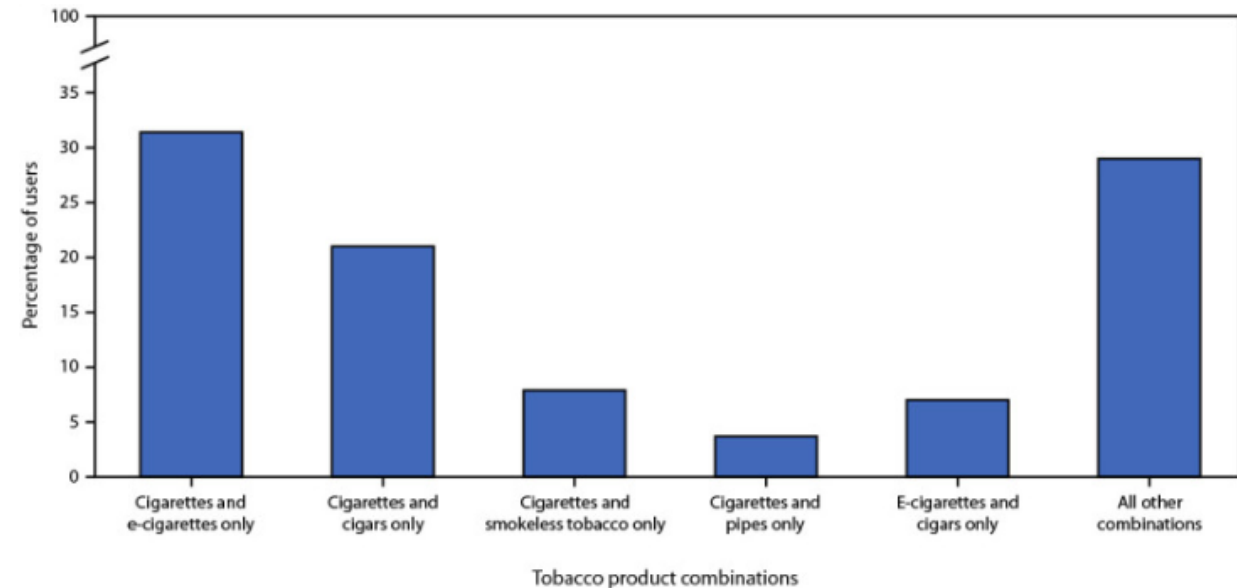
Myeong Geun Choi, M.D., Ph.D.

Assistant professor

Division of Pulmonary and Critical Care Medicine, Mokdong hospital,
College of Medicine, Ewha Womans University

Introduction

- Global smoking prevalence
 - 36.7% among men
 - 7.8% among women
 - 22.3% overall
- South Korea, US
 - 20% overall
 - Cigarettes (11.5%), e-cigarettes (4.5%), cigars (3.5%), smokeless tobacco (2.1%), and pipes (including hookah) (0.9%)



Introduction

- Tobacco use
 - 1.25 billion tobacco users worldwide
 - 80% live in low- and middle-income countries
- Tobacco kills over 8 million people each year
- Global economic cost in 2012: US\$ 1.436 trillion

Introduction

- Tobacco use accounts for
 - 87% of lung cancer deaths
 - 82% of COPD incidence
 - 21% of coronary heart disease incidence
 - 18% of stroke incidence

Effect of Smoking Cessation Duration on Lung Cancer Incidence : A Nationwide Retrospective Cohort Study in Korea

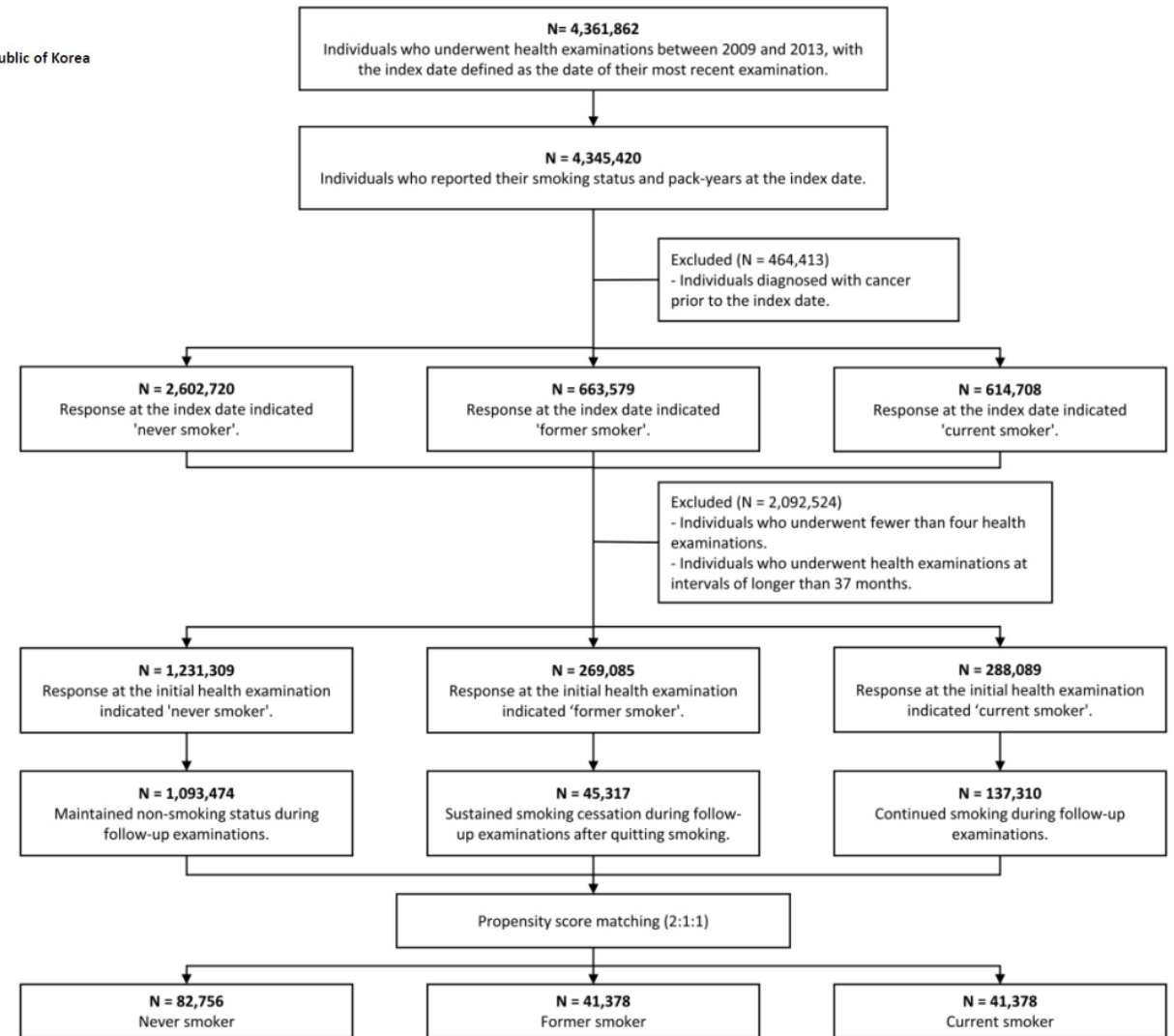
Myeong Geun Choi,¹ Min-Ho Kim,² Hong Jin Kim,³ Eun Mi Chun¹

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- Korea National Health Insurance Corporation
 - Adults aged ≥ 50 years who underwent health examinations in 2009–2013 (N=8.67 million)
 - 50% were randomly sampled (N=4,361,862)
- Medical records from 2008 to 2021 and health examination records from 2002 to 2021 were obtained



Effect of Smoking Cessation Duration on Lung Cancer Incidence : A Nationwide Retrospective Cohort Study in Korea

Myeong Geun Choi,¹ Min-Ho Kim,² Hong Jin Kim,³ Eun Mi Chun¹

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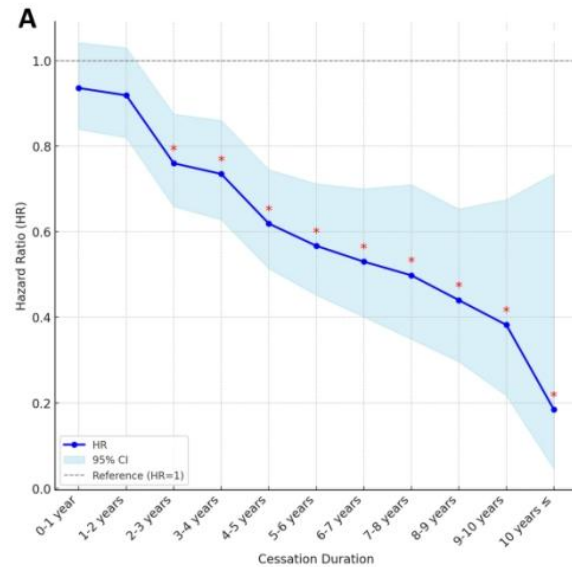
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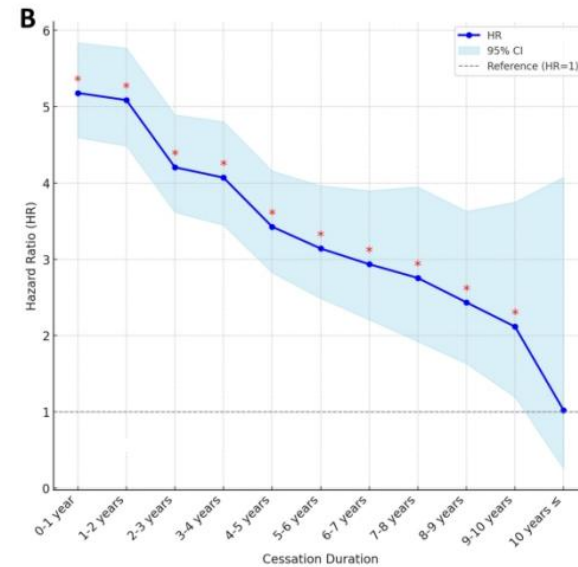
- Median follow-up years: 8.46
- Cumulative development of lung cancer
 - Former smoker: 3.54% (median 27.28 PYs)
 - Current smoker: 4.51% (median 27.63 PYs)

Light smoker (< 20 PYs)

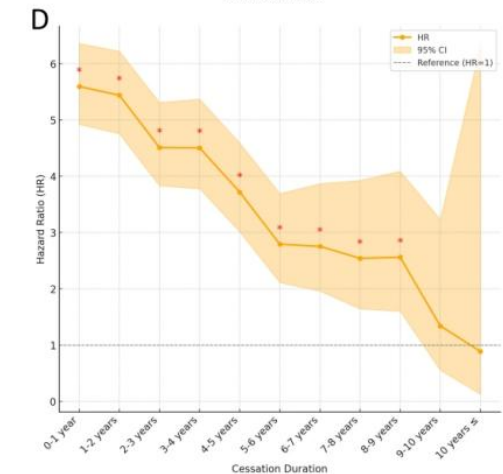
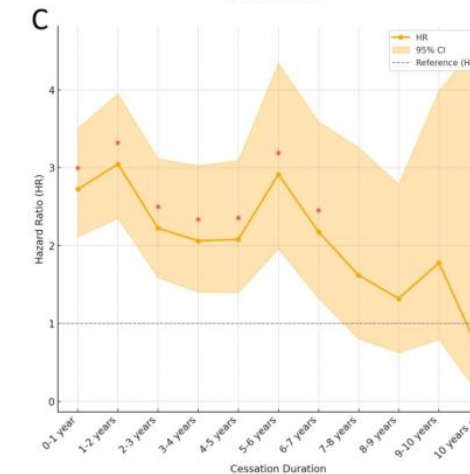
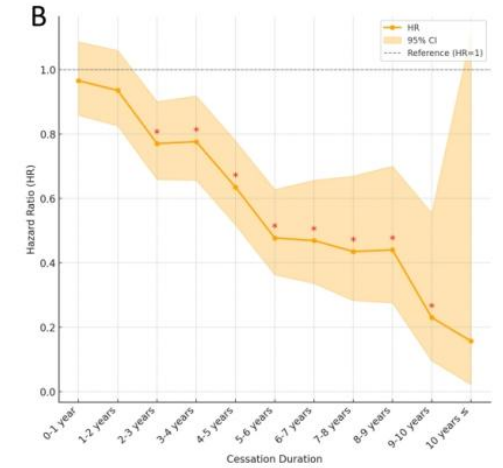
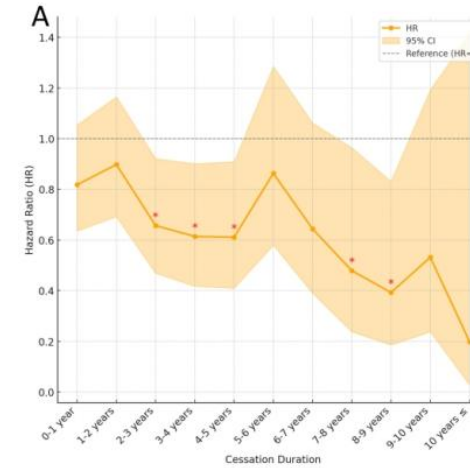
Heavy smoker (≥ 20 PYs)



vs. current smoker

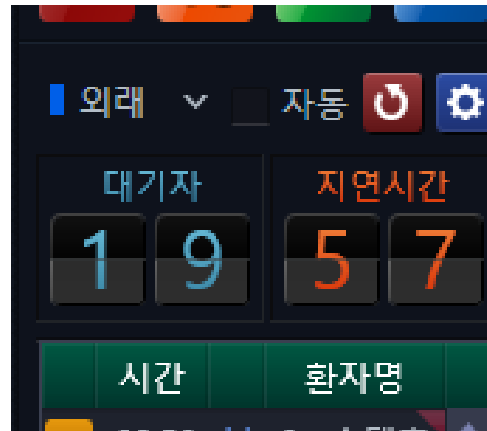


vs. never smoker



Introduction

- Barriers to smoking cessation counseling in outpatient clinics
 - Time constraints
 - Lack of training
 - Low reimbursement
 - Patient reluctance
 - System limitations



WHO clinical treatment guideline for tobacco cessation in adults



Recommendations on interventions for tobacco smoking cessation in adults in Canada

Brett D. Thombs PhD, Gregory Traversy MSc DPHR, Donna L. Reynolds MD MSc, Eddy Lang MDCM, Stéphane Groulx MD, Brenda J. Wilson MB ChB MSc; for the Canadian Task Force on Preventive Health Care

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See related editorial at www.cmaj.ca/lookup/doi/10.1503/cmaj.251171



NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)

Smoking Cessation

Version 1.2025 — May 9, 2025

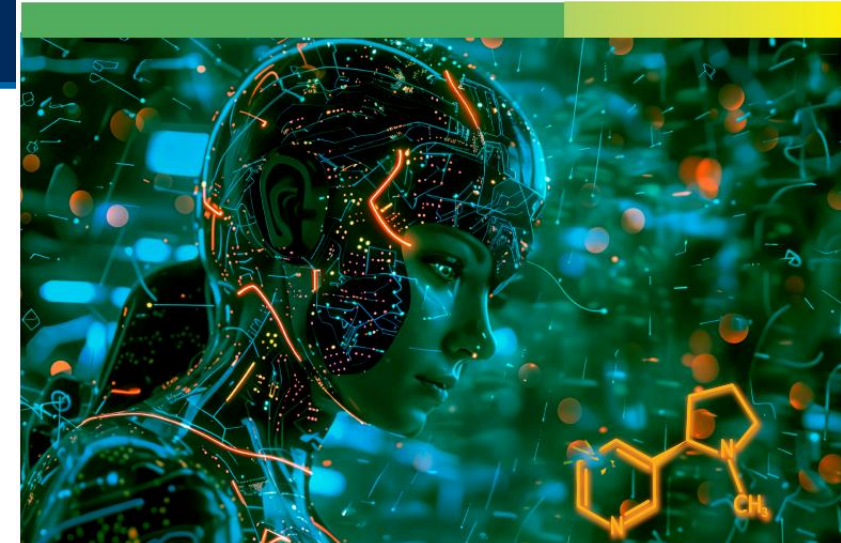
NCCN.org

NCCN recognizes the importance of clinical trials and encourages participation when applicable and available. Trials should be designed to maximize inclusiveness and broad representative enrollment.

NCCN Guidelines for Patients® available at www.nccn.org/patients

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2025 Guidelines For Treating Tobacco & Nicotine Dependence



The authoritative guide to a comprehensive understanding of the implications and implementation of treatments and strategies to treat tobacco and nicotine dependence (4th edition)

February 2025



2017 금연 진료지침

Clinical Document of Smoking Cessation



대한결핵 및 호흡기학회
금연 진료지침 개발위원회

2024 금연치료 임상진료지침

Korean Clinical Practice Guidelines of the Korean Society of Nicotine and Tobacco Research (KSRNT) and National Evidence-Based Healthcare Collaborating Agency (NECA) on the Treatment of Tobacco Use 2024

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오화영²⁰ · 김수영²⁰

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Background: There are no national guidelines for tobacco cessation treatment in Korea. In this study, we aimed to develop clinical practice guidelines based on the latest research

Contents

- Behavioural counseling
 - Motivational interviewing
 - Delivery format
- Physical exercise/dietary strategies
- Coping strategies for smoking cravings
- Intensive residential programs

Behavioural counseling

2. WHO recommends more-intensive behavioural support be offered to all tobacco users interested in quitting. Options for behavioural support are individual face-to-face counselling, group face-to-face counselling or telephone counselling; multiple behavioural support options should be provided.

↑ **Strong** recommendation;

↑ **high** certainty (individual counselling)/

↗ **moderate** certainty (group counselling and telephone counselling)



Behavioural counseling

- Combining pharmacotherapy and behavioural interventions
 - Pharmacotherapy only: does not provide behavior change or psychological support
 - Counselling: strengthens motivation, builds coping strategies, prevents relapse
 - Synergy effect
 - OR 1.4 (95% CI 1.2 – 1.6) compared with medication alone
 - OR 1.7 (95% CI 1.3 – 2.1) compared with counseling alone

Behavioural counseling

- 문제해결 상담
 - 스트레스, 부정적 감정, 음주, 사회적 상황 등 고위험 요인 파악 → 회피·대처 기술 훈련
- 지지적 개입
 - 환자의 노력 인정, 격려, 담배 의존은 치료 가능한 질환임을 강조
- 환자 참여 유도
 - 두려움·양가감정 탐색, 개인적 동기 상기, 긍정적 변화 강화
- 추적 상담
 - 금연 시작 전 개입, 1주 이내 첫 추적, 이후 1~2개월간 매주, 최소 3개월 이상 유지
- 상담 시간 및 횟수
 - 상담 시간·횟수↑ → 금연 성공률↑ (≥10분, ≥4회 상담 효과적)

금연치료 프로그램

8 ~ 12주 기간



금연치료
의료기관



의사 | 금연진료상담 + 의약품 처방 or 보조제 상담
약사 | 조제 / 판매



국민건강
보험공단



연 3회 지원 6회 이내 금연상담 비용 지원 인센티브 지급

참여등록

※ 1회 최대
4주 이내 처방

비용 지원

1-2회: 본인부담 20%
3-6회: 본인부담 없음

인센티브 지급

기준 | 상담회수 또는
투약일수 만족
지급 | 본인부담금
환급

참여 절차



금연치료 의료기관
확인 및 방문



금연치료 참여등록



진료상담



금연치료 의약품 또는
니코틴 보조제 처방



약국 방문



금연치료 의약품 또는
니코틴 보조제 구입

* 문의전화 : 국민건강보험공단 금연상담 033-811-2090 (평일 오전 9시 ~ 오후 6시)

금연 진료 및 상담료 (건강보험공단 80%지원, 본인부담은 20%수준)

구분	금연(단독)진료			금연(동시)진료 * 타병상과 동시 진료하는 경우		
	계	공단 지원	본인부담	계	공단 지원	본인부담
최초진료	22,830	18,330	4,500	22,830	19,830	3,000
유지상담	14,290	11,590	2,700	14,290	12,490	1,800

* 의료급여수급자 및 저소득층(건강보험료 하위 20% 이하)은 진료·상담료 전액 지원

병의원
(약국)찾기

서울특별시

양천구

읍/면/동

도로명

읍/면/동

목동병원

검진
기관찾기

구분 *

✓ 금연치료 의료기관

간호·간병통합서비스 병원

장애인 건강(치과)주치의 의료기관

일차의료 만성질환관리 사업 참여 의료기관

아동치과주치의 의료기관

영유아 발달정밀검사 의료기관

상병수당 사업 의료기관(근로활동불가모형)

장기요양 재택의료센터 지정기관

특성별
기관찾기

Behavioural counseling

1. WHO recommends brief advice (between 30 seconds and 3 minutes per encounter) be consistently provided by health-care providers as a routine practice to all tobacco users accessing any health-care settings.

↑ **Strong** recommendation;

↗ **moderate** certainty





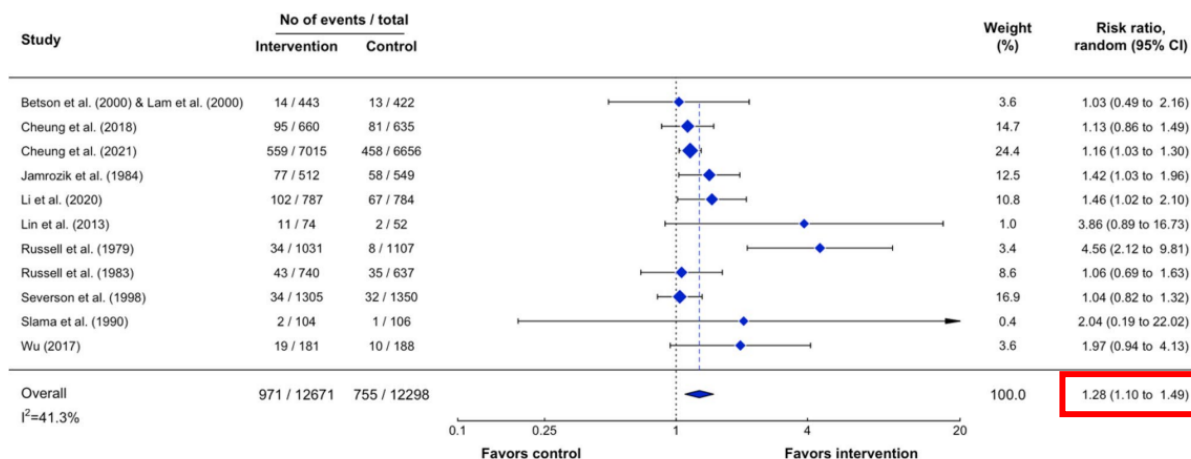
Effectiveness of Very Brief Advice on Tobacco Cessation: A Systematic Review and Meta-Analysis

Christopher Chi Wai Cheng, BSc¹, Wan Jia Aaron He, PhD¹, Hebe Gouda, PhD^{2,3}, Min Jin Zhang, MPH¹, Tzu Tsun Luk, PhD¹, Man Ping Wang, PhD¹, Tai Hing Lam, MD⁴, Sophia Siu Chee Chan, PhD¹, and Yee Tak Derek Cheung, PhD¹

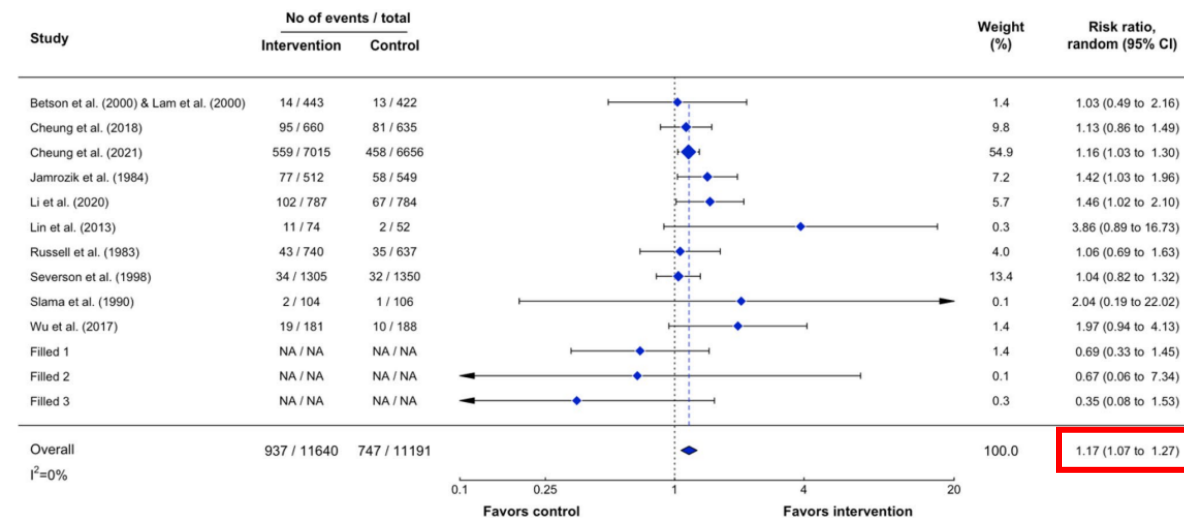
¹School of Nursing, the University of Hong Kong, Hong Kong, China; ²School of Public Health, University of Queensland, Brisbane, QLD, Australia; ³World Health Organization, Geneva, Switzerland; ⁴School of Public Health, the University of Hong Kong, Hong Kong, China

- Systematic review & meta-analysis of 13 RCTs (n=26,437)
- Very brief advice (VBA; ≤ 3 min) on quitting
- Primary outcome: ≥6-month tobacco abstinence (self-reported)

<6 months



≥ 6 months





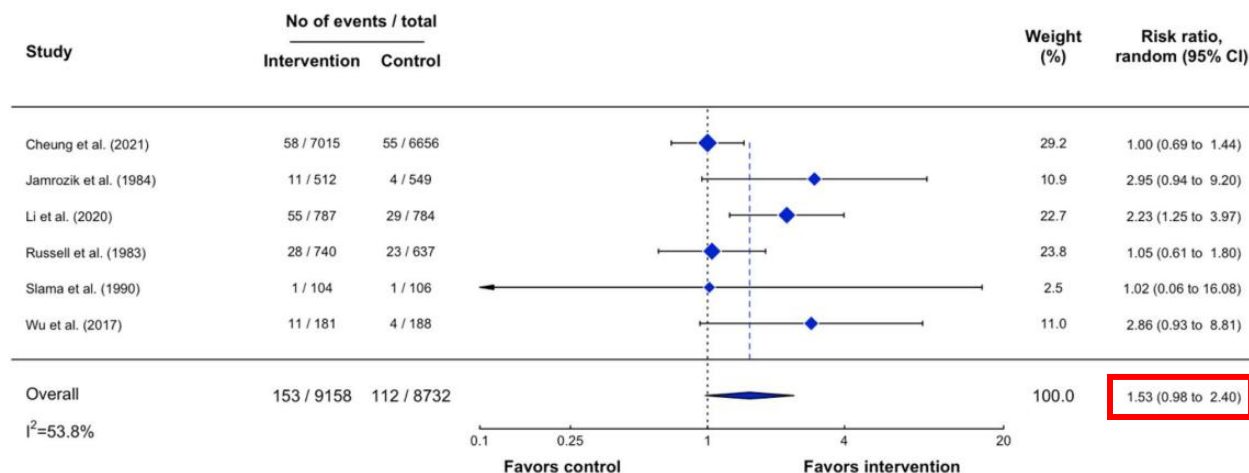
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Biochemical validation



Motivational interviewing (동기부여상담)

- Motivation is essential and should be strengthened
- Motivational interviewing helps patients resolve ambivalence about change
- Avoid confrontation; build confidence instead
- Guide patients to make their own choices

Motivational interviewing (동기부여상담)

- 기본 원칙
 - 공감을 나타내라
 - 상담자는 흡연자가 표현한 단어나 의미를 다시 언급하는 반사기법(reflection)과 요약(summarize)
 - 차이를 강조하라
 - 환자의 현재 상태와 자신의 목표와 가치 사이에 차이가 있음을 인지시키기
 - 논쟁하지 마라
 - 자립심을 북돋우라

Motivational interviewing (동기부여상담)

- 주요 사항
 - 동의 구하기
 - 양가감정(ambivalence)
 - 개방형 질문
 - 변화대화 (Change talk)
 - 긍정적 말과 행동 인정하기
 - 상담자가 잘 듣고 있음을 환자가 느끼게 하기
 - 요약하기

Motivational interviewing (동기부여상담)

- Enhancing motivation to quit tobacco-“ 5Rs “
 - 연관성 (Relevance)
 - “흡연이 현재 건강, 가족, 직장생활에 어떤 영향을 주고 있다고 느끼세요?”
 - 위험 (Risk)
 - “흡연을 지속하면 폐암, 심혈관질환 위험이 높아집니다.”
 - 보상 (Rewards)
 - “금연하면 폐 기능이 개선되고, 피부 건강도 좋아집니다.”
 - 장애물 (Roadblock)
 - “스트레스가 가장 큰 이유라면, 대체할 수 있는 방법을 함께 찾아볼까요?”
 - 반복 (Repetition)
 - 매 상담마다 5R 대화를 반복해 인식 강화

Motivational interviewing (동기부여상담)

- 상담의 실제
 - “금연이 개인적으로 얼마나 중요하다고 생각하세요?”
 - Expressing empathy
 - “담배가 현재 체중 유지에 도움이 된다고 생각하시네요.”
 - Using reflective listening techniques
 - “지금은 금연할 준비가 안 되셨군요. 준비되시면 제가 도와드리겠습니다.”
 - Supporting the patients right to reject change
 - “가족이 가장 중요하다고 하셨죠. 흡연이 아내와 자녀에게 어떤 영향을 줄까요?”
 - Developing discrepancies between the patients' current behavior and their personal values

Motivational interviewing (동기부여상담)

- 상담의 실제
 - “심장마비를 예방할 수 있도록 우리가 함께 도와드리겠습니다.”
 - Building commitment to change
 - “금단 증상이 걱정되시나요?”
 - Empathetic attitude
 - “흡연 욕구를 줄이는 행동을 함께 살펴보도록 할까요?”
 - Asking for permission to provide information

Delivery format

- Individual counseling
- Group counseling
- Telephone counseling
- Web/App-based counseling
- Self-help materials

Telephone counseling

- 대상: 금연을 원하는 흡연자 또는 최근에 금연한 사람
- 종류
 - Proactive type: 의뢰자에게 정해진 스케줄로 금연 상담자가 전화
 - Reactive type: 금연자가 갑작스런 상담이나 조언이 필요한 경우에 상담사에게 전화
- 국내
 - 금연상담전화서비스(1544-9030)
 - 단기프로그램 (금연 하루 전 ~ 금연 30일까지)
 - 장기프로그램 (최대 1년까지)

Web/App-based counseling

- 금연길라잡이 (<http://www.nonsmokeguide.or.kr>)

금연길라잡이 AI 검색 요약

더 쉽고 빠르게! AI 검색요약으로 근거기반의 금연정보를 찾아보세요!

전자담배는 일반담배보다 덜 해롭나요?

이런 질문은 어떠세요?

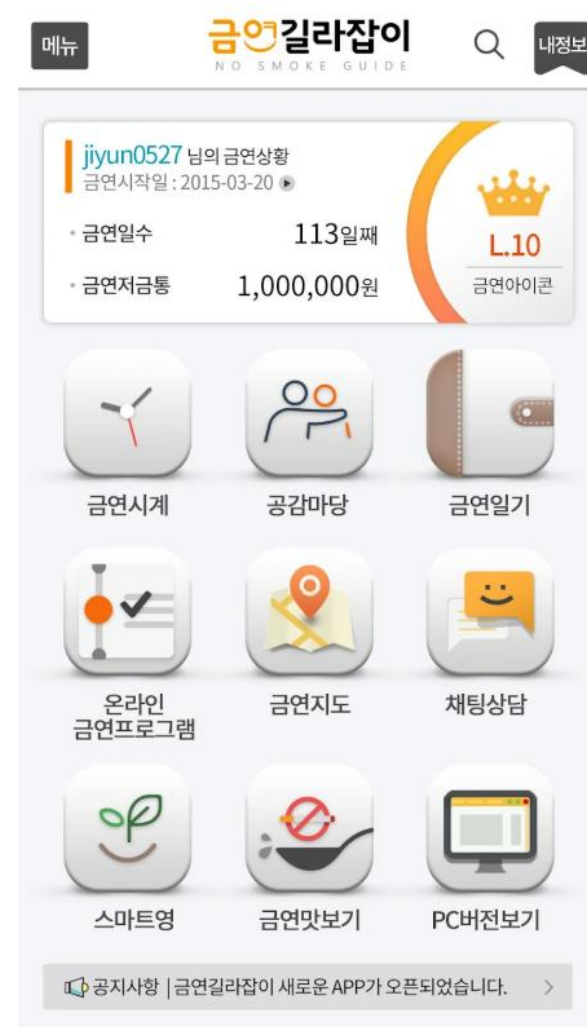
- 계속 금연에 실패해요.
- 저녁에도 금연 도움받을 수 있나요?
- 흡연 과태료를 감면 받는 방법이 있나요?
- 담배중독결전이 뭐예요?
- 담배광고는 아무데나 할 수 있나요?
- 역상형 전자담배가 권련(일반담배)보다 덜 해롭나요?

AI 검색 요약

전자담배는 일반담배(권련)보다 덜 해로운 가능성이 있지만, 안전하다고 보장할 수는 없습니다. 전자담배의 액상에서 포름알데하이드, 아세트알데하이드, 담배특이니트로사민 등의 1급 발암물질이 검출되었으며, 배출물은 수증기가 아닌 에어로졸로 확인되었습니다 [1]. 전자담배가 일반담배보다 유해물질 농도가 낮다고 해서 건강 위험이 비례하여 줄어드는 것은 아닙니다 [2]. 전자담배의 장기적 안전성에 대한 증거는 부족하며, 단기적 건강 유해성에 대한 증거는 증가하고 있습니다 [3]. 전자담배 사용이 일반담배 사용을 완전히 대체하지 못하며, 청소년의 경우 전자담배 사용이 일반담배 사용으로 이어질 위험이 있습니다 [2][3]. 따라서 전자담배가 일반담배보다 덜 해롭다는 주장은 현재로서는 확실한 결론을 내리기 어렵습니다.

1. 담배란. > 담배의 종류, 전자담배 > 전자담배 사용의 위험성
2. 우수사례-정책이슈 > 위해감축: 담배업계, 새로운 판매전략 > 담배업계, 위해감축 주장의 타당성과 허점
3. 신종담배 관련 국내외 연구동향 > 신종담배 인식 행태 영향요인 > 개요

Web/App-based counseling



Web/App-based counseling

- 구조화된 형태의 금연을 위한 자습 치료
- 개인별 맞춤식 정보와 지원을 제공하는 인터넷 치료 프로그램
 - 흡연자로부터 정보를 수집하고 피드백 또는 권고 사항을 맞춤식으로 만든 알고리즘을 사용
- 장점
 - 많은 흡연 인구가 접근할 수 있는 잠재력
 - 전달비용 저렴
- 단점
 - 최근의 보고에서는 장기간의 효과가 있는지에 대한 증거는 부족

Self-help materials (자가지침서)

- 개인적으로 금연 시도를 위해 사용 가능한 매뉴얼이나 프로그램
- 금연과 관련된 정보에 쉽게 접근할 수 있는 저비용의 효율적인 방법
- 책자, 전단, 매뉴얼, 미디어 자료, 컴퓨터/웹-기반 프로그램, 앱, 지역사회 프로그램
- 맞춤형 자가지침서, 일반 자가지침서

Self-help materials (자가지침서)

- 다른 중재가 없을 때 무개입보다 금연에 도움
- 의료전문가 조언, 니코틴 대체요법 병행 시 추가 효과는 미미
- 연구 한계
 - 대부분 고소득 국가에서 수행 → 저·중간소득 국가 근거 부족

Targeted smoking cessation for dual users of combustible and electronic cigarettes: a randomised controlled trial

Ursula Martinez, Vani N Simmons, Steven K Sutton, David J Drobes, Lauren R Meltzer, Karen O Brandon, Margaret M Byrne, Paul T Harrell, Thomas Eissenberg, Christopher R Bullen, Thomas H Brandon

- Randomized controlled trial
 - ASSESS: Assessment only (n = 575)
 - GENERIC: Generic cessation self-help booklets (n = 1,154)
 - eTARGET: Targeted self-help for dual users (n = 1,167)
- Intervention
 - Monthly cessation materials for 18 months; follow-up every 3 months for 24 months
- Primary Outcome
 - Self-reported 7-day point-prevalence smoking abstinence
- Overall 7-day abstinence: 14 % at 3 mo → 42 % at 24 mo ($p < 0.0001$)
- eTARGET vs ASSESS: Significantly higher abstinence ($p = 0.0014$)

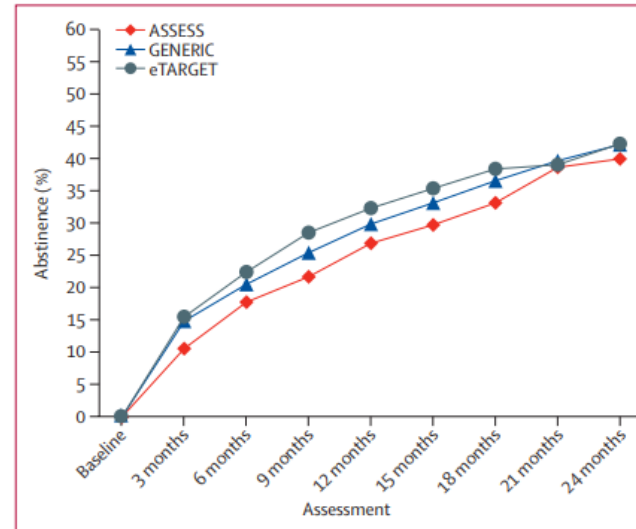


Figure 2: Percentage of smokers abstinent by study group for each assessment. Percentage of abstinence averaged across 20 multiple imputed datasets. GENERIC and eTARGET interventions began just after baseline and ended at 18 months.

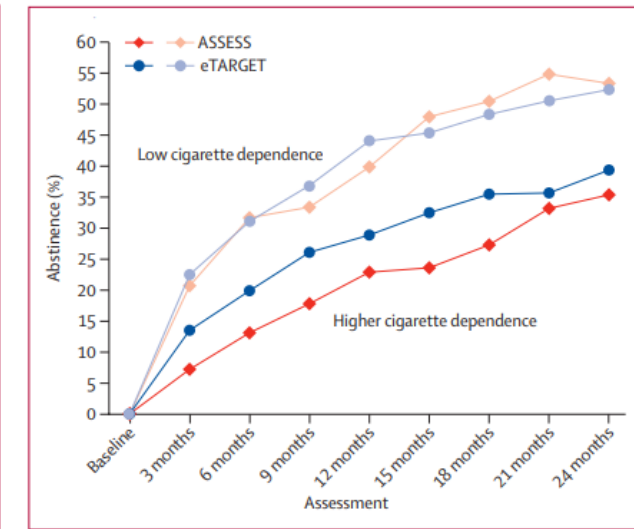


Figure 3: Percentage of smokers abstinent for eTARGET and ASSESS for low and higher cigarette dependence. Percentage of abstinence averaged across 20 multiple imputed datasets. eTARGET intervention began just after baseline and ended at 18 months. The low cigarette dependence group (n=409) had Fagerström Test for Nicotine Dependence scores of 1 or lower at baseline, whereas the higher cigarette dependence group (n=1333) had scores of 2 or higher.

Physical exercise

- Effects of Exercise
 - Regular, planned physical activity helps alleviate withdrawal symptoms.
- fMRI studies show that after moderate-to-vigorous exercise, brain regions activated by smoking cues exhibit reduced activity. (2009, Kate et al.)
- 2021 systematic review & meta-analysis (2021, Caroline et al.)
 - Aerobic exercise → increases early quit success rates.
 - No clear effect on long-term abstinence.
- Recommendation
 - Aim for moderate or higher intensity exercise for scheduled sessions to aid cessation.
 - During intense cravings, even short bouts of activity (e.g., brief walk, climbing stairs) can help.
 - Widely recommended activities include brisk walking, jogging, cycling, etc.

Physical exercise

강도 별 시간	최소 횟수	최소 유지기간
중강도이상: 30~50분 고강도: 15~20분 분할 (운동처방사자문)	3회 /주	8주 ~12주

- 저강도 : 운동 중 노래를 부를 수 있을 정도의 강도
- 중강도 : 운동 중 옆사람과 대화를 할 수 있을 정도의 강도
 - 걷기, 요가, 자전거 타기, 배드민턴, 시합 형태가 아닌 구기 종목, 세차하기, 장보기
- 고강도 : 운동 중 힘들어서 말할 수 없을 정도의 강도
 - 조깅, 빠르게 자전거 타기, 등산, 에어로빅, 줄넘기, 수영, 농구 등 시합형태의 구기 종목

Dietary strategies

- 금연 후 평균적으로 4.7kg의 체중 증가
 - 금연 후의 신체활동 감소로 인한 기초대사율 감소, 미각 회복, 군것질 증가
- 여러 가지 색깔의 채소와 다양한 제철 과일
- 잡곡 위주의 식사
- 물 많이 마시기
- 지방이 많은 고기나 튀긴 음식을 섭취를 제한
- 술은 가능한 삼가고, 과식을 피하고, 맵거나 짠 자극성 음식을 피하고, 산뜻하고 가볍게 식사
- 유제품을 섭취하고 과자 대신 견과류
- 입이 심심할 때마다 무설탕 껌이나 당근이나 오이, 다시마, 미역, 은단 등 칼로리가 적은 음식을 준비해서 수시로 섭취



[금연을 위한 일주일 식단표]

	아침	저녁
월요일	잡곡밥, 미역국, 알감자조림, 연근전, 백김치, 사과 1쪽	닭고기 커플릿, 완두콩밥, 양배추찜, 조갯국
화요일	들깨찰쌀죽, 시금치무침, 양배추당근볶음, 무김치	미역김치밥, 오징어무국, 닭가슴살피망볶음, 김치
수요일	잡곡밥, 콩나물북어국, 김치, 파래어묵볶음, 연근흰콩조림	흰살생선치즈구이, 당근스프, 그린샐러드, 수박 1쪽
목요일	미역채소국, 쇠고기달걀장조림, 호박전, 굴1개	콩나물밥, 김양념장, 다시마튀각, 시금치당근채전, 열무김치
금요일	현미밥, 우거지된장국, 고등어구이, 감자채볶음, 배추김치	단호박죽, 파래무초무침, 도라지볶음, 나박김치
토요일	잡곡밥, 무살파국, 표고버섯볶음, 두부참깨무침, 김치	감자애호박수제비, 연근전, 조개조림, 열무물김치
일요일	샌드위치, 당근스프, 오이피클, 과일샐러드	견과류밥, 실파장국, 가지마구이, 브로콜리전, 백김치

* 자료제공 : 한국금연운동협의회, 서울위생병원

Coping strategies for smoking cravings

- Nicotine withdrawal
 - Starts Day 1, peaks within 1 week, lasts 2–4 weeks (sometimes months)
 - Definition (DSM-5)
 - Daily smoking stopped/reduced
 - Within 24h, ≥ 4 of: Irritability, frustration, anger, anxiety, difficulty concentrating, increased appetite, restlessness, depressed mood, insomnia
 - Functional impairment (social/occupational/other)
 - Not explained by other medical/psychiatric conditions

Coping strategies for smoking cravings

- General coping strategies
 - Light exercise, walk, warm bath, deep breathing, meditation
 - Take breaks, divide tasks, practice relaxation
 - Low-calorie snacks, fruits/vegetables, avoid caffeine/alcohol
 - Positive activities, social support, consult physician if mood worsens
 - Good sleep hygiene (limit caffeine, no screens at bedtime)

Coping strategies for smoking cravings

- Managing cravings - 4D Strategy
 - Delay
 - 담배를 피우고 싶은 충동이 올 때 10분 이상 미루기
 - Drink water
 - 찬물이나 미지근한 물 한 잔을 천천히 마셔 입을 개운하게
 - Do something different
 - 산책, 스트레칭, 전화하기 등 주의를 돌릴 활동
 - Deep breathing
 - 천천히 깊게 호흡 3~5회

Intensive residential programs (금연캠프)

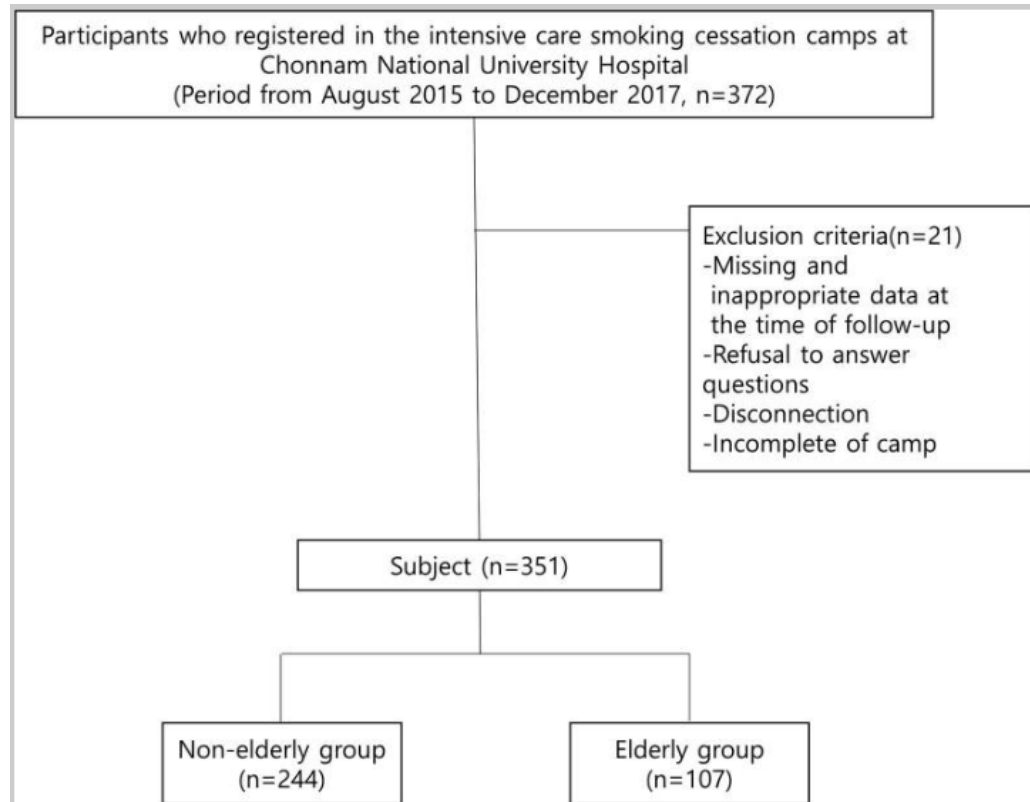


Table 3 - Success rates of smoking cessation in the 2 age groups.

Follow-up	Nonelderly	Elderly	Total	P value
4-week cessation	181/244 (74.2%)	88/107 (82.2%)	269/351	0.100
6-week cessation	178/244 (73.0%)	85/107 (79.4%)	263/351	0.197
12-week cessation	133/244 (54.5%)	70/107 (65.4%)	203/351	0.057
24-week cessation	109/244 (44.7%)	56/107 (52.3%)	165/351	0.185

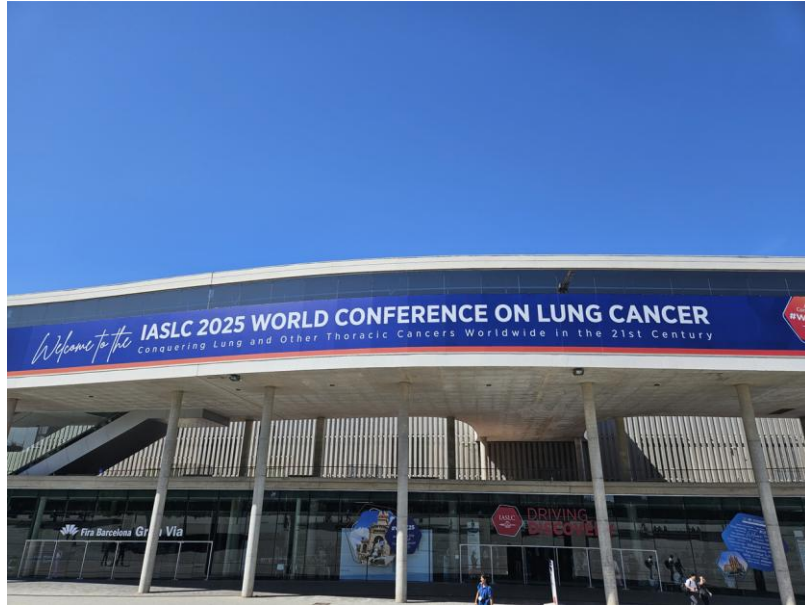
*P < .05.
 †P < .01.
 ‡P < .001.

- ✓ Smoking cessation rates in the elderly are comparable to that in the nonelderly after an intensive care smoking cessation camp.
- ✓ Intensive care smoking cessation camps can help both elderly and nonelderly smokers who intend to quit smoking by providing motivation, education and medication.

Intensive residential programs (금연캠프)

- 국내 12개 지역 금연지원센터
 - 전문치료형 금연캠프
 - 대상: 20갑년 이상의 장기 고도흡연자
 - 4박5일: 의료인이 제공하는 전문금연프로그램에 따른 금연동기 강화 활동, 금연상담, 금연약물치료
- 6개월 금연 성공율: 40-60%
 - 입원 초기부터 적극적인 금연치료 프로그램을 적용 고려

2025 WCLC



18 years post implementation of a smoking cessation (SC) program in regional cancer centres in Ontario, Canada: Successes and ongoing challenges

Authors: William Evans, et al.

Background: A 10-year smoking cessation program was implemented in regional cancer centres in Ontario, Canada. This poster reports on the program's performance 18 years later, highlighting successes and ongoing challenges.

Program Design: The program was designed to provide comprehensive support for smoking cessation, including individualized counseling, group therapy, and pharmacotherapy.

Key Insights from over a decade of implementation: The program has achieved significant success in increasing smoking cessation rates. However, ongoing challenges include maintaining high-quality care and addressing disparities in smoking cessation rates across different populations.

Opportunities to strengthen program delivery: Opportunities to strengthen program delivery include expanding the program to underserved areas and improving patient engagement.

Sep 9 2025 10:00AM
P3.01.40. 10 Years Post Implementation of a Smoking Cessation (SC) Program in Regional Cancer Centres in Ontario, Canada: Successes and Ongoing Challenges
 William Evans

PT01.42. Transitions in cigarette and e-cigarette use in the PATH Study: A multistate transition model analysis of US adults by race and ethnicity

Authors: Rossana Torres Alvarez, et al.

Abstract: This study examines transitions in cigarette and e-cigarette use among US adults, using a multistate transition model. The model captures the dynamic nature of smoking behaviors over time.

Methods: Data from the PATH Study were used to estimate transition probabilities between different smoking states (e.g., never smoker, current smoker, former smoker).

Results: The analysis shows that smoking behaviors are highly dynamic, with many individuals transitioning between states over time. The model also identifies differences in smoking patterns by race and ethnicity.

Conclusion: The multistate transition model provides a comprehensive framework for understanding the complex transitions in smoking behaviors.

Sep 9 2025 10:00AM
P3.01.42. Transitions in Cigarette and E-Cigarette Use in the PATH Study: A Multistate Transition Model Analysis of US Adults by Race and Ethnicity
 Rossana Torres Alvarez

Time-dependent Analysis Reveals the Dual Role of Smoking in Non-Small Cell Lung Cancer Immunotherapy

Authors: Ying-Long Peng, et al.

Abstract: This study investigates the dual role of smoking in non-small cell lung cancer (NSCLC) immunotherapy. Smoking history is shown to have both protective and detrimental effects on treatment outcomes.

Background: Smoking is a well-established risk factor for lung cancer. However, its impact on immunotherapy outcomes is complex and time-dependent.

Methods: A time-dependent Cox regression model was used to analyze the impact of smoking history on overall survival in NSCLC patients receiving immunotherapy.

Results: The analysis reveals that smoking history has a protective effect on overall survival in the early stages of treatment but a detrimental effect in the later stages.

Conclusion: Smoking history plays a dual role in NSCLC immunotherapy, with both protective and detrimental effects on treatment outcomes.

Sep 9 2025 10:00AM
P3.01.37. Time-Dependent Analysis Reveals the Dual Role of Smoking in Non-Small Cell Lung Cancer Immunotherapy
 Ying-Long Peng

PT1.01.01. Harnessing Large Language Models to Extract Smoking History from Clinical Notes in EHR to Evaluate Lung Cancer Surveillance Strategies

Authors: TaeYoon Lee, et al.

Abstract: This study harnesses large language models (LLMs) to extract smoking history from clinical notes in electronic health records (EHR) to evaluate lung cancer surveillance strategies.

Background: Accurate smoking history is crucial for assessing lung cancer risk and determining appropriate surveillance strategies.

Main Takeaways: LLMs achieved high accuracy in extracting smoking history from clinical notes. The extracted data was used to evaluate different surveillance strategies.

Methods: A large language model was trained on a dataset of clinical notes to extract smoking history information.

Study Design: The study used a retrospective design to analyze smoking history extracted from EHR notes.

Conclusion: LLMs are effective tools for extracting smoking history from clinical notes, which can be used to improve lung cancer surveillance strategies.

Sep 7 2025 2:15PM
PT1.01.01. Large Language Models to Extract Smoking History From Clinical Notes in EHR to Evaluate Lung Cancer Surveillance Strategies
 TaeYoon Lee

Sep 7 2025 12:00PM
OA01.02. The Mirror Study: Tumor Microenvironment (TME) in Patients With Non-Small Cell Lung Cancer Exposed to Indoor Radon +/- Tobacco Smoke
 Marta Garcia de Herreros

Sep 9 2025 1:00PM
MA09.05. The Effect of Lung Cancer Screening on Smoking Behaviors - No Evidence of a 'License to Smoke' Effect
 Matthew Callister

Sep 9 2025 1:00PM
MA09.06. Impact of Smoking Cessation at Diagnosis on Overall Survival in Lung Cancer Patients: A Comprehensive Meta-Analysis
 Dong Won Park

Summary

- Behavioural interventions
 - Motivational interviewing
 - 기본원칙: 공감, 차이 강조, 논쟁 지양, 자립심
 - 5Rs: 연관성 (Relevance), 위험 (Risk), 보상 (Rewards), 장애물 (Roadblock), 반복 (Repetition)
 - Delivery format
 - Individual/Group counseling, Telephone counseling, Web/App-based counseling, Self-help materials
 - Very brief advice
- Physical exercise/dietary strategies
- Nicotine withdrawal
 - Managing cravings: 4D Strategy (Delay, Drink water, Do something different, Deep breathing)
- Intensive residential programs (금연캠프)



Thank you