

An intensive smoking cessation intervention reduced hospital admissions and mortality in high risk smokers with CVD

Mohiuddin SM, Mooss AN, Hunter CB, *et al.* Intensive smoking cessation intervention reduces mortality in high-risk smokers with cardiovascular disease. *Chest* 2007;**131**:446–52.

Clinical impact ratings GP/FP/Primary care ★★★★★☆ Internal medicine ★★★★★☆ Cardiology ★★★★★☆ Respiriology ★★★★★☆

Q In high risk smokers hospitalized for cardiovascular disease, does an intensive behavioural plus pharmacotherapy smoking cessation intervention plus usual care after discharge reduce hospital admissions and mortality more than usual care alone?

METHODS

Design: randomised controlled trial.

Allocation: {not concealed*}†.

Blinding: unblinded.*

Follow up period: 2 years.

Setting: coronary care unit in a university hospital in Nebraska, USA.

Patients: 209 patients 30–75 years of age (mean age 55 y, 63% men) who were admitted to the coronary care unit with acute coronary syndrome or decompensated heart failure, had smoked for ≥5 years, and had a Fagerstrom score >7. Exclusion criteria included current alcohol or illicit substance addiction.

Intervention: an intensive smoking cessation intervention plus usual care (n=109) or usual care only (n=100). The intensive intervention included weekly 60 minute counselling sessions for ≥3 months after discharge and individualised nicotine replacement therapy and/or bupropion at no cost. Intervention group patients were re-treated if they started smoking again. Usual care included written self help materials and a 30 minute counselling session before discharge.

Outcomes: point prevalence (no smoking since the previous follow up visit) and continuous abstinence (no smoking since the first follow up visit) quit rates (both confirmed by measurement of expired carbon monoxide), mortality, and hospital admission.

Patient follow up: 96% (intention to treat analysis).

*See glossary.
†Information provided by author.

MAIN RESULTS

The intensive intervention group had higher quit rates than the usual care group throughout the follow up period and at 2 years (table). The intensive intervention led to fewer hospital admissions and lower all cause mortality (table).

CONCLUSION

In high risk smokers hospitalised with cardiovascular disease, an intensive smoking cessation intervention reduced hospital admissions and all cause mortality more than usual care only.

For correspondence: Dr D E Hilleman, Creighton University Cardiac Center, Omaha, NE, USA. hilleman@creighton.edu

Source of funding: State of Nebraska Cancer and Smoking Disease Research fund.

Abstract and commentary also appear in ACP Journal Club.

Intensive smoking cessation intervention plus usual care v usual care only in high risk smokers hospitalised for CVD*

Outcomes at 2 y	Intervention	Control	RBI (95% CI)	NNT (CI)
Point prevalence quit rate	39%	9%	338% (132 to 752)	4 (3 to 6)
Continuous abstinence quit rate	33%	9%	267% (91 to 621)	5 (3 to 8)
RRR (CI)				
All cause death	2.8%	12%	77% (27 to 93)	11 (6 to 41)
CVD death	2.8%	9%	69% (–1.1 to 91)Not significant	6 (4 to 19)
All cause hospital admissions	23%	41%	44% (16 to 63)	6 (4 to 16)
CVD hospital admissions	18%	37%	50% (21 to 69)	6 (4 to 16)

*CVD = cardiovascular disease. Other abbreviations defined in glossary; RBI, RRR, NNT, and CI calculated from data in article.

Commentary

The small but well designed clinical trial by Mohiuddin *et al* found that a smoking cessation programme increased quit rates and reduced hospital admissions and mortality in high risk cardiac patients. Several aspects of their cessation intervention deserve comment. First, although the Joint Commission on Accreditation of Healthcare Organizations quality initiatives encourage US hospitals to identify and intervene in smokers admitted with acute cardiac syndromes, few provide the 30 minute inpatient counselling session described here. Second, the intervention included weekly counselling for 3 months after discharge. Outpatient counselling is unavailable or not covered for most Americans. In 2005, only 14 states covered cessation counselling for all Medicaid recipients and only 1 state (Oregon) covered all forms of counselling and medication.¹ Third, medications, which probably doubled quit rates,² were provided to patients free of charge, and 75% of patients in the intervention group took advantage of them. Fourth, multiple opportunities for re-treatment were allowed. We know that tobacco dependence is a chronic, relapsing condition, and >25% of the intervention group were re-treated during the study period.

This landmark study calls to mind the first study of lipid lowering that showed a significant reduction in mortality and forever changed clinical practice.³ Even if we ignore the effect on mortality, the costs to identify and intervene in smokers are minimal compared with hospital costs. The study should serve as a call to all payers, public and private, to re-evaluate their coverage for intensive tobacco cessation interventions. Physicians need to advocate for increasing coverage and decreasing barriers to effective smoking cessation treatments.

Charles J Bentz, MD, FACP
Providence, St Vincent Hospital and Medical Center, Portland, Oregon, USA

1 Centers for Disease Control and Prevention (CDC). *MMWR Morb Mortal Wkly Rep* 2006;**55**:1194–7.

2 Hughes JR. *CA Cancer J Clin* 2000;**50**:143–51.

3 Pedersen T, Kjekshus J, Berg K, *et al.* *Lancet* 1994;**344**:1383–9.