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Effect of tobacco smoking on survival of men and women by social position: a 28 year cohort study

Laurence Gruer,¹ Carole L Hart,² David S Gordon,¹ Graham C M Watt³

¹NHS Health Scotland, Elphinstone House, Glasgow G2 2AF

²Public Health and Health Policy, Division of Community-based Sciences, University of Glasgow, Glasgow G12 8RZ

³General Practice and Primary Care, Division of Community-based Sciences, University of Glasgow, Glasgow G12 9LX

Correspondence to: L Gruer
Laurence.Gruer@health.scot.nhs.uk

Cite this as: *BMJ* 2009;338:b480
doi: 10.1136/bmj.b480

STUDY QUESTION How do smoking, sex, and social position affect the long term survival of middle aged men and women?

SUMMARY ANSWER Both male and female smokers in all social positions had poorer survival than those who had never smoked in even the lowest social positions. The differences in survival between smokers and never smokers were much greater than those between smokers in different social positions. Smoking nullified women's otherwise large survival advantage over men. Smoking itself was thus a greater source of health inequality than social position in this population. This suggests the scope for reducing health inequalities related to social position is probably limited, in this and similar populations, unless many smokers in lower social positions can be enabled to stop smoking.

Participants and setting

Men and women aged 45-64 years were recruited during 1972-6 in Renfrew and Paisley, two towns in west central Scotland.

Design, size, and duration

This was a prospective cohort observational study of 8353 women and 7049 men followed up for 28 years. Data obtained at recruitment included occupation, place of residence, and smoking status (current, former, or never smokers). The cohort was divided into 24 groups by sex, smoking status, and social class (classes I + II, III non-manual, III manual, and IV + V) or deprivation category of place of residence. The main outcome measure was death, reported as relative mortality (adjusted for age and other risk factors) and as Kaplan-Meier survival curves and survival at 28 years.

Main results and the role of chance

Of the 7988 women and 6967 men with complete data, 4387 women and 4891 men died over 28 years.

Compared with women in social classes I + II who had never smoked (the group with lowest mortality), the adjusted relative mortality of smoking groups ranged from 1.7 (95% confidence interval 1.3 to 2.3) to 4.2 (3.3 to 5.5). Former smokers' mortalities gradually fell towards those of never smokers. By social class (highest first), age adjusted survival after 28 years was 65%, 57%, 53%, and 56% for female never smokers; 41%, 42%, 33%, and 35% for female current smokers; 53%, 47%, 38%, and 36% for male never smokers; and 24%, 24%, 19%, and 18% for male current smokers (figure). Analysis by deprivation category gave similar results.

Bias, confounding, and other reasons for caution

With a participation rate of almost 80%, complete records of social class and death of over 97% and 99% respectively for the cohort, and adjustment for age and other factors, the scope for bias and confounding was low. Because smoking status was taken at recruitment and many, especially the more affluent, smokers would have subsequently stopped and improved their health, the full impact of lifelong smoking on survival may have been understated.

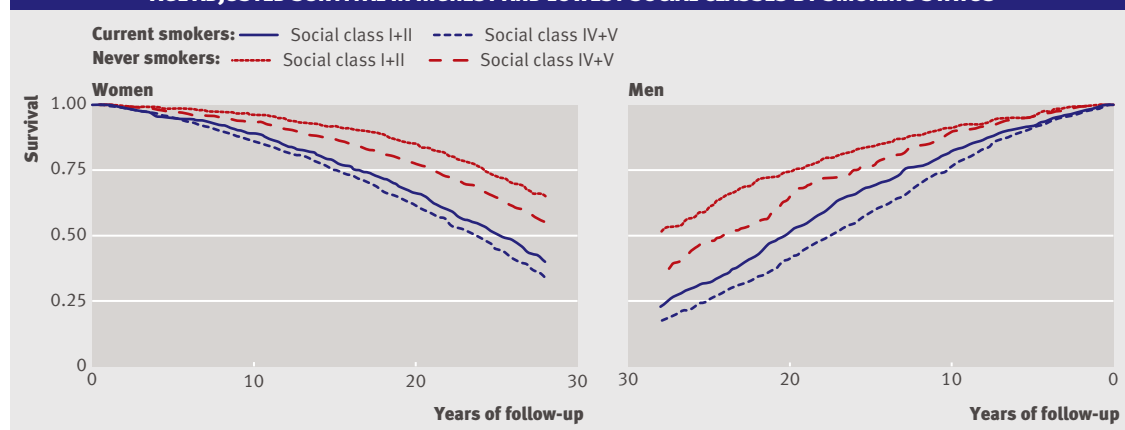
Generalisability to other populations

Comparisons with similar post-industrial populations in Europe suggest the findings could be expected wherever smoking has been prevalent for many decades.

Study funding/potential competing interests

LG and DSG are employees of NHS Health Scotland. CLH and GCMW are employees of the University of Glasgow. The analyses conducted by CLH were funded by NHS Health Scotland.

AGE ADJUSTED SURVIVAL IN HIGHEST AND LOWEST SOCIAL CLASSES BY SMOKING STATUS



This is a summary of a paper that was published on bmj.com as *BMJ* 2009;338:b480