

Time for a smoke? One cigarette reduces your life by 11 minutes

Editor—Studies investigating the impact on mortality of socioeconomic and lifestyle factors such as smoking tend to report death rates, death rate ratios, odds ratios, or the chances of smokers reaching different ages. These findings may also be converted into differences in life expectancy. We estimated how much life is lost in smoking one cigarette.

Our calculation is for men only and based on the difference in life expectancy between male smokers and non-smokers and an estimate of the total number of cigarettes a regular male smoker might consume in his lifetime. We derived the difference in life expectancy for smokers and non-smokers by using mortality ratios from the study of Doll et al of 34 000 male doctors over 40 years.¹ The relative death rates of smokers compared with non-smokers were threefold for men aged 45-64 and twofold for those aged 65-84,¹ as corroborated elsewhere.² Average life expectancy from birth for the whole population or subgroups can be derived from life tables. Applying the rates of Doll et al to the latest interim life tables for men in England and Wales, with adjustment for the proportion of smokers and non-smokers in each five year age group,³ we found a difference in life expectancy between smokers and non-smokers of 6.5 years.

We used the proportion of smokers by age group, the median age of starting smoking, and the average number of cigarettes smoked per week in the 1996 general household survey.⁴ We calculated that if a man smokes the average number of cigarettes a year (5772) from the median starting age of 17 until his death at the age of 71 he will consume a total of 311 688 cigarettes in his lifetime.

If we then assume that each cigarette makes the same contribution to his death, each cigarette has cost him, on average, 11 minutes of life: 6.5 years = 2374 days, 56 976 hours, or 3 418 560 minutes 5772 cigarettes per year for 54 years = 311 688 cigarettes 3 418 560/311 688 = 11 minutes per cigarette.

This calculation is admittedly crude—it relies on averages, assumes that the health effects of smoking are evenly spread throughout a smoker's lifetime, presupposes that the number of cigarettes smoked throughout a lifetime is constant, and ignores the difficulties in classifying people as either lifetime smokers or non-smokers.⁵ However, it shows the high cost of smoking in a way that everyone can understand.

The first day of the year is traditionally a time when many smokers try to stop, and on 1 January 2000 a record number might be expected to try to start the new millennium more healthily. The fact that each cigarette they smoke reduces their life by 11 minutes may spur them on. The table shows some better uses for the time they save.

Opportunities gained in stopping smoking by amount smoked

Amount smoked	Life lost	Opportunity gain
One cigarette	11 minutes	Telephone call to friend; read of newspaper; brisk walk; or fairly frantic sexual intercourse
Pack of 20 cigarettes	3 hours 40 minutes	Long film (for example, <i>Titanic</i>); two football matches; one shopping trip; Eurostar journey from London to Paris, including visit to cafe; running in London marathon; or tantric sex
Carton of 200 cigarettes	1.5 days	Visit to friends or family; one very serious shopping trip; Wagner opera; flying round the world; or romantic night away

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Competing interests: Drs Shaw and Mitchell are non-smokers. Dr Dorling is a smoker (20 cigarettes a day).

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2 Phillips AN, Wannamethee SG, Walker M, Thomson A, Davey Smith G. Life expectancy in men who have never smoked and those who have smoked continuously: 15 year follow up of large cohort of middle aged British men. *BMJ* 1996;313:907-8.

3 Office for National Statistics. *1997 mortality statistics: general*. London: Stationery Office, 1999. (Series DH1 No 30.)

4 Office for National Statistics. *General household survey. Living in Britain*. London: Stationery Office, 1996.

5 Suidicani P, Hein HO, Gyntelberg F. Mortality and morbidity of potentially misclassified smokers. *Int J Epidemiol* 1997;26:321-7.