Short Report

Investigating ethnic differences in current cigarette smoking over time using the health surveys for England

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Findings from the Health Surveys for England indicate that Bangladeshi and Black Caribbean men report higher current smoking rates than other men, while white and Black Caribbean women smoke more frequently than other women. Deprivation explains differences in current smoking rates between Bangladeshi and Black Caribbean, and white English men. The smoking rates of Pakistani men and Black Caribbean women were significantly lower than those of white English people after adjusting for socio-economic status. The smoking rates of white English, Black Caribbean and Pakistani men and Black Caribbean women appear more stable over time than those of other groups.

Introduction

Tobacco smoking is a significant cause of preventable death and ill health in England. Since 1998 overall smoking prevalence has declined by 7 percentage points in the general population. Yet evidence with which to establish the smoking rates of people with different ethnic backgrounds and whether and how they are changing is lacking.

Methods

Age-standardized analyses of data from the Health Surveys for England (HSE) 1999, 2004, and combined data from 2006, 2007 and 2008 were used to explore ethnic variations in the prevalence of cigarette smoking and how this had changed over time. These surveys provide nationally and regionally representative data about the population aged 2 and over living in private households in England. The HSE included a boosted sample of people from Black Caribbean, Indian, Pakistani, Bangladeshi, Irish and Chinese groups in 1999 and 2004, but has collected no similar data since. Combining data from 2006 to 2008 enables us to maximize the numbers of ethnic minority respondents in these most recent surveys. Black African people were not included in 1999.

The HSE uses a multi-stage stratified probability sampling design, based on postcode sectors. White (non-Irish) respondents are identified using a straightforward stratified sampling process, where areas, then addresses and then individuals within addresses were identified to be included in the study. The 1999 and 2004 surveys included areas with different concentrations of ethnic minority people to ensure that the sample was representative. Ethnic minority sample members were recruited using ‘focussed enumeration’. People of Irish origin were determined only at the sampled address. Chinese people were identified using a list of Chinese-sounding surnames. Ethnicity was categorized using responses to questions on family origins, which have a strong correlation with Census ethnic identity categories. Non-response weights were developed for use with the 2004, 2006, 2007 and 2008 surveys and have been applied. Mid-2007 English population estimates are used as the reference for age standardization. Due to small numbers of people in some ethnic groups at older ages, analyses are restricted to those aged between 16 and 64 years. All analyses were conducted separately for men and women.

Multivariate analyses were used to investigate the impact of socio-economic status on ethnic variations in current cigarette smoking in 2006, 2007 and 2008. Initial models investigated the impact of ethnicity, age, quadratic age and HSE year on cigarette smoking. We then adjusted for the impact of socio-economic status on these relationships, using several models each employing a different socio-economic indicator: highest educational qualification, total household income (equivalentized for the number of people in the household), head of household’s occupational class and neighbourhood index of multiple deprivation (IMD) quintile.

Results

Findings from age-standardized analyses of combined data from 2006, 2007 and 2008 suggest that Bangladeshi and Black Caribbean men report regularly smoking cigarettes more frequently than men in the other ethnic groups explored (table 1). Between 20% and 25% of white men were ex-regular cigarette smokers, compared with between 15% and 20% of Bangladeshi and Black Caribbean men and 12% or fewer of Black African, Pakistani, Indian and Chinese men. Bangladeshi, Black Caribbean and white men reported never having been regular smokers less frequently than men in the other groups explored.

Almost all Indian, Pakistani and Bangladeshi women in the sample reported that they had never regularly smoked cigarettes. Around a quarter of white and Black Caribbean women said they were regular cigarette smokers, compared with fewer than one in ten women in Chinese, Indian, Pakistani, Bangladeshi and Black African groups. Over a fifth of white women said they were ex-smokers.

Current smoking rates have generally declined since 1998–99. The current smoking rates of white English, Black Caribbean and Pakistani men and Black Caribbean women appear particularly stable, although the very low rates of current smoking among Black African, Indian, Pakistani and Bangladeshi women also provide stability in these groups. Changes in the approach to data collection in 2004 are the most likely explanation for the small anomalies in the figures in this year for some groups, such as Black Caribbean and Pakistani men and Indian women. Small numbers are likely to explain the rise in current smoking among Chinese men.

Findings from the multivariate analyses showed great similarity in the impact of adjusting for socio-economic position on ethnic variations in smoking rates between 2006 and 2008, regardless of the indicator used. The findings shown focus on those using IMD, which offered the largest sample sizes. Adjusting for socio-economic variations between them reduced the odds of current cigarette smoking among each ethnic group, compared with white English people. The higher current...
## Table 1


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### Model 1
- Odds ratios (95% confidence intervals) for risk of current cigarette smoking adjusted for age and HSE year

### Model 2
- Model 1 adjusted additionally for IMD quintile

### Notes
- Age standardization was performed using the mid-2007 English population estimates as a reference in all samples.
smoking rates of Bangladeshi and Black Caribbean, compared with white English, men are explained by the differences in the socio-economic position of the groups. Moreover, the current cigarette smoking rates of Pakistani men and Black Caribbean women are significantly lower than their white English counterparts after adjusting for socio-economic differences between the groups.

Discussion

Smoking remains high among men in most of the ethnic groups and among women in the Black Caribbean and white groups investigated here. The relatively high current smoking rates of white English, Black Caribbean and Pakistani men and Black Caribbean women appear stable over time. These findings suggest that the factors encouraging smoking cessation among the other ethnic and gender groups explored may have been less effective for these. There are important differences in the smoking rates of men and women in different South Asian and Chinese groups. The relationships between cigarette smoking and socio-economic status also appear to vary, particularly between men and women in the different South Asian groups explored. It is possible that mores around smoking among women in some cultural groups may offer a protective effect against the impact of socio-economic disadvantage on smoking behaviour. However, this investigation has not offered the opportunity to explore this empirically. Adjusting for socio-economic variations between them reduced the odds of current cigarette smoking among each ethnic group, compared with white English people. Socio-economic inequalities had a significant influence on the picture of variations in smoking between Black Caribbean, Bangladeshi, Pakistani and white English groups.

There are several limitations to these analyses. Methodological issues limit comparability and our ability to distinguish between groups which may be heterogeneous, including in their smoking patterns. This work also fails to acknowledge ethnic and gender differences in the use of other tobacco products. The use of paan and chewing tobacco is concentrated among South Asian groups, but there are also important differences between them. Bangladeshi people have much higher rates of paan and chewing tobacco consumption than Pakistani or Indian people, although rates fell significantly between 1999 and 2004. Changing migration patterns are likely to affect the smoking profile of the migrant population in the UK. There remains insufficient empirical evidence with which to inform the engagement of these new migrant groups with smoking cessation services. We cannot clearly identify the impact that the 2007 ban on smoking in public places has had on smoking prevalence. However, the ethnic and gender differences in the variations in smoking prevalence over time suggest this effect has most likely been inconsistent.

Only 6% of total NHS Stop Smoking Services uptake currently comes from ethnic minority groups. There is a need to establish ways to better engage ethnic minority and minority smokers with these services, particularly those living in poverty.

Conflicts of interest: None of the authors received financial support for this work from anyone other than their employer.

Key points

- Bangladeshi and Black Caribbean men report current cigarette smoking more frequently than other men. White and Black Caribbean women report smoking more frequently than women in other groups.
- Deprivation explains differences in current smoking rates between Bangladeshi and Black Caribbean, and white English men. The smoking rates of Pakistani men and Black Caribbean women were significantly lower than white English people after adjusting for socio-economic status.
- Current smoking rates declined over time in almost every group. The current smoking rates of white English, Black Caribbean and Pakistani men and Black Caribbean women appear particularly stable.
- There is a clear need to establish ways to better engage ethnic minority and minority smokers with Stop Smoking services, particularly those living in poverty.

References


Iron deficiency anaemia prevalence in a population of immigrated women in Italy

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