Abstract

Background Registration on a primary care disease register is a necessary first step for the provision of systematic care for ischaemic heart disease (IHD). We examined whether there is any potential bias in IHD registration based upon the ethnic origin of the patient.

Methods ‘Observed’ rates of ischaemic heart disease registration from 12 general practices in Bristol were contrasted with national ‘expected’ rates derived from the Health Survey for England, 1999, with the aim of comparing rates of registration between patients whose countries of origin were South Asian and non-South Asian. Ethnicity was classified by the patients’ surname. Data were stratified by age, sex and ethnicity.

Results Overall, no major differences in ‘observed’ and ‘expected’ rates of registration between South Asian and non-South Asians were observed. In general, however, ‘observed’ rates were lower than the ‘expected’ rates for both groups.

Conclusion We found no overall bias in IHD registration based upon the patient’s ethnic origin but we did observe generally low rates of IHD registration overall.

Keywords: ischaemic heart disease, registration, primary care, South Asians

Introduction

Populations in and from South Asian countries worldwide have elevated risks of morbidity and mortality because of ischaemic heart disease (IHD). In the United Kingdom, rates of mortality from IHD in both men and women whose countries of origin are South Asian, are 1.5 times that of the general population.

Research shows that patients with established IHD are at increased risk of mortality, myocardial infarction (MI), and stroke compared with healthy individuals of the same age, and that effective management, focusing on appropriate lifestyle changes and pharmacotherapy delivered systematically to patients, can improve their risk and quality of life. The identification of all patients with established IHD in primary health care is an essential first step for delivering such health care.

The National Service Framework for Coronary Heart Disease (NSF-CHD) in England and Wales called for the development of a primary care practice-based CHD register that would be used to provide advice and treatment in a structured way to all people with CHD in accordance with best practice.
Asians and non-South Asians derived from the Health Survey for England: The Health of Minority Ethnic Groups 1999. Because the category ‘South Asian’ is heterogeneous, we used the expected rates for the different Asian sub-groups and weighted our sample by the percentage of Indians, Pakistanis, and Bangladeshis in the Bristol population in the 1991 Census.

Finally, we compared the practice profile of our sample of general practices against all practices within Avon PCTs and practices in England overall to determine the generalizability of our sample.

Results

‘Observed’ (O) rates of IHD registration were below the ‘expected’ (E) rates for South Asian men of all ages, with a ratio of 0.85 (CI 0.68–1.02). ‘Observed’ rates of IHD for all non-South Asian men were also lower than ‘expected’ rates, with a ratio of 0.73 (CI 0.69–0.77). These ratios were fairly similar across all age strata, being generally lower than ‘expected’ for both South Asian and non-South Asian men (Table 1).

The total number of South Asian women with an IHD registration was small (n = 27), with an observed registration rate of 2.34 per 100 women. The O/E ratio was 1.29 with a wide CI of 0.80–1.78. The observed registration for all non-South Asian women with IHD was similar to the ‘expected’ rate (4.02 per 100 versus 4.60 per 100, respectively). The O/E ratio was 0.87 (CI 0.81–0.93). Registration rates for women by individual age groups were generally lower than the ‘expected’ rates for both South Asians and non-South Asians.

Discussion

This study does not support the notion that South Asian men and women are under-registered compared to their non-South Asian counterparts. In general, the rates of registration were less than expected for both groups, with South Asian women, if anything, having higher than expected rates of registration. This, however,
may have occurred by chance or due to missing data on the prevalence of IHD for the youngest South Asian female age groups, which were recorded as zero in the Health Survey for England because of an inadequate sample size.

We classified our patients as being ‘South Asian’ based on surname. This may have resulted in some misclassification, but in the absence of high-quality ethnic monitoring within primary health care, the manual inspection of patient surname offers a feasible alternative for the identification of South Asian patients and has been successfully utilized in prior health research.7,8

The apparent under-registration of IHD for both groups may reflect the inconsistencies produced when comparing self-report diagnosis (as utilized in the Health Survey for England) with GP diagnosis (derived from Primary Care IHD registers). Other studies have shown an acceptable accuracy of self-reported diagnoses for other chronic conditions when compared to health professional diagnoses,9,10 and no significant differences in self-reported diagnoses by age or sex.11 We are not aware of any published research which has examined ethnic differences in the validity of self-reported diagnoses. Varying rates of registration for CHD diagnoses have been observed in other populations of the United Kingdom, where a comparison between established CHD registers and hand search techniques have been employed.12–14 Another reason for the apparent under-registration is that we had to use national rates of IHD, which may not be appropriate for our local Bristol population. However, given that our sample was taken from a relatively deprived inner city area, one would have expected that national rates, if anything, would have under-estimated our local rates. In this case, our data may have under-estimated the true degree of under-registration.

This study focused upon 12 general practices located within inner city Bristol, an area with a high South Asian population. An attempt was made to determine the representativeness of the 12 practices to other practices in the five Avon PCTs that make up the former Health Authority of Avon (population: 1 million), and to all general practices in England. Our sample practices had small list sizes, more partners per practice and younger patient populations compared to GP practices in Avon and in England overall. Indeed, the characteristics of the 12 practices would appear more favourable to good care for all their patients.

Our findings highlight that registration of IHD within the primary care setting 2 years after the NSF:CHD deadline for the development of a practice-based CHD register is low for both South Asian and non-South Asian groups, though there is no evidence of any systematic bias. We anticipate that this will improve over time as practices and information systems are better able at identifying eligible individuals. One hopes that the fairly equitable distribution of registration by ethnicity is translated into equally equitable health care management.15 Future research needs to examine this empirically to ensure that all sub-groups of the population obtain effective interventions in reducing future morbidity and mortality.

### Acknowledgements

We thank the 12 general practices in Bristol North PCT for their participation in the research. The Avon Health Improvement Programme (HImP) Performance Scheme is funded by a grant from the Department of Health.

### References


### Table 2 Practice profile comparison of the 12 GP practices with Avon PCTs and England

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<th>Average list size per GP</th>
<th>Average number of partners within a partnership</th>
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<th>% of patients aged between 0 and 4 years</th>
<th>% of patients aged 75 years or above</th>
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