

Short reports

What's not in a name. The accuracy of using names to ascribe religious and geographical origin in a British population

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Studies that ascribe ethnic identity by name searching demonstrate variations in perinatal mortality and health service uptake between South Asians* and the general population, and between Pakistanis and Bangladeshis.^{1,2} We conducted a study to explore whether ethnic differences in immunisation rates exist in Newcastle upon Tyne, using data held on the Newcastle Child Health Register.³ In the absence of routinely recorded details of ethnic origin, we ascribed ethnicity using a name search technique. Although name searching has been validated for distinguishing South Asians from Europeans,⁴ its accuracy in differentiating South Asians of different geographical origin has been called into question.⁵ We validated our name search technique as follows.

Methods

The sample consisted of all children on the Family Health Service Authority register born from 1 October 1993 to 30 September 1994 inclusive, and registered with one of four general practices in Newcastle known to have a high proportion of South Asian patients.

A "reference" ethnic classification was compiled by four local health visitors, from a list detailing first and last name, sex, date of birth, and address of each subject. Children not personally known to participating health visitors were excluded from the study (n=32). Those remaining (n=137) were classified into one of the following ethnic groups: Bangladeshi Muslim, Pakistani Muslim, Indian Muslim, non-South Asian (for example, Middle Eastern, Malaysian) Muslim, Sikh, Hindu, white or others.

Two "name-search" classifications were then compiled. The first and last names, and sex, of these children were presented to two Muslim research assistants, one of Pakistani and one of Bangladeshi origin, who independently classified all names using the categories above.

The ethnic classifications obtained by name search were then compared with that provided by the health visitors (table 1).

*In this paper the term South Asian is used to describe people living in England whose ethnic, ancestral origins lie in the Indian sub-continent (the countries of India, Pakistan, Bangladesh or Sri Lanka), irrespective of their place of birth.

Results

The Bangladeshi classifier distinguished South Asians (Bangladeshi, Pakistani and Indian Muslims, Sikhs and Hindus) from non-South Asians (non-South Asian Muslims, white subjects, and others) with sensitivity 98% (90 of 92) and specificity 60% (27 of 45); the Pakistani classifier did so with sensitivity 95% (87 of 92) and specificity 89% (40 of 45).

The Bangladeshi classifier distinguished Muslims from non-Muslims with sensitivity 87% (91 of 105) and specificity 97% (31 of 32); the Pakistani classifier did so with sensitivity 98% (103 of 105) and specificity 94% (30 of 32). However, of the 91 Muslims correctly identified by the Bangladeshi classifier, geographical origin was correctly identified for only 52 (57%); of the 103 Muslims correctly identified by the Pakistani classifier, the geographical origin was correctly identified for only 52 (50%).

Discussion

Measures of sensitivity and specificity of our name search depend on the accuracy of the reference classification. Health visitors have a high degree of contact with their clients, keep personal records, and are uniquely placed to make judgements on their religious and geographical backgrounds, so the validity of their classification is likely to be high.

Name searching was accurate in distinguishing Muslims from non-Muslims. However, our results in distinguishing South Asians from non-South Asians compare unfavourably with those of Nicoll *et al*⁴ who achieved sensitivity and specificity of 100%. Much of this error in our study arose from confusion of South Asian Muslim and non-South Asian Muslim names. Nicoll *et al*⁴ assumed that all Muslims in their reference sample were South Asian, thereby potentially overestimating the accuracy of their technique. The small numbers of non-South Asian Muslims in our sample precluded estimation of the accuracy of name searching in differentiating them from South Asian Muslims. This requires further study. Such study could also explore whether the accuracy of the technique varies between different places, depending on the different religious and geographical origins of South Asians living there, as we suspect. For this reason, we felt it

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Table 1 Numbers of children classified by health visitors (reference classification) compared with name classification by independent Bangladeshi and Pakistani (figures in italics) observers

Health visitor classification	Bangladeshi Muslim	Pakistani Muslim	Indian Muslim	Non-South Asian Muslim	Sikh	Hindu	White	Others	Total
Bangladeshi Muslim	29 <i>8</i>	13 <i>18</i>	0 <i>12</i>	0 <i>3</i>	0 <i>0</i>	0 <i>0</i>	1 <i>1</i>	0 <i>1</i>	43 <i>43</i>
Pakistani Muslim	20 <i>6</i>	22 <i>34</i>	0 <i>7</i>	0 <i>0</i>	3 <i>0</i>	1 <i>0</i>	1 <i>0</i>	0 <i>0</i>	47 <i>47</i>
Indian Muslim	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Non-South Asian Muslim	1 <i>1</i>	5 <i>1</i>	2 <i>3</i>	1 <i>10</i>	5 <i>0</i>	0 <i>0</i>	1 <i>0</i>	0 <i>0</i>	15 <i>15</i>
Sikh	0 <i>0</i>	0 <i>0</i>	0 <i>1</i>	0 <i>0</i>	2 <i>1</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	2 <i>2</i>
Hindu	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
White	0 <i>0</i>	1 <i>0</i>	0 <i>0</i>	0 <i>1</i>	4 <i>0</i>	0 <i>0</i>	24 <i>27</i>	0 <i>1</i>	29 <i>29</i>
Others	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	1 <i>0</i>	0 <i>1</i>	0 <i>1</i>
Total	50 <i>15</i>	41 <i>53</i>	2 <i>23</i>	1 <i>14</i>	14 <i>1</i>	1 <i>0</i>	28 <i>28</i>	0 <i>3</i>	137 <i>137</i>

was inappropriate to present predictive values that will vary with the prevalence of different ethnic groups in a given area.

Our sample did enable us to assess the accuracy of name searching in distinguishing Pakistani and Bangladeshi Muslims. These results were disappointing. The Bangladeshi classifier's commonest error was to attribute Bangladeshi origin to Pakistani names, and vice versa. This finding is consistent with comments from classifiers that many Muslim names are not specific to a certain country. Thus, classifiers may have tended to attribute their own geographical origin to ambiguous names.

In conclusion, name searching proved to be a comparatively accurate tool in differentiating Muslims from non-Muslims, but was unreliable in ascribing geographical origin in this study. Despite its shortcomings, name searching is likely to remain an important tool in identifying South Asian populations for ethnic-

ity research until ethnic monitoring becomes routine in NHS data systems.

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