Prevalence of dementia and depression among elderly people in Black and ethnic minorities

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Background This study was designed to identify all elderly people of ethnic minorities living in a defined geographical area in inner-city Liverpool and to identify psychiatric morbidity and barriers to use of services. This paper reports the prevalence of dementia and depression.

Method A survey of the community was carried out using the Geriatric Mental State Examination, AGECAT and ethnically matched interviewers. The sampling frame consisted of Family Health Services Authority lists as a basis, with additional information from community lists, 'snowballing' and a door-to-door survey.

Results 418 people were interviewed, with a high percentage (55%) of young elderly (65–74) men. The prevalence of dementia ranged from 2 to 9% and of depression from 5 to 19%, and there were no significant differences in levels between English-speaking ethnic groups and the indigenous population. Higher levels of dementia were found among non-English-speaking groups.

Conclusions A complete enumeration of the elderly in ethnic minority groups is best achieved by using several different methods. Diagnosis of dementia may be misleading among those who do not speak the dominant language.

Elderly people from ethnic minorities may be at particular risk of suffering from dementia and depression. Differences in vascular risk profile in Afro-Caribbeans may result in higher rates of multi-infarct dementia (Ritch *et al*, 1996), and living in a hostile environment may predispose to depression (Baker, 1992; Blakemore & Boneham, 1994). The inner-city areas of Liverpool have high levels of unemployment, show signs of deprivation and have high crime rates (Liverpool Healthy City, 1995), and so may be considered a hostile environment, and so it would not be unreasonable to expect to find psychiatric morbidity in elderly people of ethnic minority groups. Despite this, it has been noted that few such people have been in receipt of psychogeriatric services (Torkington, 1991); the same has been found in other parts of the UK (Brownlie, 1991; Manthorpe & Hettiaratchy, 1993).

There are many possible explanations for this. First, elderly people of ethnic minorities in Liverpool may not suffer from psychiatric illness. Second, if they do, they may not have a route into formal services because they may not be registered with a general practitioner (GP). Third, if they do visit a GP, their psychiatric symptoms may not be recognised because of difficulties of commmunication, or cultural differences in the presentation of symptoms (Abas, 1996).

The Liverpool Health and Ethnicity Project (HEP) addresses these issues. The present paper covers the methodology of the study and the prevalence of depression and dementia, while a second paper discusses barriers to the use of services (Boneham *et al*, 1997).

METHODS

Sampling

One of the challenges of this study was to identify members of ethnic minority groups, aged 65 years and over. In line with previous work on the use of health services (Torkington, 1991), we defined 'ethnic minority' as having an African, Caribbean, Asian, Chinese or Middle Eastern background. An ongoing study of elderly people, MRC ALPHA, part of the Medical Research Council's Cognitive Function and Ageing Study (Saunders *et al*, 1993), had interviewed a random sample, stratified by age and gender, of 5222 people aged 65 and over in Liverpool. Less than 1% of those interviewed were identified as belonging to an ethnic minority group, in contrast to the 4% recorded by the 1991 census, itself believed to be an underestimate when compared with the 8% reported by the Merseyside Community Relations Council (Kyffin, 1992). ALPHA had used updated Family Health Services Authority (FHSA) records as the sampling frame. Although this is a useful frame when updated and used on a full-city sample, it has been criticised when applied to small geographical areas which do not coincide with GP catchment areas (Bowling *et al*, 1989; Livingston *et al*, 1990). As the object of the current study was to conduct a census in the area of the city with the highest density of people from ethnic minorities, using these lists on their own was not considered sufficient. Also, while Asian and Chinese names are easily recognised from GP lists, Black British, African and Caribbean names are not. Additionally, as previously mentioned, individuals in ethnic minority groups may not all be registered with a GP. It was decided to enhance the FHSA lists with information from community groups, to use a 'snowballing' technique (asking respondents to identify as many other suitable individuals for the study as possible) and finally to conduct a door-to-door survey in a selected area to ensure that all eligible respondents had been approached.

The sample area was defined geographically as the area known to have the highest density of ethnic minority individuals (Office of Population Censuses and Surveys, 1992). As it was believed that Chinese and Asian people tend to register with GP practices that have translating facilities, all such practices were included, thereby slightly extending the sample area. Inclusion criteria required that respondents should be aged 65 or over, be resident in the sample area on 17 February 1992, belong to an ethnic minority group as defined above, and not have taken part in the local MRC ALPHA study. We obtained the FHSA lists for 12 practices covering the area, a total of 37 GPs. All GPs were supportive of the study, and each examined their list and

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marked whether or not the patient belonged to an ethnic minority group, with the exception of one practice where patients themselves recorded their ethnic identity.

Extending the database

Contact was made with ethnic minority community and religious leaders, including those at the mosque, Hindu temple and Pagoda Centre, who endorsed the study and provided access to the organisers of luncheon clubs, day centres and sheltered housing. Lists of members' names were checked against the study database and added if not already known. An extra 40 people were gained in this way. Throughout the interviewing period, respondents were asked to nominate others who might be eligible for the study; of these we found 25 who were not already on the database. During the last three months of the interviewing period a door-to-door survey was conducted in 93 roads in the area with the highest density of elderly people of ethnic minorities, to find out whether any eligible subjects had been omitted. This yielded a further 76 individuals. An additional 35 individuals were named by more than one of the three sources.

Interviews and interviewers

The initial approach to subjects was by letter, written in English, Somali, Cantonese and Arabic, explaining the nature of the study. These languages were chosen because they covered the majority of the non-English-speaking community. The study coordinator was informed by the Hindu leader that the older Asian community in Liverpool was small, male and largely bilingual.

All respondents were first interviewed to gather demographic and social information and details of service use, and to determine psychiatric diagnoses. English, Cantonese and Arabic versions of the interview schedule were used. For Somali speakers, as no Somali version was available, the interviewers translated the questions at the time of asking. The initial interviews were carried out by nine raters, of whom four were Black African, one was Black Caribbean, one was Black British, two were Chinese and one was Middle Eastern. Two of the raters spoke Cantonese, two spoke Arabic and one spoke Somali. The interviewers were ethnically matched to the respondents wherever possible. They were given detailed instruction in the use of the instruments, after which they rated and discussed, item by item, a series of videotaped interviews carried out by experienced raters; the final training stage was carrying out live interviews under supervision. Reliability was assessed before starting the study.

Diagnosis and culture

Assessing diagnosis in different cultural settings can be difficult, but is less so with older subjects because they have fewer acute illnesses with non-specific symptomatology. Problems of education can be minimised by avoiding psychological-type tests and focusing on simple memory problems and orientation, which can be adjusted for cultural differences. In this study we carried out diagnoses by using the Geriatric Mental State Examination (GMS) and its associated diagnostic computerised algorithm AGECAT, which yields eight syndrome clusters including organic disorder and depression from GMS items. From these, a final diagnosis is nominated. AGECAT diagnoses of organic and depressive disorder have been validated against DSM–III criteria (Copeland *et al*, 1988). Organic disorder includes the conditions dementia and delirium, the latter caused either by physical illness or medication. As the interviews were not conducted at the time a respondent was suffering from an acute illness, and as delirium in the community is comparatively rare (Copeland *et al*, 1992), any respondents scoring case level for organic syndrome have been assumed to be demented. The GMS was chosen because it has been extensively used in studies in Asia, North and South America and Europe, and found to avoid the more serious problems of assessing mental illness in respondents from diverse cultural backgrounds.

RESULTS

The sample

A total of 913 names was entered onto the database. Of these, 81% (n=737) were listed on the selected FHSA lists and 19% (n=176) were collected from community lists, door-knocking or snowballing. However, it proved impossible to contact or trace 40% (295/737) of those on the FHSA lists (derelict house, restaurant, or no such place) despite extensive effort. Only 87 people (17% of those approached) refused to be interviewed. Nine interviews were abandoned, 71 people had died and 33 moved after the sampling date but before interview. Interviews were successfully completed with 418 people (319 from FHSA lists, 100 from the other sources mentioned above). At interview, individuals were asked to identify their ethnic origin according to the census categories. The results are reported in Table 1, which compares the numbers from the 1991 census for the sample area with the numbers interviewed. The interviews were conducted in English with 331 respondents and in another language for 87 (Table 2).

Age and gender

The sample consisted of 55% men aged 65–74, 22% men of 75 and over, 16% of women aged 65–74 and 7% women aged 75 years and over. The percentages for the same age/gender groups for the whole of Liverpool taken from the 1991 Census are 25, 14, 33 and 28%. The age structure for the whole of Liverpool shows 58% in the younger age group (65–74) and 42% in the older, compared with 71 and 29% in our sample.

Prevalence of dementia and depression

The prevalence of dementia and depression, as diagnosed by AGECAT, for each of the six ethnic groups are shown in Tables 2 and 3. The MRC ALPHA study is used as reference. The small numbers in the Chinese, Other and Asian groups are reflected in the corresponding wide confidence intervals.

Table 1 Self-identified ethnic origin of HEP sample compared with the census for the sample area

Ethnic origin	1991 Census (A)	HEP interviewed (B)	B/A, %
Black African	159	141	89
Chinese	152	77	51
Black Caribbean	143	100	70
Other	55	41	75
Black other	45	46	102
Asian	25	13	52
Total	579	418	72

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Table 2 Prevalence of dementia

Ethnic group	English speaking respondents		Non-English-speaking respondents	
	Cases/interviewed	% Prevalence (95% CI)	Cases/interviewed	% Prevalence (95% CI)
Black African	10/119	8 (4–15)	6/22	27 (10–50)
Black Caribbean	8/98	8 (4–15)	0/2	0
Black other	1/44	2 (0.1–12)	0/2	0
Other	3/40	8 (2–20)	0/2	0
Chinese	1/19	5 (1–26)	12/58	21 (11–33)
Asian	1/11	9 (2–41)	0/1	0
MRC ALPHA		3 (2–4)[1]		

[1]Rate calculated applying ALPHA 5-year age/gender specific rates to HEP sample.

Table 3 Prevalence of depression

Ethnic group	Cases/interviewed	% Prevalence (95% CI)
Black African	27/141	19 (12–26)
Black Caribbean	16/100	16 (9–25)
Chinese	10/77	13 (6–23)
Black other	6/46	13 (5–26)
Other	2/41	5 (1–17)
Asian	2/13	15 (2–45)
MRC ALPHA		9 (8–10)[1]

[1]Rate calculated applying ALPHA 5-year age/gender specific rates to HEP sample.

Forty-two people were diagnosed as suffering from dementia (24 English-speaking plus 12 Chinese and six African non-English-speaking). Levels of dementia appear consistent across all English-speaking ethnic groups, but there appear to be high rates of dementia among the non-English-speaking Black African and Chinese. Non-English-speaking Black Africans have a 19% higher prevalence of dementia than English-speaking (95% CI for the difference 4–38%). Similarly, non-English-speaking Chinese have a 15% higher prevalence of dementia than English-speaking (95% CI for the difference 10–30%). When the individual ethnic groups are combined (to increase statistical power), the overall prevalence rate for dementia is 10% (95% CI 7–13%), significantly higher than in ALPHA. However, this increase can again be attributed to the non-English-speaking respondents only.

Sixty-three people were diagnosed as suffering from depression. Levels of depression in the Black African group appear to be slightly higher than was found in the ALPHA study.

DISCUSSION

The sample

The HEP has highlighted the difficulty of the use of FHSA lists, as 24% of the sample interviewed had to be obtained from other sources. However, these individuals may have been registered with a GP in an adjacent area, as 86% of the sample had seen their GP within the last six months and no-one had never seen their GP (missing data for 11 people). A more useful method is to obtain GP lists from the FHSA for an extended area and to identify individuals from their addresses.

The door-to-door survey provided a substantial increase (over 10%) in interviewed respondents. However, this is the most labour-intensive method and a recent survey in London suggests that care should be taken when using this method to enumerate the young elderly (65–74) as they may be missed (Richards *et al*, 1996).

Ensuring the approval of religious and community leaders is necessary for any successful study of ethnic minority populations. This has the additional benefit of giving access to community lists, through which contact with many of the young elderly in HEP was made (+8%). Snowballing is the most cost-effective additional method but yields the smallest benefit (+3%). It appears that complete enumeration can best be achieved by using several methods, the most cost-effective of which are using FHSA lists with selection of individuals by address rather than GP practice, contact with religious and community leaders, and snowballing.

The FHSA list also included 295 (40%) people who could not be traced, mainly because the addresses did not exist. This has implications for their care, especially in view of the requirement for GPs to offer medical examination to all those who are over 75 and on their list. The total eligible sample actually exceeds the 1991 Census figures for the sample area, which supports the suggestion that the Census may have underestimated the size of the ethnic minority population (Azuoyme, 1994).

Age structure

The findings reveal a different age distribution in the over-65 ethnic minority sample from that in the census figures for Liverpool as a whole. This is in line with the study of Ritch *et al* (1996), who in a survey of the elderly in four wards in inner-city Birmingham found that the average age of individuals in ethnic minority groups was less than that of the indigenous population, that ethnic minority individuals were mainly the young age group (65–74) and that there was a preponderance of men. The higher proportion of men aged 65–74 in the HEP sample reflects the numbers of migrant seamen, factory and restaurant workers

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who have come to Liverpool since the 1920s, but mainly in the 1950s and 1960s.

Prevalence of dementia

The prevalence of dementia is similar among all English-speaking ethnic groups, and similar to that found in the MRC ALPHA study (adjusted to take account of the age and gender profile of the sample). We found a higher prevalence of dementia among the non-English-speaking members of any ethnic group than among the English-speaking members of the same group. Given that any diagnosis of dementia rests heavily on symptoms of disorientation in time and place, these symptoms may be open to misinterpretation where there are language problems, and the high levels of dementia in the non-English-speaking group can either be attributed to high levels of the condition or to an artefact of the interviewing method. To see which of these was most likely, the presence of dementia symptoms in the non-cases was compared between those who did and did not speak English. Many more of those who did not speak English did not know the year in which they were born (17% more with the symptom, 95% CI for the difference 7–28%), did not know their address (15% more with the symptom, 95% CI for the difference 5–25%) and did not know the name of the Prime Minister (23% more, 95% CI 9–37%). Language appeared to have no impact on knowledge of the current day, month and year, with similar low failure rates in both the non-English-speaking and the English-speaking groups. It may be that certain aspects of testing for disorientation work well within the dominant cultures, as in Kua's (1992) study of the Chinese in Singapore, but less well in minority cultures, where they may be testing levels of knowledge within the dominant culture.

Prevalence of depression

Altogether, 63 people were found to suffer from depression at case level, with a higher prevalence among Black Africans than found in MRC ALPHA. Only 54% of cases saw relatives at least once a month, compared with 72% of non-cases (χ^2=6.5; P=0.01; difference 18%, 95% CI 3–33%). This differs markedly from the ALPHA sample, where 90% of both the depressed and non-depressed respondents saw relatives at least once a month. It would seem that lack of social contact with relatives is associated more with depression among elderly people in ethnic minorities than among those in the indigenous population. Some of those in ethnic minorities may have few, if any, relatives in this country, and this may contribute to their depression.

CLINICAL IMPLICATIONS

- The levels of dementia and depression among Black and ethnic minority elders are comparable with those of their White counterparts.
- There may be an overestimate in the prevalence of dementia in those not speaking the dominant language.
- The FHSA lists are especially inaccurate for identifying ethnic minority elders, which may lead to problems in the delivery of health care.

LIMITATIONS

- FHSA lists should be used for all individuals in the sample area rather than all practices.
- Naming the current prime minister and year of birth may not be a suitable memory test for those not speaking the dominant language.

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CONCLUSIONS

This paper has shown the existence of depression and dementia among elderly people in ethnic minorities at levels comparable with the local MRC ALPHA study, against a background of methodological difficulties that will be faced by anyone attempting to survey an ethnic minority population. Comparison of the levels of illness between ethnic minority groups and between them and the indigenous population is hampered by the lack of complete enumeration. We found that the best sampling method to counter this is the use of extended FHSA lists together with liaison with community and religious leaders and the use of snowballing.

This survey has also highlighted some interesting issues with regard to diagnosis of dementia among members of ethnic groups who do not speak the dominant language. The testing of orientation in time, among these individuals, is better assessed using current date only and dropping the additional check for discrepancy between age and year of birth, as this will not always be known. Similarly, assessing long-term memory by using the political leader of the dominant culture may lead to misleading results, and the use of the political leader at the time and place of emigration may be a more effective method, although this may vary according to time in office and public profile (Ames *et al*, 1992).

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REFERENCES

Abas, M. (1996) Depression and anxiety among older Caribbean people in the UK: screening, unmet need and the provision of appropriate services. *International Journal of Geriatric Psychiatry*, **11**, 377–382.

Ames, D., Ashby, D., Flicker, L., *et al* (1992) Jim who? Recall of national leaders by elderly people in three countries. *International Journal of Geriatric Psychiatry*, **7**, 437–442.

Azuoyme, I. (1994) Ethnicity revolves around culture. *British Medical Journal*, **309**, 959.

Baker, F. (1992) Ethnic minority elders: a mental health research agenda. *Hospital and Community Psychiatry*, **43**, 337–340.

Blakemore, K. & Boneham, M. (1994) *Age, Race and Ethnicity*. Milton Keynes: Open University.

Boneham, M. A., Williams, K. E., Copeland, J. R. M., *et al* (1997) Ethnic minority elderly in Liverpool: mental illness, unmet need and barriers to service use. *Health and Social Care in the Community*, in press.

Bowling, A., Hart, H. & Silman, A. (1989) Accuracy of electoral registers and family practitioner committee lists for population studies of the very elderly. *Journal of Epidemiology and Community Health*, **43**, 391–394.

Brownlie, J. (1991) *A Hidden Problem? Dementia Amongst Minority Ethnic Groups*. University of Stirling: Dementia Services Centre.

Copeland, J. R. M., Dewey, M. E., Henderson, A. S., *et al* (1988) The Geriatric Mental State (GMS) used in the community: replication studies of the computerised diagnosis AGECAT. *Psychological Medicine*, **18**, 219–223.

—, Davidson, I., Dewey, M. E., *et al* (1992) Alzheimer's disease, other dementias, depression and pseudodementia: prevalence, incidence and three year outcome in Liverpool. *British Journal of Psychiatry*, **161**, 230–239.

Kua, E. H. (1992) A community study of mental disorders in elderly Singaporean Chinese using the GMS-AGECAT Package. *Australian and New Zealand Journal of Psychiatry*, **25**, 502–506.

Kyffin, R. (1992) *Educational Attainment, Family Size and Race*. Liverpool: Equal Opportunities Initiative.

Liverpool Healthy City (1995) *Draft City Health Plan for Liverpool*. Liverpool: Liverpool City Council.

Livingston, G., Hawkins, A., Graham, N., *et al* (1990) The Gospel Oak study: prevalence rates of dementia, depression and activity limitation among elderly residents in inner London. *Psychological Medicine*, **20**, 137–146.

Manthorpe, J. & Hettiaratchy, P. (1993) Ethnic minority elders in the UK. *International Review of Psychiatry*, **5**, 171–178.

Office of Population Censuses and Surveys (OPCS) (1992) *1991 Census Merseyside*. London: HMSO.

Richards, M., Brayne, C., Forde, C., *et al* (1996) Surveying African Caribbean elders in the community: implications for research on health and health service use. *International Journal of Geriatric Psychiatry*, **11**, 41–45.

Ritch, A. E. S., Ehtisham, M., Guthrie, S., *et al* (1996) Ethnic influence on health and dependency of elderly inner city residents. *Journal of the Royal College of Physicians of London*, **30**, 215–220.

Saunders, P. A., Copeland, J. R. M., Dewey, M., *et al* (1993) The prevalence of dementia, depression and neurosis in later life: the Liverpool MRC-ALPHA study. *International Journal of Epidemiology*, **22**, 838–847.

Torkington, P. (1991) *Black Health: A Political Issue*. Liverpool: Catholic Association for Racial Justice.

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