

Suicides in ethnic minorities within 12 months of contact with mental health services

National clinical survey[†]

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Background Information on suicide by psychiatric patients from ethnic minority groups is scarce.

Aims To establish the number of patients from ethnic minorities who kill themselves; to describe their suicide methods, and their social and clinical characteristics.

Method A national clinical survey was based on a 4-year sample of suicides in England and Wales. Detailed data were collected on those who had been in contact with mental health services in the year before death.

Results In total 282 patients from ethnic minorities died by suicide – 6% of all patient suicides. The most common method of suicide was hanging; violent methods were more common than in White patient suicides. Schizophrenia was the most common diagnosis. Ethnic minority patients were more likely to have been unemployed than White patients and to have had a history of violence and recent non-compliance. In around half, this was the first episode of self-harm. Black Caribbean patients had the highest rates of schizophrenia (74%), unemployment, living alone, previous violence and drug misuse.

Conclusions In order to reduce the number of suicides by ethnic minority patients, services should address the complex health and social needs of people with severe mental illness.

Declaration of interest None.

[†]See editorial, pp. 100–101, this issue.

Prevention of suicide is a priority for health services in England (Department of Health, 1999a,b, 2002). It is important that prevention measures are applicable to people in ethnic minority groups, particularly because of reports of high rates of suicide and self-harm in Asian women (Soni Raleigh *et al*, 1990; Soni Raleigh, 1992; Soni Raleigh & Balarajan, 1992; Neeleman *et al*, 1996; Patel & Gaw, 1996; Bhugra *et al*, 1999), high rates of severe mental illness in people of African–Caribbean, African and Asian origin (Thomas *et al*, 1993; King *et al*, 1994; van Os *et al*, 1996; Bhugra *et al*, 1997; Harrison *et al*, 1997) and concerns about the acceptability of services to ethnic minority patients (Parkman *et al*, 1997; Goater *et al*, 1999; Sashidharan, 2001; Surgeon General of the USA, 2001). The aims of this study were to identify the characteristics of psychiatric patients from ethnic minorities who die by suicide and to describe the antecedents of these deaths, including aspects of clinical care.

METHOD

Data collection on suicides had three stages: the collection of a comprehensive national sample, irrespective of mental health history; the identification of people within the sample who had been in contact with mental health services in the 12 months before death; and the collection of clinical data about these people.

Comprehensive national sample

Information on all deaths in England and Wales receiving a verdict of suicide or an open verdict at coroner's inquest was obtained from the Office for National Statistics (ONS). The cases presented here consist of deaths registered by the ONS from 1 April 1996 until 31 March 2000.

In the first 3 years of the study this information was cross-checked against equivalent data from the health authorities

in England and Wales; inconsistencies were rare. Open verdicts, recorded by the ONS as deaths from undetermined external cause, are often reached in cases of suicide, and some or all open verdicts are conventionally included in research on suicide (O'Donnell & Farmer, 1995; Neeleman & Wessely, 1997) and in official suicide statistics. In this study open verdicts were included unless it was clear that suicide was not considered at inquest – for example, in deaths from an unexplained medical cause. These suicides and probable suicides are referred to as suicides in this paper.

Identification of mental health service contact

Identifying details on each suicide were submitted to the main hospital and the community trusts providing mental health services to people living in the dead person's former district of residence. When trust records showed that the person had been in contact with mental health services in the 12 months preceding death, the suicide became an 'inquiry case'. All local mental health services in England and Wales returned data to the inquiry. We arranged for cases to be directly reported from units that had multi-district catchment areas, including regional forensic psychiatry units, or had no catchment area, including national units and private hospitals. An assessment of the accuracy of checks by trusts, carried out in 16 trusts in north-west England, showed that 95% of eligible cases were identified. Missed cases arose because of misspellings of names in trust records or in personal information notified to the inquiry. As a result a checking protocol was developed and recommended to trusts.

Collection of clinical data

For each inquiry case the consultant psychiatrist was sent a questionnaire and asked to complete it after discussion with other members of the mental health team. The questionnaire consisted of sections covering socio-demographic characteristics, clinical history, details of suicide, aspects of care, details of final contact with services and respondents' views on prevention. The social and clinical items reflected many of the most frequently reported risk factors for suicide. The majority of items were factual; a number (e.g. compliance) were based on the judgements of clinicians.

Ethnicity was determined by clinicians, who were asked to select from a list corresponding to current ONS categories: Black African, Black Caribbean, Indian/Pakistani/Bangladeshi (referred to in this paper as South Asian), Chinese, White and Other.

Statistical analysis

The main findings are presented as proportions with 95% confidence intervals. If an item of information was not known for a case, the case was removed from the analysis of that item; the denominator in all estimates is therefore the number of valid cases for the item.

RESULTS

We received notifications of 20 927 suicides, including 14 048 cases in which the coroner's verdict was suicide and 6879 open verdicts or deaths from undetermined cause. Of these, 5099 cases (24%; 95% CI 24–25) were confirmed in which the person had been in contact with mental health services in the year prior to death. Completed questionnaires were received for 4859 cases, a response rate of 95%. Ethnic status was recorded in 4790 cases. The findings below refer to these cases.

A total of 282 (6%) individuals were from an ethnic minority group; that is, there were around 70 suicides per year among patients from ethnic minorities during the study period. Ninety-five (34%) were South Asian, 64 (23%) Black Caribbean, 35 (12%) Black African and 12 (4%) Chinese. The remaining 76

(27%) were classified as 'Other' – these included patients of mixed ethnic origin.

Method of suicide

Hanging, self-poisoning and jumping from a height or in front of a moving vehicle were the main methods of suicide in all ethnic groups, but the relative frequencies of these methods differed (Table 1). Violent methods of suicide were more often used by ethnic minority patients. Compared with suicides by White people, those from an ethnic minority were more likely to kill themselves by jumping and less likely to self-poison; these differences were greatest for Black Caribbeans. Deaths by burning were also more common among ethnic minority suicides. Nine (9%) of the suicides of South Asian patients were by burning; 5 (15%) of 33 South Asian women used this method, compared with 28 (2%) of 1547 White women.

Social characteristics

Factors indicating social adversity were common in all ethnic groups, but patients from ethnic minorities who completed suicide were more likely than White patients to be unemployed (Table 2). Among the ethnic minority groups, unemployment, living alone and being unmarried were more commonly features of Black Caribbean patients and less commonly features of South Asian patients. In the Chinese sample there was a preponderance of women: 58%, compared with 34% of the White sample ($P=0.08$), although numbers were small (in the Chinese sample 7 out of 12 were women).

Diagnosis

The main feature of the diagnostic profile of ethnic minority patients who died by suicide was the large proportion with a primary diagnosis of schizophrenia (Table 3). This was particularly true for Black Caribbean patients: 74% (95% CI 63–85) had a diagnosis of schizophrenia compared with 18% (95% CI 17–20) of the White sample. Ethnic minority patients were less likely to have an affective disorder, although this was the most common diagnosis in South Asian patients (46%; 95% CI 36–56).

Clinical history

Items indicating clinical risk were common in all ethnic groups but relative frequencies varied – in the ethnic minority groups, a history of violence was more common and a history of alcohol misuse was less common (Table 4). In half the ethnic minority patients the first episode of self-harm had been fatal. Violence was reported in almost half the Black Caribbean and Black African patients; drug misuse was reported in almost half the Black Caribbeans. Alcohol and drug misuse were uncommon features of South Asian patient suicides.

Clinical care

A quarter of the Black Caribbean and almost a third of the Black African patients were in-patients at the time of death. Ethnic minority in-patients overall were more often detained under the Mental Health Act at the time of suicide (48%, 95% CI 34–62) compared with White in-patients (26%, 95% CI 23–29). However, they

Table 1 Cause of death in patients who died by suicide within 12 months of contact with mental health services¹

Cause of death	South Asian (<i>n</i> =95) <i>n</i> (%; 95% CI)	Black Caribbean (<i>n</i> =64) <i>n</i> (%; 95% CI)	Black African (<i>n</i> =35) <i>n</i> (%; 95% CI)	Chinese (<i>n</i> =12) <i>n</i> (%; 95% CI)	Other ethnic minority (<i>n</i> =76) <i>n</i> (%; 95% CI)	All ethnic minorities (<i>n</i> =282) <i>n</i> (%; 95% CI)	White (<i>n</i> =4508) <i>n</i> (%; 95% CI)
Hanging	33 (35; 25–44)	20 (33; 21–45)	14 (40; 1–22)	7 (58; 30–86)	24 (34; 23–45)	98 (36; 30–42)	1463 (33; 32–35)
Self-poisoning	24 (25; 17–34)	9 (15; 6–24)	6 (17; 5–30)	1 (8; 0–24)	14 (20; 11–29)	54 (20; 15–25)	1429 (33; 31–34)
Carbon monoxide poisoning	1 (1; 0–3)	1 (2; 0–5)	1 (3; 0–8)	0	2 (3; 0–7)	5 (2; 0–3)	332 (8; 7–8)
Jumping/multiple injuries	17 (18; 10–26)	17 (28; 17–39)	6 (17; 5–30)	0	15 (21; 12–31)	55 (20; 15–25)	562 (13; 12–14)
Drowning	7 (7; 2–13)	7 (11; 3–19)	6 (17; 5–30)	1 (8; 0–24)	7 (10; 3–17)	28 (10; 7–14)	266 (6; 5–7)
Burning	9 (9; 4–15)	3 (5; 0–10)	0	2 (17; 0–38)	4 (6; 0–11)	18 (7; 4–10)	63 (1; 1–2)
Other	4 (4; 0–8)	4 (7; 0–13)	2 (6; 0–13)	1 (8; 0–24)	4 (6; 0–11)	15 (5; 3–8)	277 (6; 6–7)

1. The denominator in all estimates is the number of valid cases for the item.

Table 2 Demographic characteristics of patients who died by suicide within 12 months of contact with mental health services

Characteristic	South Asian (n=95)	Black Caribbean (n=64)	Black African (n=35)	Chinese (n=12)	Other ethnic minority (n=76)	All ethnic minorities (n=282)	White (n=4508)
Age, years: median (range)	37 (18–72)	30.5 (19–74)	33 (22–57)	41 (23–60)	38 (16–88)	35 (16–88)	41 (13–95)
Male gender: n (%; 95% CI)	62 (65; 56–75)	46 (72; 61–83)	27 (77; 63–91)	5 (42; 14–70)	54 (71; 61–81)	194 (69; 63–74)	2961 (66; 64–67)
Not married: n (%; 95% CI)	52 (55; 45–65)	56 (92; 85–99)	27 (79; 66–93)	9 (75; 51–100)	62 (82; 73–90)	206 (74; 69–79)	3162 (71; 70–73)
Living alone: n (%; 95% CI)	19 (20; 12–18)	31 (51; 38–63)	15 (45; 28–62)	5 (42; 14–70)	32 (43; 31–54)	102 (37; 31–43)	1891 (43; 42–45)
Unemployed/long-term sick: n (%; 95% CI)	59 (63; 53–73)	52 (85; 76–94)	25 (76; 61–90)	8 (67; 40–93)	50 (67; 56–77)	194 (71; 65–76)	2543 (58; 57–60)
Homeless: n (%; 95% CI)	1 (1; 0–3)	3 (5; 0–10)	2 (6; 0–13)	2 (17; 0–38)	1 (1; 0–4)	9 (3; 1–5)	118 (3; 2–3)

Table 3 Primary diagnoses in patients who died by suicide within 12 months of contact with mental health services¹

Diagnosis	South Asian (n=95) n (%; 95% CI)	Black Caribbean (n=64) n (%; 95% CI)	Black African (n=35) n (%; 95% CI)	Chinese (n=12) n (%; 95% CI)	Other ethnic minority (n=76) n (%; 95% CI)	All ethnic minorities (n=282) n (%; 95% CI)	White (n=4508) n (%; 95% CI)
Schizophrenia	32 (34; 24–43)	46 (74; 63–85)	20 (59; 42–75)	7 (58; 30–86)	28 (37; 26–48)	133 (48; 42–54)	823 (18; 17–20)
Affective disorder	44 (46; 36–56)	10 (16; 7–25)	7 (21; 7–34)	2 (17; 0–38)	29 (39; 28–50)	92 (33; 28–39)	1916 (43; 42–44)
Neurotic disorder	2 (2; 0–5)	0	0	0	1 (1; 0–4)	3 (1; 0–2)	208 (5; 4–5)
Alcohol dependence	5 (5; 1–10)	0	4 (12; 1–23)	1 (8; 0–24)	1 (1; 0–4)	11 (4; 2–6)	423 (9; 9–10)
Drug dependence	1 (1; 0–3)	2 (3; 0–8)	1 (3; 0–9)	0	4 (5; 0–10)	8 (3; 1–5)	206 (5; 4–5)
Personality disorder	3 (3; 0–7)	0	1 (3; 0–9)	0	7 (9; 3–16)	11 (4; 2–6)	481 (11; 10–12)
Other	4 (4; 0–8)	2 (3; 0–8)	1 (3; 0–9)	2 (17; 0–38)	5 (7; 1–12)	14 (5; 2–8)	308 (7; 6–8)
No mental disorder	4 (4; 0–8)	2 (3; 0–8)	0	0	0	6 (2; 0–4)	94 (2; 2–3)

1. The denominator in all estimates is the number of valid cases for the item.

were no more likely to be under medium-level (checked every 5–25 min) or high-level (one to one) observation at the time of death: 19% (95% CI 7–31) compared with 26% (95% CI 22–30). The higher rate of detention was not simply a reflection of the greater number of ethnic minority patients who had schizophrenia; findings were similar when the cases of schizophrenia were analysed alone (65% *v.* 45%, $P=0.04$). Reported non-compliance with drug treatment was a more common feature of suicides by ethnic minorities, although loss of contact with services was no more common. Psychotropic drug side-effects were commonly reported by Black African patients, but not by other ethnic groups, compared with White patients (22% *v.* 7%, $P=0.004$).

Twenty-two per cent of suicides by patients from ethnic minorities were seen by respondents as preventable. Suicides by Black Caribbean patients were most likely

to be viewed as preventable. Improved compliance (42%, 95% CI 20–64), closer supervision (55%, 95% CI 33–77) and, in Asian suicides, contact with the patient's family (33% *v.* 16% of White cases, $P=0.02$) were the measures that might have reduced risk most often, according to respondents.

DISCUSSION

This report is the first to describe a complete national sample of suicides by people from ethnic minorities who were or had recently been under mental health service care in England and Wales. Six per cent of all patients who died by suicide were from an ethnic minority – around 70 deaths per year. Compared with suicides by White patients, suicides by ethnic minority patients were marked by violent methods and associated with high rates of schizophrenia,

unemployment, previous violence and reported non-compliance. In around half the cases there had been no previous episode of self-harm. Among those who killed themselves while in-patients, detention under mental health legislation was a more frequent feature. Many of these findings reflected the characteristics of Black Caribbean patients who died by suicide, of whom 74% had schizophrenia and 85% were unemployed. Overall 22% of suicides were viewed as preventable by their clinical teams.

Methodological issues

Several methodological limitations must be highlighted. First, this report is a survey of clinical circumstances preceding suicide. Although uncontrolled national studies of suicide can be informative (Lonnqvist, 1988), aetiological conclusions cannot be drawn without a comparison sample. For

Table 4 Clinical history and behavioural characteristics in patients who died by suicide within 12 months of contact with mental health services

	South Asian (n=95) n (%; 95% CI)	Black Caribbean (n=64) n (%; 95% CI)	Black African (n=35) n (%; 95% CI)	Chinese (n=12) n (%; 95% CI)	Other ethnic minority (n=76) n (%; 95% CI)	All ethnic minorities (n=282) n (%; 95% CI)	White (n=4508) (%; 95% CI)
<i>Clinical history</i>							
History of:							
Self-harm	49 (53; 43–63)	33 (52; 39–64)	18 (53; 36–70)	6 (50; 22–78)	39 (53; 41–64)	145 (52; 46–58)	2889 (65; 63–66)
Violence	22 (24; 15–32)	27 (44; 32–57)	15 (45; 28–62)	3 (25; 1–50)	19 (26; 16–36)	86 (32; 26–37)	821 (19; 17–20)
Alcohol misuse	17 (18; 10–26)	17 (27; 16–38)	11 (33; 17–49)	2 (17; 0–38)	26 (36; 25–47)	73 (27; 21–32)	1797 (40; 39–42)
Drug misuse	17 (18; 10–26)	31 (49; 37–62)	12 (35; 19–51)	2 (17; 0–38)	28 (38; 27–50)	90 (33; 27–38)	1240 (28; 27–29)
Duration of history	11 (12; 6–19)	14 (23; 12–33)	5 (14; 3–26)	4 (33; 7–60)	11 (15; 7–24)	45 (17; 12–21)	940 (22; 20–23)
< 12 months							
More than 5 previous admissions	17 (19; 11–27)	15 (26; 15–38)	5 (16; 3–29)	1 (11; 0–32)	10 (14; 6–22)	48 (19; 14–23)	663 (16; 15–17)
Last admission was a readmission	13 (22; 11–32)	5 (12; 2–22)	2 (9; 0–20)	0	3 (7; 0–15)	23 (13; 8–18)	451 (17; 16–19)
Any secondary diagnosis	36 (40; 30–50)	29 (47; 34–59)	17 (49; 32–65)	4 (33; 7–60)	47 (62; 51–73)	133 (48; 42–54)	2299 (53; 51–54)
<i>Clinical care at time of death</i>							
In-patient	11 (12; 5–18)	16 (25; 14–36)	11 (31; 16–47)	3 (25; 1–50)	12 (16; 8–24)	53 (19; 14–23)	700 (16; 14–17)
Post-discharge	24 (25; 17–34)	14 (22; 12–32)	8 (23; 9–37)	2 (17; 0–38)	14 (18; 10–27)	62 (22; 17–27)	1029 (23; 22–24)
Under CPA	48 (51; 40–61)	42 (66; 54–77)	27 (77; 63–91)	8 (67; 40–93)	42 (55; 44–66)	167 (59; 53–65)	2065 (46; 45–48)
Missed contact	23 (28; 18–37)	15 (32; 19–45)	7 (29; 11–47)	1 (11; 0–32)	19 (32; 20–44)	65 (29; 23–35)	1048 (28; 27–30)
Non-compliance in previous month	25 (30; 20–40)	17 (29; 18–41)	6 (18; 5–31)	2 (18; 0–41)	22 (32; 21–43)	72 (28; 23–34)	849 (22; 21–23)
<i>Last contact with services</i>							
Last contact within 7 days of death	51 (55; 45–65)	34 (53; 41–65)	18 (51; 35–68)	8 (67; 40–93)	40 (54; 40–93)	151 (54; 48–60)	2139 (48; 47–50)
Symptoms at last contact	57 (63; 53–73)	32 (52; 40–65)	13 (38; 22–55)	9 (75; 51–100)	52 (72; 62–83)	163 (60; 54–66)	2784 (64; 63–66)
Suicide viewed as preventable	15 (18; 10–26)	20 (35; 23–47)	6 (18; 5–31)	3 (30; 16–58)	11 (17; 8–27)	55 (22; 17–27)	817 (21; 19–22)

CPA, Care Programme Approach.

example, the preponderance of schizophrenia in suicides by patients from ethnic minorities cannot be taken to mean that schizophrenia carries a higher risk in ethnic minorities. However, people with schizophrenia must be targeted by prevention measures if the number of suicides is to be reduced. Second, the information from clinicians was based on case records and clinical judgements rather than standardised assessments. However, a large number of suicide studies have relied on similar methods. In addition, the accuracy of Confidential Inquiry questionnaire data has been shown to be good (Appleby *et al*, 1999). Third, the clinicians who provided the information were not masked and might have been biased by their awareness of outcome. Fourth, although this was a national sample, the numbers of people in

some ethnic minority groups were small and confidence limits are sometimes wide. Fifth, the classification of ethnicity is problematic (McKenzie *et al*, 1995) and we cannot be certain that clinicians defined the ethnic groups in the same way; however, ethnic groups were broad and the allocation of people to them should have been relatively reliable. Sixth, ascertainment biases might also have been operating; for example, we cannot rule out that the likelihood of a verdict of suicide is influenced by ethnicity.

Clinical implications

Suicide prevention strategies need to be broad-ranging (Mann & Hendin, 2001). The findings of our study suggest that different suicide prevention measures will

be needed for different ethnic groups. Three-quarters of Black Caribbean patients in the sample were suffering from schizophrenia and many showed evidence of complex health and social needs. They were predominantly young and male, living alone and unemployed, and many had what appeared to be turbulent histories marked by violence, drug misuse, non-compliance and multiple hospital admissions. The majority were already receiving care at the 'enhanced' (more intensive) level of the Care Programme Approach (or its equivalent in Wales). Although the causal role of the social and clinical antecedents is unproven in this study, the findings suggest that suicide prevention in this group will require comprehensive packages of care for people with severe mental illness, targeting social exclusion and risk behaviours such as

drug misuse, offering treatments that are acceptable and encouraging compliance.

In contrast, South Asian patients who died by suicide were most likely to be suffering from affective disorder. Only 20% were living alone and almost half were married. A history of alcohol or drug misuse was unusual. However, non-compliance with treatment was as common as in the Black Caribbean group. In people of South Asian origin it may be important to ensure that depression is adequately treated, making use of the available family environments to encourage compliance and report signs of risk.

This study found that the Black patient groups had the greatest proportion of suicides during hospitalisation, although the finding is of borderline statistical significance with this sample size. Among in-patient suicides, ethnic minority patients were more likely to be detained under mental health legislation, but this apparent need to ensure safety did not translate into greater use of close or constant observation. The high rate of detention and compulsory treatment in ethnic minority patients remains a cause of concern (Goater *et al*, 1999). More broadly, variations in risk management across ethnic groups need to be explored further.

Cultural patterns of suicide

A male preponderance is an almost universal finding in suicide research. In contrast, our finding of a higher number of female suicides in Chinese patients is in line with reports on suicide in China (Zhao *et al*, 1994), although the number of people in this group was small. Our results also confirm previous reports that suicide by burning, although generally uncommon in England and Wales, is relatively common in South Asian women (Soni Raleigh & Balarajan, 1992; Prosser, 1996).

ACKNOWLEDGEMENTS

The study was carried out as part of the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (Appleby *et al*, 1999). We acknowledge the help of district directors of public health, health authority and trust contacts, and that of consultant psychiatrists in completing the questionnaires.

CLINICAL IMPLICATIONS

- To reduce suicide in ethnic minority patients, services should address the complex health and social needs of people with severe mental illness, particularly young Black Caribbean men.
- South Asian patients completing suicide have comparatively high rates of affective disorder. Adequate treatment might help to reduce suicide rates in this group.
- Services should ensure that their in-patient risk management measures are applied equally to all ethnic minorities.

LIMITATIONS

- No comparable information on non-suicides is available; firm aetiological conclusions cannot be drawn.
- Clinical and demographic information was obtained from retrospective examination of case notes and clinical judgements rather than standardised assessments.
- Clinicians providing information might have been biased by their awareness of outcome.

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(First received 5 July 2002, final revision 7 October 2002, accepted 21 October 2002)

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