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A comparison of mental health among minority ethnic elders and whites in East and North London

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Abstract

Objective: minority ethnic groups, particularly elderly people, reported substantially more limiting long-term illness than the white population in the 1991 UK census. We aimed to compare the levels of and examine associations between disability, chronic medical diagnoses, mood and life satisfaction among Bengali, Somali, Gujarati and white elderly people living in North and East London.
Design: cross-sectional survey with participants drawn from age-sex registers of general practices, augmented by other sources.
Setting: East London (Somalis, Bengalis, whites) and North London (Gujaratis, whites).
Subjects: 378 people aged 60+: 72 Somalis, 75 Bengalis and 127 whites from East London; 41 Gujaratis and 63 whites from North London.
Main outcome measures: Symptoms of anxiety and depression scale (SAD), life satisfaction index (LSI).
Main results: highest SAD scores were found among Bengalis; lowest LSI scores were found among Bengalis and Somalis. The prevalences of depression (SAD score 6+) were very variable: Somalis, 25%; Bengalis, 77%; East London whites, 25%; Gujaratis, 2%; North London whites, 5%. Chronic health problems and SAD scores were associated among Somalis ($r = 0.31$, $P = 0.01$), Bengalis ($r = 0.38$, $P = 0.001$) and East London whites ($r = 0.24$, $P = 0.007$). Chronic health problems also related to lower LSI scores among Somalis ($r = -0.25$, $P = 0.04$) and East London whites ($r = -0.22$, $P = 0.016$). Disability in activities of daily living was a strong correlate of SAD scores among Bengalis ($r = 0.39$, $P = 0.001$), LSI scores among Gujaratis ($r = -0.4$, $P = 0.01$) and Bengalis ($r = -0.29$, $P = 0.01$) and to a lesser extent, SAD and LSI scores among East London whites ($r = 0.18$, $P = 0.043$ and $r = -0.18$, $P = 0.046$ respectively). Adjustment for the effects of health, age and income led to only small changes in the differences in SAD and LSI scores observed between ethnic groups.
Conclusion: the marked variation in mental health between different ethnic groups may be a reflection of differences in perception of symptoms, expectations and motivations for taking part in surveys. Physical health was related to mental health but in inconsistent ways between ethnic groups. Income and physical health did not explain variation in mood and life satisfaction, although it is possible that the very large differences between North and East London reflect socio-economic differentials. Cross-cultural application of standardized assessment scales is not straightforward and further work is needed to examine such methods.

Keywords: *elderly people, ethnicity, life satisfaction, mood*

Introduction

Mortality studies among minority ethnic groups in Britain have revealed higher risks of disease compared with the whole population [1, 2]. Higher overall mortality for coronary heart disease, diabetes, tuberculosis and liver cancer has been found among 'Asians' (despite low levels of smoking and drinking) [3]. Among Afro-Caribbeans, higher mortality ratios have been reported for cerebrovascular disease, diabetes mellitus and accidents. Certain types of cancer (lung, stomach, rectum, breast and others), on the other hand, seem to have lower incidence in 'black and Asian' migrants than in the general population [4].

Morbidity rather than mortality rates may be a better indicator of population health patterns and, by extension,

of the existence of health inequalities [5, 6]. Barriers to access to health services such as language, may lead to health disadvantage in addition to factors such as low income and social support [7, 8]. Due to the relevance of physical illness, in particular disability, to mental health and well-being in old age [9-11] and, given that elderly people are likely to represent a larger proportion of minority ethnic groups in the near future [12], studies are needed to clarify the nature of and reasons for the higher rates of 'limiting long-term illness' among minority ethnic groups compared with the majority population demonstrated in the 1991 census [13].

Our previous work has demonstrated high levels of mood disorder in Bengali and Somali elders in East London [14] but no comparative data on white elders were available. We have also shown that Gujarati Asians, paradoxically, appeared to have lower levels of mood disorder than a comparison group of white people in North London [15]. In the present study, we aimed to extend these findings and to explore the underlying reasons for differences in mental health of elderly people from different ethnic groups. More specifically, we wanted to test the hypotheses that disease rates, mood, life satisfaction and physical disability do not vary between minority ethnic groups from East and North London and whites in both areas and that relationships between these variables are similar in different ethnic groups.

Methods

Research instruments

A standardized questionnaire was used by trained bilingual interviewers to collect information on demographic, social and health factors, use of health and social services and satisfaction with services provided.

Anxiety and depression was measured using the self-rating scale of symptoms of anxiety and depression (SAD) [16], which focuses on symptomatology in the past week. For each question (14 in total), scores are rated from 0 to 3, depending on the degree of distress reported (0 = none, 1 = a little, 2 = a lot, 3 = unbearable). Scores of 6 or above indicate a high likelihood of clinically important depression (4+ in the depression sub-scale). Cronbach's α coefficients were 0.9 for Somalis, Bengalis and East London whites, 0.4 for Gujaratis and 0.6 for North London whites, indicating good internal consistency of the scale for most groups.

Life satisfaction was measured using a 13-item version of the life satisfaction index (LSI) [17], using a recommended threshold of 20 out of 26. Scores in individual questions range from 0 to 2 (1 = don't know; 0, 2 = either yes or no). The instrument has been applied to British [18] and Nigerian [19] elderly populations. α coefficients (internal consistency) for the LSI were 0.8 for Somalis, Bengalis, East London whites and Gujaratis and 0.7 for North London whites.

Back-translation of both scales by skilled bilingual workers was followed by testing for language discrepancies in Bengali pensioners attending a community centre, Somali residents of a Seaman's Mission, 'white' elders from a Bethnal Green general practice and Gujaratis and whites from a Finchley general practice, all of whom were excluded from the main study.

Relationships between mental health scores and chronic health problems, disability, weekly income (data not collected for Gujaratis and North London whites), age, marital status, gender and ethnic origin were examined using Spearman's rank correlation coefficient (r), Mann-Whitney test and univariate regression. Simple additive scales for chronic health problems (comprising reported presence of any of the following: asthma, incontinence, diabetes, high blood pressure, hardness of hearing, heart attack, stroke, arthritis/rheumatism and poor eye-sight) and disability (comprising reported inability to perform any of the following: walk outdoors, dress, bath independently) were produced. The influence of chronic health problems and disability, age and weekly income as predictors of mental health scores was studied using multiple regression analyses.

Subjects

Male participants in the Somali group were drawn from elderly people attending a luncheon club; women were reached mostly through 'snowballing' (i.e. asking participants to provide names of additional people) from initial contacts. Bengalis were drawn from the age-sex register of a local general practice known to have a high proportion of Bengali patients; further people were contacted through snowballing using the initial contacts [14]. The white group was drawn from the age-sex register of the same general practice used to select the Bengali participants. The Gujarati and a North London 'white' sample were drawn from the age-sex register of a Finchley general practice [15].

Results

Seventy-two Somalis (60 men, 12 women), 75 Bengalis (52 men, 23 women) and 127 whites (60 men, 67 women) living in East London and 41 Gujaratis (21 men, 20 women) and 63 whites (30 men, 33 women) living in North London were interviewed. All ethnic elders were first-generation migrants born in countries other than the UK. Response rates where the denominator could be established were approximately 100, 71 and 79% for Somalis, Bengalis and East London whites respectively and 80% for Gujaratis and North London whites.

Socio-demographic characteristics

Table 1 summarizes social/demographic characteristics for Somalis, Bengalis, Gujaratis and whites.

Somalis, Bengalis, East London whites

Most respondents in East London had been manual workers, either seaman or seafarers (Somalis), clothing and steel industry workers (Bengalis) or machinery workers, street market traders, cleaners and drivers (white British). The mean age was 69.8 years (SD = 3.9) for Somalis, 63.6 (SD = 4.4) for Bengalis and 69.7 (SD = 6.4) for whites. Mean duration of residence at current address was 5 years for Somalis (range <1-44), 8.5 years for Bengalis (range <1-20) and 26 years for whites (range 3-80). Significantly more Somalis (43%) and whites (33%) lived alone compared with Bengalis (1%) and both minority ethnic groups were more likely to live with children. Forty-six percent of Somalis (33), 87% of Bengalis (65) and 56% of whites (71) were council tenants; 1% of Somalis (one), 7% of Bengalis (five) and 19% of whites (24) were home owners. A

Table 1. Social and demographic characteristics of different ethnic groups living in East and North London

	No. (and %) of respondents				
	East London			North London	
	Somalis	Bengalis	Whites	Gujaratis	Whites
Age (years)					
60-64	5 (7%)	52 (69%)	35 (28%)	18 (44%)	16 (25%)
65-69	27 (37%)	14 (19%)	47 (37%)	10 (24%)	17 (27%)
70+	40 (56%)	9 (12%)	45 (35%)	13 (32%)	30 (48%)
Mean age, years (and SD)	69.8 (4)	63.6 (4)	69.7 (6)	66.9 (6)	70.2 (8)
Range (years)	60-82	60-80	60-80	60-81	60-91
Marital status					
Married	63 (88%)	68 (91%)	70 (55%)	31 (76%)	41 (65%)
Widowed/divorced/separated	9 (13%)	7 (9%)	57 (45%)	10 (24%)	22 (35%)
No. of children in household					
0	44 (61%)	15 (20%)	124 (98%)	28 (68%)	61 (97%)
1-2	14 (19%)	25 (33%)	2 (2%)	9 (22%)	2 (3%)
3+	14 (19%)	30 (40%)	0	4 (10%)	0
No. of adults in household					
0	32 (44%)	1 (1%)	42 (33%)	2 (5%)	10 (16%)
1-2	25 (35%)	23 (31%)	82 (65%)	21 (51%)	45 (71%)
3+	15 (21%)	49 (65%)	3 (2%)	18 (44%)	8 (13%)
Occupation					
Professional/managerial	3 (4%)	0	7 (6%)	30 (73%)	57 (90%)
Skilled/semi-skilled	20 (28%)	16 (21%)	80 (63%)	11 (27%)[a]	6 (10%)[a]
Unskilled	37 (51%)	40 (53%)	32 (25%)	0	0
No main occupation[b]	12 (17%)	19 (25%)	5 (4%)	0	0
English literacy					
Unable to speak/write/read	16 (22%)	46 (61%)	-	-	-
Able to speak a little	53 (74%)	25 (33%)	-	3 (7%)	-
Able to speak, read or write	3 (4%)	4 (5%)	-	38 (93%)	-
Weekly household income (£)					
<25	1 (1%)	2 (3%)	0	-	-
25-49	47 (65%)	1 (1%)	0	-	-
50-74	15 (21%)	10 (13%)	23 (18%)	-	-
75-99	4 (6%)	14 (19%)	22 (17%)	-	-
100-149	4 (6%)	28 (37%)	51 (40%)	-	-
150+	0	16 (21%)	22 (17%)	-	-

[a]All skilled only.
[b]Outside home (all women, for whom no data were available).
Numbers may not add up to exact total due to rounding or missing data.

third of Somalis and 7% of Bengalis were homeless but no whites were.

Gujaratis and North London whites

Most people in both groups had been in professional/managerial occupations and none in unskilled jobs. Mean age was 66.9 (SD = 6.2) for Gujaratis and 70.2 (SD = 7.6) for whites. Mean time of residence at current address was 16 years for Gujaratis (range <1-25) and 32 years for whites (range <1-65). A smaller proportion of Gujaratis lived alone (5%) compared with whites (16%). Ninety-five percent of Gujaratis (39) and 81% of whites (51) were living in Council housing and none was homeless.

Prevalence of chronic health problems and ADL disability

Frequencies of common health problems and disabilities are shown in Tables 2 and 3. Arthritis/rheumatism, poor eye-sight, hardness of hearing and cataract were common health problems among Somalis and Bengalis. Peptic ulcer, diabetes and 'heart trouble' were also frequently reported by Bengalis. Arthritis/rheumatism, hearing difficulties and high blood pressure were frequent among East and North London whites and Gujaratis. Disability was more prevalent among Bengalis. Levels were significantly higher compared with East London whites independently of age ($\chi^2 = 13.85$, $d.f. = 1$, $P = 0.0002$, at age 60-69 and $\chi^2 = 4.81$, $d.f. = 1$, $P = 0.049$, at 70+). Disability was higher among young rather than older (≥70) Somalis compared with whites ($\chi^2 = 4.6$, $d.f. = 1$, $P = 0.038$, excluding refugees). Refugees reported more disability ($b = -2.2$, $P = 0.029$) compared with self-reported economic migrants who made up most of the Somali sample. Among young Somalis an inverse age relation to disability was found ($r = -0.34$, $P = 0.009$). Levels of disability were lower among people in North London but Gujaratis were more disabled than whites.

SAD and LSI scores

There were large differences in the prevalence of high scores on the SAD scale (see Table 4). Bengalis had the highest prevalence (77%) of scores in the depressed range (i.e. ≥6), followed by Somalis and white East Londoners (both 25%), white North Londoners (5%) and Gujaratis (2%). LSI scores were also distributed very differently between ethnic groups (see Table 4): virtually no Bengali or Somali people indicated high life satisfaction (score ≥21), but 43% of North London whites and 59% of Gujaratis did.

Frequencies of individual SAD items were examined to identify those which contributed to overall scores between groups. Significant differences in patterns of responses were observed for Somalis and Bengalis compared with the white group. Somalis were more

Table 2. Prevalence of medical problems and disability in activities of daily living by age, area of residence and ethnic group

No. (and %), by area of residence, ethnic group and age (years)										
	East London						North London			
	Somalis		Bengalis		Whites		Gujaratis		Whites	
	60-69	70+	60-69	70+	60-69	70+	60-69	70+	60-69	70+
No. of medical problems										
0	11 (36%)	9 (23%)	3 (5%)	0	13 (16%)	3 (7%)	8 (29%)	0	14 (42%)	4 (13%)
1-2	10 (32%)	18 (46%)	32 (49%)	4 (44%)	48 (59%)	23 (51%)	17 (61%)	9 (69%)	16 (49%)	22 (73%)
3+	10 (32%)	12 (31%)	31 (47%)	5 (56%)	21 (26%)	19 (42%)	3 (11%)	4 (31%)	3 (9%)	4 (13%)
Disability in activities of daily living										
0	27 (84%)	37 (93%)	47 (71%)	5 (56%)	77 (94%)	39 (87%)	26 (93%)	12 (92%)	33 (100%)	26 (93%)
1-2	4 (13%)	2 (5%)	13 (20%)	3 (33%)	4 (5%)	4 (9%)	1 (4%)	1 (8%)	0	2 (7%)
3+	1 (3%)	1 (3%)	6 (9%)	1 (11%)	1 (1%)	2 (4%)	1 (4%)	0	0	0

Table 3. Prevalence of health problems (in those aged 60+) by area of residence and ethnic origin

	% (and no.) with problem				
	East London			North London	
Health problem	Somalis	Bengalis	Whites	Gujaratis	Whites
Arthritis/rheumatism	50% (36)	62.7% (47)	57.5% (73)	36.6% (15)	38% (24)
Incontinence (urine)	9.7% (7)	14.7% (11)	10.2% (13)	7.3% (3)	11% (7)
Hardness of hearing	38.9% (28)	20% (15)	33.9% (43)	36.6% (15)	31.7% (20)
Poor eye-sight	45.8% (33)	72% (54)	29% (37)	12.2% (5)	11% (7)
Cataract	37.5% (27)	18.7% (14)	15.7% (20)	24.4% (10)	9.5% (6)
Diabetes	15.3% (11)	32% (24)	5.5% (7)	9.8% (4)	4.8% (3)
High blood pressure	15.3% (11)	28% (21)	35.4% (45)	12.2% (5)	23.8% (15)
Heart attack	0	13.3% (10)	7% (9)	12.2% (5)	4.8% (3)
Heart trouble	5.6% (4)	30.7% (23)	11.8% (15)	14.6% (6)	9.5% (6)
Stroke	4.2% (3)	4% (3)	4.7% (6)	7% (3)	3.2% (2)
Peptic Ulcer	9.7% (7)	51% (38)	10.2% (13)	12% (5)	1.6% (1)
Asthma	8.3% (6)	10.7% (8)	11% (14)	14.6% (6)	0
Tuberculosis	0	5.3% (4)	4.7% (6)	5% (2)	7.9% (5)
Foot trouble	27.8% (20)	8% (6)	38.6% (49)	22% (9)	36.5% (23)
Falls (≥1)	4.2% (3)	8% (6)	22% (28)	14.6% (6)	15.9% (10)

likely to report recently feeling 'so miserable' to the point of having 'difficulty with sleeping' ($\chi^2 = 26$, $d.f. = 1$, $P = 0.0001$), being 'worried about everything' ($\chi^2 = 6.2$, $d.f. = 1$, $P = 0.013$), that 'worry' had kept them awake at night ($\chi^2 = 3.3$, $d.f. = 1$, $P = 0.07$) and 'feeling extremely depressed as to have considered suicide' ($\chi^2 = 8.1$, $d.f. = 1$, $P = 0.005$). After controlling for health problems, Somalis were still more likely to have had 'difficulty with sleeping' ($\chi^2 = 4.3$, $d.f. = 1$, $P = 0.05$, for those with no health problems; $\chi^2 = 25$, $d.f. = 1$, $P = 0.0001$, for those with 1+). Among Bengalis, analyses of SAD revealed a higher frequency of endorsement for *all* items compared with whites (before adjustment for illnesses), but particularly so for feeling 'low in spirits so that had sat for ages doing absolutely nothing' ($X^2 = 85.5$, $d.f. = 1$, $P = 0.0001$), 'breathless or having a pounding in the heart' ($\chi^2 = 82.7$, $d.f. = 1$, $P = 0.0001$), 'having a pain or tense feeling in the back of the neck' ($\chi^2 = 58$, $d.f. = 1$, $P = 0.0001$), 'feeling the future hopeless' ($\chi^2 = 75.5$, $d.f. = 1$, $P = 0.0001$) and 'having lost interest in everything' ($\chi^2 = 91$, $d.f. = 1$, $P = 0.0001$).

Table 4. Prevalence of symptoms of anxiety and depression scores and life satisfaction index scores by area of residence and ethnic group

	Value, by ethnic origin				
	East London			North London	
	Somalis	Bengalis	Whites	Gujaratis	Whites
Symptoms of anxiety and depression score					
Mean (and SD)					
Anxiety	1.7 (2.1)	5.7 (4.1)	2.0 (2.9)	1.0 (1.5)	1.0 (1.7)
Depression	1.7 (2.1)	6.0 (4.2)	1.5 (2.9)	0.5 (1.2)	0.4 (1.1)
Range, *n* (and %)					
Score ≥6	17 (25)	58 (77)	31 (25)	1 (2)	3 (5)
Depression score ≥4	13 (18)	55 (73)	22 (18)	1 (2)	2 (3)
Life satisfaction index score [*n* (and %)]					
0-6	46 (65)	25 (33)	14 (11)	1 (2)	1 (1)
7-14	20 (28)	37 (49)	48 (39)	3 (7)	11 (18)
15-20	4 (6)	13 (17)	43 (35)	13 (32)	24 (38)
21+	1 (1)	0	19 (15)	24 (59)	27 (43)

Given the low number of Bengalis who had no health problems (three), analyses for concomitant physical health effects were carried out considering number of health problems reported. Among Bengalis with two or more health complaints, a higher proportion reported all the above symptoms compared with people with none or 1. Moreover, Bengalis also endorsed all the above more frequently compared with whites, independently of number of health problems reported. Analyses of anxiety and depression symptoms among people in North London revealed a very low frequency of endorsement with no significant differences in frequency of symptoms found between Gujaratis and whites.

Determinants of SAD and LSI scores

Correlation coefficients for associations between SAD and LSI scores and health, income and age are summarized in Table 5. These demonstrate significant correlations between medical problems and disability among Bengalis and East London whites but not other groups. Most groups, with the exception of Somalis showed an expected correlation between SAD scores

Table 5. Correlates of anxiety and depression scores for Somalis, Bengalis, East London whites, Gujaratis and North London whites

	Spearman's correlation coefficient					
	SAD	LSI	ADL disability	Medical problems	Age	Income
Somalis						
SAD	1.0	0.063	0.082	0.31[c]	0.29[b]	−0.25[b]
LSI		1.0	−0.11	−0.25[b]	0.13	0.07
ADL disability			1.0	0.05	−0.16	0.02
Medical problems				1.0	0.10	−0.08
Age					1.0	0.01
Weekly income						1.0
Bengalis						
SAD	1.0	−0.69[d]	0.39[d]	0.38[d]	−0.22[a]	−0.1
LSI		1.0	−0.29[c]	−0.05	0.06	0.15
ADL disability			1.0	0.45[d]	−0.10	−0.04
Medical problems				1.0	−0.03	0.1
Age					1.0	−0.18
Weekly income						1.0
East London whites						
SAD	1.0	−0.56[d]	0.18[b]	0.24[c]	−0.05	−0.11
LSI		1.0	−0.18[b]	−0.22[b]	−0.02	−0.04
ADL disability			1.0	0.18[b]	0.07	0.04
Medical problems				1.0	0.17[b]	−0.1
Age					1.0	−0.17
Weekly income						1.0
Gujaratis						
SAD	1.0	−0.17	−0.02	0.18	0.2	-
LSI		1.0	−0.4[c]	−0.1	−0.05	-
ADL disability			1.0	0.3[a]	−0.01	-
Medical problems				1.0	0.3[b]	-
Age					1.0	-
North London whites						
SAD	1.0	−0.4[d]	0.19	0.16	−0.03	-
LSI		1.0	−0.06	−0.06	−0.19	-
ADL disability			1.0	0.06	0.11	-
Medical problems				1.0	0.13	-
Age					1.0	-

[a]$P = 0.06$, [b]$P \leq 0.05$, [c]$P \leq 0.01$, [d]$P \leq 0.001$.

ADL, activities of daily living; LSI, life satisfaction index; SAD, symptoms of anxiety and depression; -, no data available.

Table 6. Mean symptoms of anxiety and depression scores and life satisfaction index scores before and after adjusting for age, health (medical problems and disability) and income effects for the various ethnic groups

	Score (and 95% confidence interval)			
		Adjusted for		
Group	Unadjusted	Age	Age and health	Age, health and weekly income
Symptoms of anxiety and depression score				
Somalis	3.4 (1.9-4.8)	3.4 (1.9-4.9)	4.1 (2.8-5.4)	3.3 (1.9-4.6)
Bengalis	11.7 (10.3-13)	11.5 (10-12.9)	10.1 (8.9-11.3)	10.5 (9.2-11.8)
East London whites	3.6 (2.5-4.6)	3.6 (2.6-4.7)	4.2 (3.2-5.1)	4.6 (3.6-5.6)
Gujaratis	1.2 (1-1.4)	1.2 (1-1.4)	1.1 (0.9-1.3)	
North London whites	1.4 (1.3-1.5)	1.4 (1.3-1.5)	1.4 (1.3-1.5)	
Life satisfaction index score				
Somalis	6.4 (5.1-7.8)	6.4 (5-7.7)	6.2 (4.8-7.5)	6.4 (5.1-7.8)
Bengalis	8.8 (7.5-10.2)	8.9 (7.6-10.2)	9.7 (8.4-10.9)	9.7 (8.4-10.9)
East London whites	14.2 (13.2-15.2)	14.2 (13.2-15.2)	13.9 (12.9-14.9)	13.6 (12.3-14.8)
Gujaratis	20.4 (19.2-21.6)	20.3 (19.1-21.5)	20.3 (19.1-21.5)	
North London whites	18.5 (17.7-19.3)	18.6 (17.8-19.4)	18.5 (17.7-19.3)	

and LSI scores. Age was only correlated with SAD or LSI scores among Somali and Bengali groups.

Models using SAD and LSI as dependent variables and age, income, number of chronic health problems and disability as independent variables were produced for each ethnic group (see Table 6).

Somalis

Chronic health problems and higher age (independently of weekly income) were predictors of SAD scores among Somalis ($b = +0.79$, SE = 0.28, $P = 0.006$; $b = +0.34$, SE = 0.12, $P = 0.006$—i.e. increase in one health problem was associated with a 0.79 increase in SAD score and a 10-year increase in age associated with a 3.4 increase in SAD score) and explained 28% of the total variance in SAD scores. None of these variables were predictors of LSI scores among Somalis.

Bengalis

Disability was the strongest predictor of SAD scores among Bengalis ($b = +4$, SE = 0.81, $P = 0.0001$); one unit increase in the prevalence of ADL disability corresponding to a 4-point increase in SAD score. Age was also a predictor of SAD scores ($b = -0.36$, SE = 0.18, $P = 0.04$) and together with disability explained 41% of the overall variance. ADL disability was the only predictor of LSI scores among Bengalis ($b = -2.0$, SE = 0.72, $P = 0.007$), accounting for 13% of the explained variance.

East London whites

Prevalence of chronic health problems was the sole predictor of SAD scores ($b = +1.41$, SE = 0.36, $P = 0.0001$), accounting for 14% of the total variance and also of LSI scores ($b = -0.95$, SE = 0.40, $P = 0.02$), accounting for 7% of the total variance.

Gujaratis

None of the variables were significant predictors of SAD scores. Disability was the only predictor of LSI scores ($b = -4.9$, SE = 1.8, $P = 0.01$), accounting for 18% of the total variance.

North London whites

None of the variables studied were significant predictors of SAD or LSI scores.

Discussion

We have found higher levels of reported chronic health problems and disability among Bengali elders compared with Somalis and East London whites, with the lowest rates among Gujaratis and North London whites. In all populations health problems increased with age; however, comparisons between age groups revealed the smallest differences for Bengalis. Disability was low among old Somalis, although ideas that disability constituted moral weakness or lack of faith in God may have led to under-reporting according to our interpreter. The method of sampling was not uniform between ethnic groups owing to the different living patterns of the groups: Somalis were widely scattered but had a strong kin network, permitting identification of all known Somalis in the area. By

contrast, Bengalis were concentrated in one area and were readily accessible through their general practitioners. It is possible that selection bias has resulted in sicker Somali and Bengali people taking part in the survey, but the differential findings between these groups makes this unlikely.

Depressed mood and overall low life satisfaction was a common finding in East but not North London elders. A more pessimistic outlook about the future was expressed by Bengalis and Somalis. Symptoms of anxiety and depression were more frequent among Bengalis compared with all groups but may be related to physical illness, including undiagnosed health problems such as cardiovascular disease rather than anxiety and depression. This may explain some of the excess reporting of neck pain, breathlessness and pounding in the heart. It is possible that the SAD scale over-estimates the prevalence of depression among elderly Bengalis, pointing to the need for a more culturally refined instrument or perhaps a higher cut-off point. It is also possible that false reporting of depressive symptoms occurred more often in the Bengali groups but it is difficult to see what advantage might be obtained by such behaviour and it is improbable that only Bengalis would do this.

Although 'somatization' is likely to happen in all cultures [20] it seems to be a more prevalent trait among Bengalis. Our results support findings from a previous study of expression of distress predominantly through bodily complaints by working-class 'South Asians' [21]. Bengali general practitioners from Tower Hamlets (East London) also report increased likelihood of 'somatization' and high level of mental distress among Bengali patients [22].

The levels of LSI and SAD showed marked variation between our ethnic groups. A Nottingham study [18] of people aged 65 and over found LSI scores (mean 17.1, SD = 5.6) that were higher than those in East London but lower than those in our North London samples. In the same Nottingham study, SAD scores showed a similar pattern with a 'depressed' threshold of 6+ reported by 10% of the Nottingham sample. In a study of very old (85+) people in Hackney, East London, 65% had high LSI scores (10 out of 20 on a similar version of the LSI) [23]. It is possible that LSI scores are very sensitive to socio-economic differences between populations; this requires further investigation.

It might be expected that symptoms of anxiety and depression would increase with age due to the likelihood of worse physical health [24]. However, a negative correlation was found between age and SAD scores among Bengalis despite increased physical illness. However, among Somalis, symptoms of anxiety and depression increased with age independent of medical conditions. The associations between age, income, chronic health problems, disability and LSI and SAD scores were not similar between different ethnic groups. It is possible that this reflects cultural differences in the interpretation of symptomatology, expectations, life chances and the underlying determinants of LSI and SAD scores.

Adjustment for age, health and income made little difference to the mean SAD and LSI scores (see Table 6), which suggests that variation in these aspects of mental health is not explained by differences in health or socio-economic status as measured in this study. However, the major differences between samples drawn from East and North London suggest that large socio-economic differences may have major effects on LSI and SAD but that within East London there is too little variation in socio-economic status to detect effects on LSI and SAD scores. Furthermore, the large differences between the two white groups in mood symptoms and life satisfaction provide a strong indication that general socio-economic factors are responsible for much of the variation in mood and life satisfaction and that ethnic differences may be explained by socio-economic disadvantage rather than by cultural factors. Further work will be needed to explore this hypothesis.

Application of standardized assessment scales such as the LSI and SAD in cross-cultural studies is not straightforward [25]. The interpretation of variations observed may be due to misinterpretation of questions, differing expectations and motivations for taking part in surveys between ethnic groups and differing ideas of mental health. An obvious danger of use of standard scales in these circumstances is the temptation to prescribe anti-depressant drugs in an attempt to deal with these problems. Further work examining the underlying symptomatolgy and determinants of mental ill-health and dissatisfaction with life in different ethnic groups is needed.

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Key points

- Higher levels of reported chronic health problems and physical disability were found in elderly Bengalis compared with Somalis and whites in East London.
- Lowest levels of reported chronic health problems and physical disability were found in elderly Gujaratis and whites in North London.
- Depressed mood and overall low life satisfaction

was a common finding in East but not North London elders.
- Adjustment for the effects of age, physical health and income led to only small changes in the differences observed between ethnic groups in mean symptoms of anxiety and depression and life satisfaction index scores.
- Major differences between samples drawn from East and North London suggest that large socio-economic differences may have major effects on symptoms of anxiety and depression and life satisfaction index scores.

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