Table 1—*Association between road traffic noise level and psychiatric disorder. Values are mean (SE) score on general health questionnaire (GHQ) unless otherwise stated*

	Road traffic noise level (dB(A))				
	51-55 dB (n = 1218)	56-60 dB (n = 153)	61-65 dB (n = 233)	66-70 dB (n = 104)	P value for tests of heterogeneity
Adjusted for age (n = 1707)	2.99 (0.14)	3.83 (0.39)	3.17 (0.32)	3.44 (0.48)	0.22
Adjusted for age, social class, employment status, marital status, physical ill health, and baseline GHQ score (n = 1590)	2.57 (0.21)	3.37 (0.39)	2.65 (0.34)	2.96 (0.46)	0.29
Psychiatric caseness (% scoring ≥5 on GHQ)	22.5	32.0	24.9	25.0	0.07
Mean (SE) anxiety score adjusted for age, social class, and noise sensitivity and anxiety at baseline (n = 1583)	4.70 (0.07)	5.20 (0.18)	4.89 (0.15)	5.02 (0.21)	0.03
Mean (SE) depression score, adjusted for age, social class, and noise sensitivity and depression at baseline (n = 1587)	1.19 (0.05)	1.39 (0.13)	1.32 (0.11)	1.21 (0.16)	0.34

Comment

Although there was little association between road traffic noise level at baseline and overall minor psychiatric disorder at follow up, there was some evidence for differences in anxiety scores. The results of this prospective study confirm the results of previous cross sectional studies and suggest that environmental noise is not an important cause of overall psychiatric disorder but nevertheless may contribute to anxiety. We cannot rule out the possibility that effect modification by unmeasured variables or response bias in the measurement of morbidity may be masking an association between noise and psychiatric disorder. The traffic noise levels in this sample are fairly typical of those in Britain but do not include the highest levels of traffic noise exposure and therefore do not preclude an association at higher levels of noise exposure. It is also possible that environmental noise might have a pathogenic effect on mental health only in concert with other stressors which have not been assessed in this study.

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Retrospective study of influence of deprivation on uptake of cardiac rehabilitation

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Mortality from ischaemic heart disease is higher in Scotland than in most developed countries.[1] Comprehensive cardiac rehabilitation after myocardial infarction, incorporating exercise training and lifestyle counselling, can reduce mortality and the rate of fatal reinfarction[2] and also improve quality of life.[3] Socioeconomic deprivation is associated with both an increased risk of developing myocardial infarction and a poorer prognosis afterwards.[4] Our aim was to determine whether deprivation affected uptake of rehabilitation after myocardial infarction.

Subjects, methods and results

Scottish morbidity record (SMR1) data were used to identify all patients discharged from Glasgow hospitals from 1 June 1994 to 31 November 1994 with an International Classification of Diseases (revision 9) code of 410 (myocardial infarction). Each patient's age, sex, postcode, comorbidities, and consultant were recorded, together with whether they died before discharge. Postcodes were used to obtain the Carstairs deprivation score for the 5000 or so residents within each postcode sector.[5] This is calculated from 1991 census data on overcrowding and male unemployment in each sector and the numbers of residents who belong to a low social class and who have no access to a car. Higher scores represent a higher level of deprivation. Four of Glasgow's five main hospitals offer a cardiac rehabilitation programme, and a list of patients invited to rehabilitation was obtained from the hospitals. Information was provided on which of these patients started the programme and which completed it.

Over the six months 1120 patients had a discharge diagnosis of myocardial infarction. Their median age was 66 years (interquartile range 57-74) and 59% were men. Only 7% of patients were recorded as having coexistent peripheral arterial disease, 5% diabetes mellitus, 4% cerebrovascular disease, and 4% renal failure. Comorbidity is, however, known to be poorly recorded (J Blair, personal communication). Two hundred and thirty three patients (21%) died before discharge. The age, sex, and deprivation scores of patients with myocardial infarction were compared with those of the Glasgow population obtained from 1991 census data. Logistic regression showed that increasing deprivation score was associated with increased risk of myocardial infarction ($P<0.0001$). This remained significant after adjustment for age and sex ($P<0.0001$). The incidence of myocardial infarction in the most deprived quartile was 1.7 times that in the least deprived.

Three hundred and sixteen (36%) of the patients discharged alive were invited to rehabilitation. Of these, 188 (59%) started the programme and 109 (34%) completed it. Stepwise multiple logistic regression analysis showed that hospital ($P<0.0001$), age ($P<0.0001$), sex ($P<0.05$), and the type of consultant (cardiologist *v* general physician; $P<0.05$) were significant independent determinants of whether patients were invited to rehabilitation (table 1). Deprivation score was not a significant factor. Uptake of rehabilitation after invitation was significantly associated with the type of consultant ($P<0.05$), hospital

Table 1—*Association between deprivation and uptake of cardiac rehabilitation on univariate and multivariate* logistic regression analysis*

Explanatory variables	Invitation to rehabilitation: No (%) (n = 316)	Invitation to rehabilitation: Odds ratio (95% confidence interval)	Uptake of rehabilitation: No (%) (n = 188)	Uptake of rehabilitation: Odds ratio (95% confidence interval)	Completion of rehabilitation: No (%) (n = 109)	Completion of rehabilitation: Odds ratio (95% confidence interval)
Univariate analysis						
Deprivation score		1.00† (0.97 to 1.02)		0.93† (0.89 to 0.97)		0.95† (0.89 to 0.98)
Multivariate analysis						
Deprivation score		0.98† (0.95 to 1.08)		0.92† (0.87 to 0.97)		0.96† (0.90 to 0.99)
Age		0.95‡ (0.93 to 0.96)		0.99‡ (0.96 to 1.01)		0.99‡ (0.97 to 1.01)
Sex:						
Male§	221 (70)	1.00	129 (69)	1.00	77 (71)	1.00
Female	95 (30)	0.67 (0.57 to 0.92)	59 (31)	0.80 (0.47 to 1.38)	32 (29)	0.60 (0.29 to 1.21)
Hospital:						
A§	57 (18)	1.00	36 (19)	1.00	21 (19)	1.00
B	50 (16)	1.89 (1.16 to 3.07)	27 (14)	0.48 (0.21 to 1.11)	12 (11)	0.55 (0.20 to 1.53)
C	87 (28)	2.71 (1.74 to 4.20)	40 (21)	0.31 (0.15 to 0.67)	26 (24)	1.20 (0.50 to 2.94)
D	122 (39)	2.94 (1.93 to 4.48)	85 (45)	0.93 (0.45 to 1.92)	50 (46)	0.83 (0.34 to 2.01)
Type of consultant:						
Cardiologist§	233 (74)	1.00	146 (78)	1.00	86 (79)	1.00
General physician	83 (26)	0.63 (0.44 to 0.88)	42 (22)	0.50 (0.28 to 0.89)	23 (21)	0.82 (0.55 to 2.72)
Peripheral arterial disease:						
Not recorded	300 (95)	1.00	180 (96)	1.00	105 (96)	1.00
Recorded	16 (5)	0.39 (0.10 to 0.64)	8 (4)	0.73 (0.25 to 2.10)	4 (4)	0.38 (0.10 to 1.70)
Renal failure:						
Not recorded	303 (96)	1.00	180 (96)	1.00	106 (97)	1.00
Recorded	13 (4)	0.44 (0.17 to 1.19)	8 (4)	0.57 (0.16 to 2.04)	3 (3)	0.19 (0.02 to 1.53)
Cerebrovascular disease:						
Not recorded	303 (96)	1.00	179 (95)	1.00	104 (95)	1.00
Recorded	13 (4)	0.61 (0.30 to 1.27)	9 (5)	0.68 (0.24 to 1.96)	5 (5)	0.19 (0.02 to 1.61)
Diabetes mellitus:						
Not recorded	300 (95)	1.00	177 (94)	1.00	102 (94)	1.00
Recorded	16 (5)	1.27 (0.64 to 2.50)	11 (6)	1.19 (0.40 to 3.57)	7 (6)	1.85 (0.33 to 9.95)

*Regression analysis performed on deprivation prior to stepwise selection of other explanatory variables.
†Per unit change in deprivation score.
‡Per year.
§Reference category.

(P<0.005), and deprivation (P<0.001). Patients with recorded peripheral arterial disease were less likely to be invited to rehabilitation (P<0.05). Otherwise comorbidity was not associated with invitation to or attendance at rehabilitation. Once rehabilitation had been started the only determinant of completion was deprivation (P<0.05). Both uptake and completion of rehabilitation were less likely among more deprived patients.

Comment

Deprivation was associated with an increased risk of myocardial infarction. Overall only 36% of patients discharged alive after myocardial infarction were invited to rehabilitation. Deprived patients were no less likely to be invited but they were significantly less likely to start rehabilitation. Also, deprived patients who did start the programme were less likely to complete it. A further study is required to ascertain why deprived patients are less likely to complete rehabilitation so that uptake can be improved.

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Schistosomiasis in travellers returning from sub-Saharan Africa

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Cases of schistosomiasis seen at this hospital have increased in the past five years (fig 1). Many of these patients were travellers whose only fresh water exposure was in Lake Malawi. We therefore reviewed all cases of proven schistosomiasis diagnosed at this hospital between 1991 and 1994.

Methods and results

We used parasitology records to identify patients with proved schistosomiasis (in whom schistosome ova were identified) attending this hospital between 1 January 1991 and 31 December 1994. Patients with an enzyme linked immunosorbent assay (ELISA) positive for schistosomes in whom ova were not found were excluded. Patients' characteristics, travel history, and laboratory data were recorded; cases in "travellers" were distinguished from "indigenous" cases.