sion incident in 1996, owing to logistical difficulties. Two units mentioned difficulties in tracking patients who had been referred to general practice; one unit reverted to immunisation through dialysis services rather than primary care after seroconversion of a patient who had been referred. Six units mentioned costs and funding as barriers. One unit thought our survey would encourage provision of funding.

Comment

Although the rate of hepatitis B immunisation of patients with chronic renal failure in the United Kingdom has improved in recent years, most renal units still fail to follow current guidance. Partial coverage is the norm, and outmoded regimens are still used. The shared care management of immunisation may be one solution, although this requires good collaboration between primary and specialist care. Strategies that may improve collaborative care are inclusion of immunisation in service agreements, definition of responsibilities for initiation of immunisation, follow up and evaluation of response, payment to general practitioners, and regular audit and shared feedback. The efficacy of the hepatitis B vaccine in end stage renal disease needs investigation to encourage its use in dialysis patients.

We thank all UK renal units who completed the study questionnaire and the staff at the Communicable Disease Surveillance Centre, Birmingham Heartlands Hospital.

Contributors: SS and JH had the original idea for this study. SR designed the study questionnaire and played a key part in data collection, data documentation, and analysis. TS participated in the study design, data collection, and analysis. SR and TS jointly wrote the paper. SS and JH edited the paper. SS will act as guarantor for the paper.

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Workplace bullying in junior doctors: questionnaire survey

Lyn Quine

Centre for Research in Health Behaviour, Department of Psychology, University of Kent at Canterbury, Canterbury CT2 7NP

Lyn Quine
reader in health psychology

L.Quine@ukc.ac.uk

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In the United Kingdom a growing literature has identified workplace bullying as a major occupational stressor among health professionals. A study carried out in an NHS community trust found that 1 in 3 staff reported being bullied in the previous year,[1] while a report by the King's Fund, an independent health think tank, found that bullying, racial harassment, and discrimination were daily experiences for black and Asian doctors. In the United States several studies have reported that medical students suffer high levels of mistreatment or bullying during training, which increase with progression through medical school, spilling over into the early training years.[2–4] We report here findings from a study of workplace bullying among junior doctors in the United Kingdom.

Participants, methods, and results

An anonymous questionnaire was sent out with *BMA News Review* to 1000 doctors with job grades from house officer to senior registrar, randomly selected from the BMA members' mailing list. The questionnaire collected information about the participant's age, sex, job grade, and ethnic group. Participants were presented with a definition of bullying and asked to indicate whether they had been subjected to it in the past 12 months and whether they had witnessed others being bullied. They also completed a bullying scale which asked whether they had experienced 21 bullying behaviours from peers, senior staff, or managers in the past 12 months.[1]

The response rate was 62%: 594 competed questionnaires were returned and 48 were returned undelivered by the post office. Not all questions were answered by all participants. Fifty four per cent (321) of the participants were house officers or senior house officers, 39% (230) registrars, 3% (18) senior registrars, and 3% (20) other junior grades. Half were men (294 *v* 296) and 70% (413 *v* 174) were white. Overall, 220 of the 594 junior doctors (37%) identified themselves as having been bullied in the past year, though 486 (84%) had in fact experienced one or more of the bullying behaviours described on the bullying scale; 407 (69%) had witnessed the bullying of others. Black and Asian doctors were more likely to report being bullied than white doctors (78 (45%) *v* 139 (34%); $\chi^2=6.3$, df$=1$, n$=585$, P$=0.01$; relative risk 1.59 (95% confidence interval 1.11 to 2.28)) and women were more likely to report being bullied than men (43% (126) *v* 32% (92); $\chi^2=7.7$, df$=1$, n$=588$, P$=0.005$; relative risk 1.61 (1.14 to 2.26); see table). Reports of bullying did not vary by job grade or age.

Comment

In this study 37% of junior doctors reported being bullied in the previous year and 84% had experienced at least one bullying behaviour. Black and Asian doctors were more likely to be bullied than other doctors. This should be a cause for concern, particularly since several recent studies show a pattern of discrimination at all levels in the medical profession from application to medical school to examination success, job application, and the allocation of distinction awards to consultants.[5] Women were more likely than men to be bullied, and this finding is consistent with a study of university employees by Bjorkvist et al.[4]

Rates of reported bullying behaviours and differences by ethnic group and gender

	Overall bullying rate % (No)	Difference in bullying rate between black and Asian and white doctors % difference (95% CI)	Difference in bullying rate between female and male doctors % difference (95% CI)
Persistent attempts to belittle and undermine your work	40 (232/582)	+8 (0.98 to 2.03)	+9 (1.06 to 2.08)
Persistent unjustified criticism and monitoring of your work	37 (213/580)	1–5 (0.56 to 1.20)	+7 (0.95 to 1.87)
Persistent attempts to humiliate you in front of colleagues	34 (198/580)	+4 (0.82 to 1.73)	+13 (1.24 to 2.50)
Intimidatory use of discipline/competence procedures	17 (101/582)	+3 (0.76 to 1.92)	+5 (0.93 to 2.22)
Undermining your personal integrity	30 (174/578)	0 (0.66 to 1.45)	+16 (1.49 to 3.11)
Destructive innuendo and sarcasm	43 (250/581)	+3 (0.77 to 1.59)	+13 (1.14 to 2.22)
Verbal and non-verbal threats	18 (107/582)	+7 (0.96 to 2.33)	+4 (0.83 to 1.96)
Making inappropriate jokes about you	28 (160/582)	+9 (1.09 to 2.36)	+9 (1.07 to 2.26)
Persistent teasing	21 (122/582)	–4 (0.49 to 1.22)	0 (0.66 to 1.48)
Physical violence	0 (2/580)	–1 (—)	0 (—)
Violence to property	2 (10/580)	0 (0.43 to 5.62)	–3 (0.05 to 1.14)
Withholding necessary information from you	20 (114/580)	+6 (0.97 to 2.31)	–2 (0.58 to 1.32)
Freezing out/ignoring/excluding	31 (179/581)	+7 (0.94 to 2.01)	+2 (0.76 to 1.53)
Unreasonable refusal of applications for leave, training, or promotion	24 (142/582)	+12 (1.25 to 2.80)	–2 (0.62 to 1.34)
Undue pressure to produce work	39 (224/580)	+13 (1.78 to 2.43)	–1 (0.69 to 1.36)
Setting of impossible deadlines	31 (179/580)	+4 (0.82 to 1.80)	+1 (0.75 to 1.51)
Shifting goalposts without telling you	32 (188/582)	–2 (0.62 to 1.36)	+2 (0.77 to 1.55)
Constant undervaluing of your efforts	28 (164/582)	+2 (0.71 to 1.60)	+11 (1.20 to 2.51)
Persistent attempts to demoralise you	17 (96/580)	+4 (0.83 to 2.11)	+9 (1.22 to 3.05)
Removal of areas of responsibility without consultation	13 (73/580)	–2 (0.47 to 1.41)	–2 (0.49 to 1.31)
Discrimination on grounds of race or gender	15 (88/580)	+21 (2.74 to 7.10)	0 (0.59 to 1.50)

We should interpret these findings cautiously. The study relied on self reports of bullying, and a higher response rate would have been desirable. Nevertheless, the findings suggest that disturbingly high levels of bullying and mistreatment during training are part of many junior doctors' perceptions and experience.

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Drug points

Neuropsychiatric complications of nevirapine treatment

M E Jan Wise, Department of Psychology, Hammersmith Hospital, London W2 0HS, K Mistry, S Reid, Paterson Centre for Mental Health, London W2 2PD

Nevirapine is a non-nucleoside reverse transcriptase inhibitor used to reduce the viral load in HIV infection. Its side effects include hepatotoxicity, gastrointestinal symptoms, and dermatological reaction.[1] Efiravenz, another non-nucleoside reverse transcriptase inhibitor, has a similar structure to nevirapine and can cause insomnia and psychotic reactions.[1] We report three cases of neuropsychiatric sequelae to nevirapine in patients with HIV infection but no history of mental illness. Medline, Embase, and PsychLIT list no reported cases.

Within two weeks of starting nevirapine a 35 year old man developed low mood and had to stop working because of cognitive impairment and clouding of consciousness. He was admitted after taking an overdose of nevirapine and the treatment was stopped. Five days later, fearing that nursing staff would kill him, he leapt through a third floor window. As the temporal connection to his deterioration was unclear, nevirapine treatment was restarted. After a two week period of lucidity, he experienced a fluctuating course of impaired consciousness, lability of affect of treatment, and visual hallucinations. Nevirapine was withdrawn and within three weeks he was asymptomatic.

In another case, a 36 year old woman experienced delusions of persecution and infestation within two weeks of starting nevirapine treatment. Command hallucinations led to an impulsive suicide attempt. In a third case, a 42 year old woman developed persecutory delusions and depressive thoughts 10 days after starting nevirapine. Treatment with antipsychotic drugs was stopped in both of these cases after several weeks (risperidone, four weeks, and olanzapine, three weeks, respectively). Both patients remained asymptomatic, indicating that a degenerative process was not involved.

These three cases depict a delirium, an organic affective state, and an organic psychosis.[2] The time the patients started nevirapine treatment was clearly related to the evidence of symptoms, and all cases resolved on withdrawal of nevirapine. All cases were reported to the Committee on Safety of Medicines and the manufacturers.

Competing interests: None declared.

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