further studies to determine to what extent the quality of life in the city, as opposed to selective migration, can account for the enormous rural–urban differences in psychiatric morbidity. Replication of our study in other cities in Pakistan would be very useful.

However, the truly remarkable finding is not the prevalence of common mental disorders in urban Rawalpindi, which is more in line with rates reported elsewhere in the world. It is the exceptionally high rate of psychiatric morbidity in rural villages in Pakistan, recently confirmed by other investigators in another village near Gujar Khan (Hussain *et al*, 2000); this cries out for further research.

Regarding the use of male doctors to conduct the second-stage interviews of female subjects, we were obliged to do the same in the previous study in rural Chitral (Mumford *et al*, 1996). However we have found no psychometric inconsistencies between the three epidemiological surveys (in Chitral, Gujar Khan and Rawalpindi) to suggest that this was a source of bias while making psychiatric diagnoses according to ICD–10 criteria for research.

Hussain, N., Creed, F. & Tomenson, B. (2000) Depression and social stress in Pakistan. *Psychological Medicine*, **30**, 395–402.

Mumford, D. B., Nazir, M., Jilani, F. M. *et al* (1996) Stress and psychiatric disorder in the Hindu Kush. A community survey of mountain villages in Chitral, Pakistan. *British Journal of Psychiatry*, **168**, 299–307.

__, Saeed, K., Ahmad, I., *et al* (1997) Stress and psychiatric disorder in rural Punjab. A community survey. *British Journal of Psychiatry*, **170**, 473–478.

D. B. Mumford Division of Psychiatry, University of Bristol, 41 St Michael's Hill, Bristol BS2 8DZ

Prevalence of depression in old age

Korten & Henderson (2000) described findings from a 1997 national survey, in which a "household sample of 10 641 individuals representative of the adult population of Australia" was interviewed. They reported that "the prevalence of a diagnosis of any ICD–10 anxiety or depressive disorder . . . declines for both men and women after the age of 55 years", and noted a trend for psychological symptoms to be fewer among the older age groups. Before accepting the findings as evidence that depression is less prevalent in old age (a conclusion that might affect decisions about allocation of resources), the following points should be noted (see Snowdon *et al*, 1998).

First, the (approximately) 1600 subjects aged over 65 years were not truly representative of the older population. The survey excluded the 10% of older Australians who were temporarily or permanently residing in institutes (e.g. hospitals, nursing homes, boarding houses), or homeless at the time of the survey. It also excluded those with moderate or severe dementia (Mini-Mental State Examination score <18). The prevalence of depression is considerably higher among those with physical disability, those in residential care and those with dementia.

Second, the instrument forming the core of the interview was the automated version of the Composite International Diagnostic Interview (CIDI), which discounts symptoms attributable to physical illness (Jorm, 2000). Studies that rely on subject-reported symptoms may underestimate the severity of depression in old age, since older patients with depression are less likely than younger patients to acknowledge having affective symptoms (Lyness *et al*, 1995).

Third, the response rate in this survey was 78%, but the response rate of different age-groups was not known. In other surveys (e.g. Kramer *et al*, 1985), older subjects have been twice as likely as younger adults to decline involvement. Refusers are more likely to be depressed.

Finally, the report did not differentiate prevalence rates in 'young-old' and 'old-old' individuals, yet various researchers have found a progressive increase in rate from 55 to 85 years. Jorm (2000) commented on the lack of consistency between researchers regarding whether or not depression becomes less prevalent in old age.

Jorm, A. F. (2000) Does old age reduce the risk of anxiety and depression? A review of epidemiological studies across the adult life span. *Psychological Medicine*, **30**, 11–22.

Korten, A. & Henderson, S. (2000) The Australian National Survey of Mental Health and Well-Being. Common psychological symptoms and disablement. *British Journal of Psychiatry*, **177**, 325–330.

Kramer, M., German, P. S., Anthony, J. C., *et al* (1985) Patterns of mental disorders among the elderly residents of Eastern Baltimore. *Journal of the American Geriatrics Society*, **33**, 236–245.

Lyness, J. M., Cox, C., Curry, J., *et al* (1995) Older age and the underreporting of depressive symptoms. *Journal of the American Geriatrics Society*, **43**, 216–221.

Snowdon, J., Draper, B., Chiu, E., *et al* (1998) Surveys of mental health and wellbeing: critical comments. *Australasian Psychiatry*, **6**, 246–247.

J. Snowdon Department of Psychological Medicine, University of Sydney, Rozelle Hospital, Rozelle, NSW 2039, Australia

Authors' reply: Professor Snowdon questions the validity of the results on the elderly from the Australian National Survey of Mental Health and Well-Being. He rightly points out that the survey failed adequately to cover the population living in institutional care, which was 9% of Australians over 65 in 1998. This is clearly acknowledged in earlier publications. Indeed, the indigenous people of Australia, people in prison, the homeless, the armed forces and the migrant population were also not included in numbers large enough to give stable prevalence estimates, mainly for the sake of economy in what was already a very large undertaking. We used "an unweighted sample with no group represented in a proportion greater than its frequency in the population" (Henderson *et al*, 2000).

The lack of information concerning the 22% non-responders is indeed regrettable, but does not detract from the finding, consistent with many of the studies cited in Jorm (2000), that the community-dwelling elderly displayed significantly lower levels of depressive symptomatology than younger cohorts. This was reflected in the prevalence rates and in all the scales of psychological distress measured in the survey: the 12-item General Health Questionnaire (GHQ–12), the 12-item Short-Form General Health Survey (SF–12), the Kessler-10 scale, the CIDI screen items for depression and finally the neuroticism items from the Eysenck personality questionnaire considered to reflect vulnerability to psychological symptoms. Each of these scales handles symptoms associated with physical disability in a different way. In all cases, the lower levels of symptomatology observed among 65- to 70-year-olds were maintained into the oldest age group (75 years and above), although the pattern is less stable than for younger age groups because of smaller numbers. The interested reader is referred to Jorm (2000) for a discussion of the possible mechanisms involved.

Information on mental disorders among the oldest old and institutional elderly are of crucial importance for advocacy. But this needs to be addressed in ways other than in large community surveys. This was made explicit from the beginning, where we stated that information on "some of the most significant elements in our society" would need special studies (Henderson *et al*, 2000). Any concern that our findings might affect decisions about allocation of resources is unlikely to be justified, because it assumes that administrators and policy-makers will

https://doi.org/10.1192/bjp.178.5.476 Published online by Cambridge University Press