Incidently, it seems odd to class patients with secondary depression among the 'non-depressed' as there is no reason for assuming in advance that their depression was wholly attributable to conditions such as alcoholism and physical illness.

The absence of any significant difference in titres between depressed and non-depressed patients is not surprising as, presumably, during an epidemic both groups would have been exposed to contact with the virus. In some patients with already acquired immunity one might anticipate that, although they would not develop clinical influenza, their antibody titres would be higher in response to viral stimulation from subclinical infections. Similar considerations could explain the higher titres of patients who claimed not to have suffered from influenza. They could still have been exposed to the risk of infection. Unfortunately it is impossible to test whole populations for influenza antibodies in order to see if changes occur should some of them become depressed after suffering an attack of the illness. As this investigation was retrospective, the levels of antibody titres in these patients would not be known before they became psychiatrically ill. Furthermore, we do not know what effects severe depression might have on patients' immunological defences, but such an influence cannot be ignored in a study of this kind.

Psychiatric textbooks, basing their observations, one hopes, on clinical experience, claim that on occasions influenza can apparently cause or precipitate severe depression. This is not a new observation as Tuke (*Dictionary of Psychological Medicine*, 1892), writing on mental disorders following influenza, commented "In no other allied disease is the nervous system attacked to so high a degree". On melancholia following influenza he wrote "Every degree of depression may occur" and went on to provide details of mania and depression affecting 18 patients admitted to Bethlem Hospital.

Although it would be valuable to have a firm epidemiological basis for one's clinical diagnoses, it has to be said that with respect to influenza and depression this evidence is simply not available at present. Considering the complexity of the problem and the many uncontrollable variables involved, I doubt whether it will ever be forthcoming.

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CARROLL RATING SCALE FOR DEPRESSION

DEAR SIR,

We were most interested to read Professor Carroll's description of his new self-rating scale for depression (*Journal*, March 1981, **138**, 194–200). Professor Lader has recently noted the limitations of self-rating scales in assessing depressive states (Lader, 1981). Professor Carroll describes his scale as a "self-rating instrument for depression closely matching the information content and specific items of the Hamilton Rating Scale".

We feel that the CRS has many of the faults of the HRS with few of its merits. We give three brief examples:

(1) 'It must be obvious that I am disturbed and agitated'. There are clear conceptual difficulties in assessing one's own degree of agitation or disturbance, or indeed whether one is disturbed or agitated at all.

(2) 'I got sick because of the bad weather we have been having'. One wonders what this question was designed to elicit. We have never encountered a depressive delusion of this nature and an accurate self-rating test for insight is almost impossible.

(3) 'I am so slowed down that I need help with bathing and dressing'. In our experience any patient with this degree of retardation would be unable to fill in the questionnaire. Professor Hamilton (1960, 1967) has himself said that questions designed to elicit retardation may frequently give rise to misleading answers. In addition the 'yes/no' format must give rise to a lack of sensitivity in analysis.

We appreciate the difficulties and effort involved in drawing up a sensitive self-rating scale for depression, but we are nevertheless of the opinion that the CRS is a somewhat superfluous instrument in an area where the existing scales, for all their faults, have been thoroughly validated.

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RISK FACTORS AND DEPRESSION

DEAR SIR,

Cooke's letter (*Journal*, February, **138**, 183)

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erroneously states that I appear to concur with the view that the effect of vulnerability factors can only be demonstrated with data about life events and difficulties. The quote Cooke uses to support his statement about my view is in fact a quote from Brown (Roy, 1978). My studies were carried out totally independently of Brown, or his critics, and my first hypothesis was in fact that these factors would not be found in depressed psychiatric patients.

It may be a bonus if these risk factors, as I prefer now to call them (Roy, 1979), can be studied with information about events and difficulties though I believe they and other risk factors can be studied alone.

Therefore, the conclusions that early parental loss, unemployment and poor marriage before onset of depression are risk factors for 'neurotic' depression in both female and male depressed working class patients do follow from my data (Roy, 1978, 1981). Their specificity for depression is the focus of current work (Roy, 1981).

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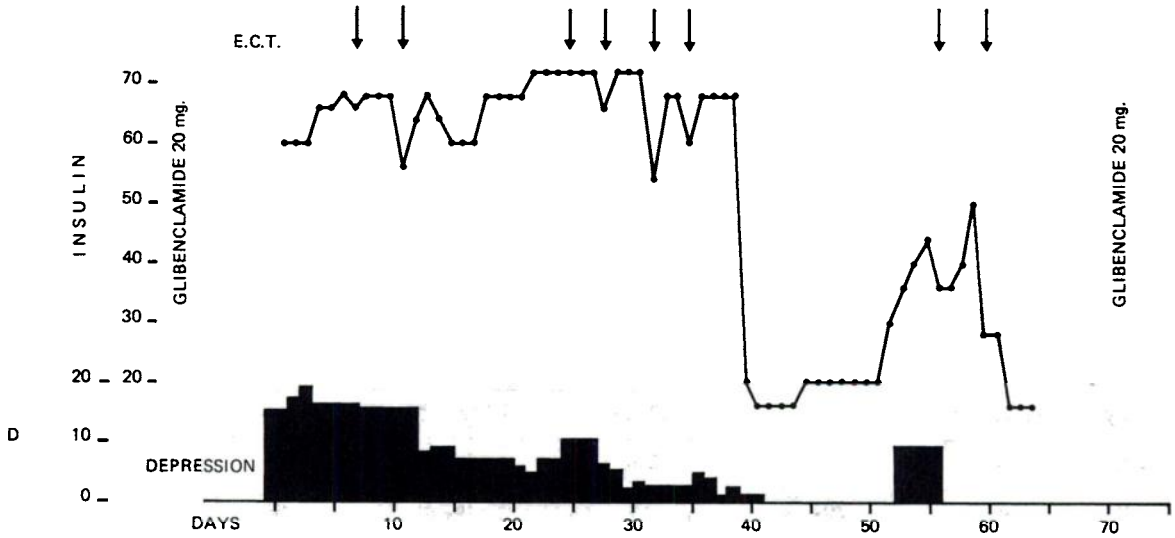
PSYCHIATRIC ASPECTS OF DIABETES MELLITUS: DIABETES AND DEPRESSION

DEAR SIR,

There is a need to look out for a biochemical relationship between diabetes mellitus and depressive illness, although so far nothing of this kind has been described in the clinical literature. We recently had as a patient a woman in her 50's, who shows such a link. She has both diabetes and affective disorder in her family history. Her first serious depression, successfully treated with ECT as an in-patient, was when she was 31, and she had several further depressive attacks in the following 15 years. Eventually, the manic-depressive condition became cyclical, repeating about every 20 weeks. Lithium treatment diminished the severity but did not abolish the cycle.

When she was 50, onset of vulval irritation drew attention to her maturity onset diabetes, which was well controlled for a time with an oral anti-diabetic agent. However, when she was admitted to our metabolic ward in a particularly severe retarded depression, her diabetes was found to be out of control. Off all drugs, and on a firmly enforced 1,000-calorie diet, she required about 60–70 units soluble insulin per day to keep her urine (tested four-hourly) fairly free of glucose. Her depression did not resolve spontaneously, and she was given ECT (see vertical arrows in Figure).



FIG—Course of depression and diabetes mellitus: upperline, soluble insulin daily in units; black areas, depression rating in arbitrary units from daily nurse ratings on a Phipps Behaviour Chart. Arrows, ECT.

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