

been reported previously (Imura *et al.*, 1954; Higashimura and Kamiya, 1974). We were, however, intrigued by the relatively high incidence in the suburbs. These suburbs contain a population who have recently undergone radical changes in life-style, representing for the most part rural families who have moved into the satellite towns of the city, to take up factory jobs. We speculate that it may be a loss of traditional sociocultural ties which increases the risk of an hysterical disorder.

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#### RAISED MONOAMINE OXIDASE IN ACUTE PSYCHOSIS?

DEAR SIR,

We read Drs Brockington and Owen's report on platelet monoamine oxidase activity in acute psychosis (*Journal*, March 1980, 136, 312) with much interest. They found significantly increased levels of MAO in acutely psychotic patients, as well as a significant correlation between affective flattening and activity of the enzyme. Since the most obvious differences between acute and chronic psychosis are in levels of anxiety, agitation and restlessness, increased anxiety would seem the most likely explanation for increased MAO activity in acutely psychotic individuals.

Stress has been shown to elevate MAO in animals (Pryor *et al.*, 1972); in humans, subcutaneous injections of epinephrine have activated the enzyme (Gentil *et al.*, 1975; Gentil *et al.*, 1976; Owen *et al.*, 1977).

We assayed MAO activity via phenylethylamine and tryptamine substrates in 20 drug-free subjects. Patients were physically healthy and had a diagnosis of generalized anxiety disorder; an equal number of normal control subjects were also included. Assays

were done before and after four weeks of relaxation training. Blood samples were drawn after the subjects relaxed in a supine position for 30 minutes in a semi-dark room; all samples were taken at the same time of the day. Subjects were instructed to avoid coffee, tea and tobacco prior to the assays. Anxious subjects showed significantly higher pre-treatment levels of MAO as compared to the controls (Table I). The post-treatment evaluation indicated a reduction in levels of anxiety and MAO activity. At the post-treatment level there were no significant differences in MAO activity between the index and control groups. When the pre-treatment and post-treatment levels of enzyme activity were compared, anxious subjects showed significant reductions following treatment (index group post-treatment mean, PEA substrate 32.10, SD = 10.42,  $t = 2.42$ ,  $P < .03$  and tryptamine substrate 7.66, SD = 2.25,  $t = 3.34$ ,  $P < .003$ ); controls showed no significant differences. Plasma levels of epinephrine and platelet MAO were assayed in 15 anxious subjects before and after relaxation training. Significant correlations were found between epinephrine and MAO both at the pre-treatment (tryptamine substrate  $r = .46$ ,  $P < .05$ , PEA substrate  $r = .46$ ,  $P < .05$ ) and post-treatment (tryptamine substrate  $r = .54$ ,  $P < .05$ ; PEA substrate  $r = .51$ ,  $P < .05$ ) levels. Our data indicate that anxiety influences MAO activity. This finding may explain the increased activity of monoamine oxidase in acutely psychotic patients.

TABLE I

Comparison of pre-treatment levels of MAO activity between anxious and normal subjects

	Anxious subjects		Normal subjects		t	P
	Mean	SD	Mean	SD		
PEA	37.26	14.33	29.29	10.79	1.99	< .05
TRYPT	9.42	3.57	6.94	2.42	2.56	< .01

MAO expressed as nmoles/4 × 10<sup>6</sup>/hr.

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## TEACHING OF PSYCHIATRIC ETHICS

DEAR SIR,

Sidney Bloch's account of the teaching of psychiatric ethics to postgraduate trainees in the Oxford University Department of Psychiatry (*Journal*, March 1980, 136, 300–1) was of considerable interest, for a remarkably similar programme for undergraduates has been undertaken in Edinburgh over the past four years. This has been the result of co-operation between the Department of Psychiatry and the Edinburgh Medical Group Research Project in Medical Ethics and Education, and formed but one part of a general attempt to integrate the teaching of medical ethics into the medical curriculum (Boyd, 1978).

The Chairman of the Department invited the EMG Research Staff to organize appropriate teaching sessions in consultation with those clinical tutors who were willing to co-operate in the experiment. Preliminary methodological investigations suggested the appropriateness of an integrated case-based and multi-disciplinary approach to the teaching of medical ethics (Thompson, 1976). It was proposed that moral philosophers and chaplains (preferably with hospital experience) should be recruited to act as 'ethics tutors', and that these should participate in the ordinary clinical tutorials in psychiatry approximately twice a term—where opportunity would be created to discuss the moral issues raised by the cases under consideration.

The clinical tutors initially expressed misgivings about what "discussion of moral issues raised by specific cases" might mean. It became apparent that the different professionals concerned tended to use 'morals' and 'ethics' in somewhat different ways. Clarification was necessary. It was generally agreed that the teaching of ethics in psychiatry should in no way be concerned with censorious discussion of the private morals of patients. Further, two relevant senses of 'ethics' were distinguished: first, the in-

formal process of negotiation within and between the health-care professions, and between these professions and the public, whereby roles become distinguished, the scope of responsibilities defined, and codes of practice formulated; second, the application of more formal moral theory to the discussion of moral dilemmas in psychiatric practice and to the critical appraisal of the forms of justification offered for particular moral judgments. In general the philosophical rationale adopted was Aristotelian—in the sense that it incorporated an empirical approach to the clarification of ethical principles, was practical rather than theoretical in orientation, and did not pretend to a higher degree of precision than the subject-matter allowed.

The aims of the ethics tutorials were:

- (i) to provide students with an opportunity to point out and discuss some of the anxieties felt about moral aspects of the cases examined.
- (ii) to encourage moral sensitivity and awareness of moral complexity in the exercise of clinical responsibility in institutional settings,
- (iii) to encourage more balanced ethical judgment through the critical appraisal of alternative ethical viewpoints and arguments,
- (iv) to encourage students to offer constructive criticism of present provisions for the care and management of the mentally ill.

It has not as yet proved possible to implement any systematic method of assessment—because of the variation in range, type and number of tutorials with these trial groups, and because of student allergy to questionnaires. Nevertheless it is a measure of the success of the experiment that in its fourth year all the clinical tutors in the Department have agreed to participate and supported the continuation of the ethics teaching. Independently the Medical Faculty received formal requests from the Medical Students Council for provision to be made in the new curriculum for more of this kind of medical ethics teaching.

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