

Transcultural psychopharmacotherapy

The following are extracts from the *Transcultural Psychopharmacotherapy Newsletter*, No. 1. (sponsored by the WHO Division of Mental Health)*

Environmental factors and psychopharmacology

Along with genetically determined polymorphism of enzymes responsible for drug metabolism (e.g. aldehyde dehydrogenase and debrisoquine polymorphism), environmental factors including diet, nutritional status, proportion of body fat, and exposure to various enzyme inducing (and sometimes inhibiting) substances, such as nicotine, caffeine, alcohol, medicines, herbal drugs, and toxins, have also been demonstrated to significantly alter the metabolic rates of various drugs, and thus significantly contribute to individual and cross-ethnic differences in psychotropic responses. Perhaps the best example in this regard can be found in a series of studies comparing the pharmacokinetics of clomipramine as well as other drugs, between Asian Indians living in Asia with those who have migrated to England, and contrasting both Asian groups to British Whites. These studies showed that the pharmacokinetic profiles of the Indian immigrants adhering to their traditional (predominantly vegetarian) diet, are remarkably similar to their compatriots living in India. Conversely, those switched to Western diet metabolize these drugs at a much faster rate, which were comparable to British Whites. Similar findings have been observed with Sudanese.

In addition, environmental factors may also affect other pharmacokinetic processes including absorption, distribution (including protein binding), and excretion, as well as pharmacodynamic factors (i.e. receptor sensitivity).

Finally, "environmental factors" could also significantly influence psychotropic responses through "non-pharmacological" mechanisms.

Although both compliance and placebo effects are of crucial importance in determining the efficacy of any pharmacological agents, they have not been systematically studied. Even less understood are

various psychosocial variables, such as stress, social support, coping, family milieu, as well as the personality styles of the patients. Several recent reports have suggested that they indeed substantially modify the action and/or efficacy of psychotropics, and deserves a much closer scrutiny.

Advances in pharmacogenetics have been phenomenal in recent years. Similar research efforts on the effects of environmental factors should prove extremely fruitful in furthering our understanding in psychopharmacology.

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