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Incidence Worldwide of Schizophrenia

SIR: The critical comment by Stevens & Wyatt (*Journal*, July 1987, **151**, 131–132) on the preliminary report of the WHO Collaborative Study on determinants of outcome of severe mental disorders (*Psychological Medicine*, November 1986, **16**, 909–928) contains a number of factual errors and inaccuracies.

(a) Nowhere in the report is "worldwide similarity of schizophrenic incidence" claimed (as Stevens & Wyatt suggest); rather, the findings of the study are interpreted by us as "suggestive evidence for a more or less uniform occurrence of a 'core' of schizophrenic manifestations in different populations" (p 927).

(b) The case-finding period of the study was two years, not one.

(c) The inclusion criteria were not "either a broad (ICD–9 or CATEGO S, P, O) or narrowly defined (CATEGO S+, Schneiderian, nuclear) schizophrenia", but "the presence of a clinical diagnosis of schizophrenia (ICD 295), paranoid psychosis (ICD 297), reactive psychosis, paranoid and unspecified (ICD 298.3, 298.4, 298.8), unspecified psychosis (298.9), or one of the CATEGO classes S, P and O" (p 915).

(d) Table 6 of our paper contains data on the percentage distribution by age group of the cases in each of the 13 study sites; there is no way of inferring from such a table "large differences in age-specific incidence rates in the samples", as Stevens & Wyatt do.

(e) Figure 2 of our paper refers to *all* the patients in the study, and not to the cases in developing countries only.

(f) The reference to "inclusion of alcohol and drug-related psychoses by the authors" is misleading; in fact, we included patients with paranoid and hallucinatory illnesses associated with alcohol and drug use (ICD 291.3, 291.5 and 292.1) without evidence of organic features, provided that their symptomatology fell into one of the above-mentioned CATEGO classes. There were altogether 12 such cases (out of 1379). Brief confusional states, for example, were excluded.

Such misunderstandings aside, Stevens & Wyatt contest the significance of the findings on two grounds. First, they question the validity of the ICD–9/CATEGO diagnostic criteria employed, mainly for their lack of an in-built minimum duration requirement that would automatically restrict the diagnosis of schizophrenia to cases in which the psychotic symptoms tend to persist (as required in the DSM–III and, to a lesser degree, RDC). Secondly, they query the validity of the conclusion that, among the study subjects identified by the ICD–9/CATEGO criteria in the developing countries, there is a relative excess of patients who recover or show a milder course of the illness than symptomatologically similar patients in the developed countries.

The first point concerns the debatable issue of the diagnostic definition of schizophrenia: should it exclude, by introducing an arbitrary cut-off point, cases of recent onset that otherwise meet widely accepted descriptive criteria of the syndrome? While such *a priori* exclusion might be justified in selecting homogeneous patient samples for genetic or other biological studies, it would be totally inappropriate for epidemiological research which must take heed of the entire range of variation, temporal and descriptive, of the condition in a given population.

In designing the study, we explicitly adopted a stage-wise diagnostic approach which, at the level of

primary screening, started with a 'broad' set of criteria aiming to minimise the chance of erroneously rejecting 'true' cases. Once the patients meeting the 'broad' criteria were fully assessed, more stringent CATEGO classification rules could be applied, including those defining the class S+ which is characterised by Schneiderian first-rank phenomena. The CATEGO classes are based on an assessment of symptomatology, and course is not part of their definition. However, the pattern of course and the duration of illness episodes were meticulously evaluated on the basis of previous history and follow-up data, and can be plotted for each level of the symptomatological definition. We consider this separation of the phenomenological from the temporal axis to be an asset, rather than a liability, in this kind of research, as it provides an empirical framework in which alternative diagnostic concepts can be tested.

Stevens & Wyatt doubt the validity of the diagnostic procedures employed in the study, and suggest that the study population may represent a heterogeneous collection of disorders. In particular, they suspect that the patient samples in the developing countries contain a high proportion of acute, transient psychoses which may be aetiologically different from the rest of the disorders classified as schizophrenia. In the WHO patient sample there was, indeed, considerable heterogeneity as regards course and outcome, but surprisingly little in the presenting symptomatology. This is clearly illustrated by the PSE symptom profiles (Figs 5–7 of our paper), for both the 'broad' definition of the disorder and the S+ patients. Insofar as the brief transient psychoses are symptomatologically different from schizophrenia of an acute onset, very few such cases would have slipped into the study through the PSE/CATEGO 'sieve'. However, similarity of the symptom profiles apart, there are other reasons to think that the disorders identified in the different centres belong to one category, whatever diagnostic label we put on it. In all study areas the age and sex-specific distribution of onsets followed similar patterns, characterised by an earlier onset in men than in women, while the aggregate incidence rates were very close to one another in the two sexes. This was true for both the 'broad' and the 'restrictive' definition of the cases, which reinforces our conclusion that the 'restrictive' CATEGO class S+ simply picks out the more florid schizophrenic illnesses, and does not identify a special syndrome.

The first contact incidence of schizophrenic disorders meeting the above criteria could be reliably estimated in 8 out of the 13 study areas. Two of the 8 areas were in the North of India: the city of Chandigarh, and a rural area near Chandigarh. The differences between the rates of the 'broadly' defined schizophrenic illnesses were statistically highly significant, and this is clearly stated in the report. However, the differences between the rates of occurrence of S+ type cases were not significant. The largest difference in the 'broad' rates was that between the rural area in India (4.8 new cases per 10 000 population at risk per year) and Honolulu, Hawaii (1.6 cases), a threefold difference. Although statistically significant, a difference of this magnitude in the observed rates of a low-incidence disorder such as schizophrenia is epidemiologically almost negligible.

We agree with Torrey (*Journal*, July 1987, **151**, 132–133) that none of the study sites which provided the incidence data belong to the few areas in the world where exceptionally high, or exceptionally low, prevalence of schizophrenia has been reported or suspected. We have no reasons to dispute the existence of pockets of unusual population frequency of schizophrenia, and incidence surveys in such areas would be highly desirable. Our conjecture, however, is that the incidence rates found in the WHO study represent a fair approximation to the typical, or modal, frequency of occurrence of schizophrenic disorders in most parts of the world (without being "worldwide").

As to the more favourable course and outcome of schizophrenic disorders in the developing countries, the new data do indeed support the earlier conclusions of the International Pilot Study of Schizophrenia. Table 11 of our paper shows that, independently of any differences concerning the proportion of acute onset schizophrenia (which has a more favourable prognosis) in the developing countries and in the developed countries, Third World patients with an insidious, or gradual, onset of their illnesses had a milder pattern of course than patients exhibiting the same type of onset in the developed countries. To us, this represents strong evidence that the phenomenon exists, although at this stage it cannot be explained by any specific environmental factor.

In forthcoming publications, we intend to provide much more detail on the findings outlined in the preliminary report.

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