

RECENT DEVELOPMENT OF PSYCHIATRIC EPIDEMIOLOGY  
IN CHINA

**ABSTRACT.** The authors review recently published psychiatric epidemiological data from the People's Republic of China, and compare these findings with data from Taiwan and worldwide.

In a recent issue of the Chinese Journal of Neurology and Psychiatry, a total of six papers on psychiatric epidemiology were published.<sup>1</sup> Containing basic and important data on the prevalence rates of major psychiatric disorders which have not been previously available, these reports contribute significantly to our understanding of mental illness among the more than 900 million Chinese living in a socio-political and economic milieu distinctively different from other parts of the world. These epidemiologies all involved mass survey, remarkably similar methodologies, and, with one exception, were all conducted within the last ten years.

Since these reports were written in Chinese and published in a journal which is still not readily available to psychiatrists in the West, we decided to review in this paper some of the more prominent findings and evaluate their significance within the context of what we know about psychiatry and psychiatric epidemiology among Chinese generally.

SURVEY POPULATION

The populations surveyed ranged from 200,000 to two million, and altogether more than five million people were involved. The areas where the surveys were conducted were without exception close to major medical centers. The place, time, and population surveyed are presented in Table I.

TABLE I  
Survey populations

Shanghai	1978	503,544
Sichuan	1973-1975	349,797
Peking (Beijing)	1974-1977	187,126
Nanking (Nanjing)	1973-1979	2,103,338
Hunan	1958-1959	1,424,751
Qingdao	1977-1978	616,945
		5,185,501

## METHODOLOGY

The guiding philosophy and method of case finding employed by the six major Chinese psychiatric centers that conducted these studies<sup>2</sup> were remarkably similar. The surveys were conducted primarily to gather data relevant to mental health service planning, and were only secondarily intended to answer academic questions. Hence, only syndromes with significant impact on community and health care facilities were studied. These included schizophrenia, mental retardation, hysteria, organic psychosis, senile psychosis, "involitional psychosis," reactive psychosis, paranoid state, manic-depressive psychosis, "epileptic psychosis," and obsessive-compulsive neurosis. Conspicuously absent is data on other forms of neurosis, especially depression.

The surveys typically started with a community wide psychiatric education program. Boundaries of the survey area were defined first. All health-related personnel (e.g., barefoot doctors, nurses, other health workers) and neighborhood cadres, police and local civil servants were involved in training sessions where the purpose, significance, and method of the study, as well as signs and symptoms of the psychiatric syndromes under study, were explained and discussed. These local health personnel and neighborhood cadres then were instructed to report on all persons suspected of suffering from psychiatric problems. Based on this information the research team constructed a cardex system which contained relevant demographic and clinical information. Psychiatrists in the research team interviewed the suspected cases individually to establish the final diagnosis.

## FINDINGS

Schizophrenia: the prevalence rates ranged from 0.77 to 4.8‰ (per thousand). Combining the data from these six studies, with a total survey population of five million, the overall rate was 1.9‰ (per thousand). The majority of patients suffering from schizophrenic conditions were between 20–50 years old. Their age of onset was between 13–35. Five of the six studies reported significantly higher rates in females than males, with the one from Qingdao pointing toward the opposite direction. In the three studies (Shanghai, Sichuan, Nanking) that compared urban/rural differences, the urban rates were consistently higher than the rates in rural areas. This is in contrast to a previous study conducted in 1958–1961 by the Nanking group which found a higher rural rate than urban rate.

Two studies (Nanking, Qingdao) reported that the prevalence rates of schizophrenia increased over a 20-years period.

Between 16 and 29% of the schizophrenic patients were found to have relatives who also suffered from psychotic disorders. In 53 to 70% of the patients, stress factors were identified prior to the onset of symptoms.

The Sichuan and Nanking studies looked into the issue of availability of treatment. The Nanking survey reported that 16% of the patients identified as suffering from schizophrenia had never been previously treated. The Sichuan study reported that only 21.8% received comprehensive psychiatric treatment, leaving a total of 79.2% either only partially treated, or never treated (23.4%). The Sichuan study further demonstrated a significant difference in the recovery rates between those receiving treatment (33%) and those without treatment (17%).

#### *Mental Retardation*

The rates reported ranged from 1.13 to 2.9‰ (per thousand). Since in the surveys only clear-cut cases were identified, these rates may be artificially low as compared to other series. A much higher prevalence rate in males as compared to females was consistently reported. The Qingdao study also reported that the rate of mental retardation decreased over a period of 20 years.

The Peking study pointed out that the attitude of family members and opportunity for education and work were crucial in determining whether mentally retarded people could take care of themselves and join the labor force.

#### *Manic-Depressive Illness*

The rates reported ranged from 0.03 to 0.09‰ (per thousand). These figures were extremely low as compared to the prevalence rate for schizophrenia in respective studies.

#### *Hysteria*

The Shanghai and Nanking studies include hysteria in their survey. The Shanghai study gave an overall rate of 0.29‰ (per thousand) and the Nanking study revealed a rate of 0.83‰ (per thousand). Both studies found that these patients were predominantly rural women. The Shanghai study also mentioned that most of these patients were 35 years or older.

#### *Other Problems*

Reactive psychosis ranged from 0.04‰ (Hunan) to 0.32‰ (Shanghai) (per thousand). Senile and presenile dementia ranged from 0.03‰ (Sichuan) to 0.13‰ (Hunan) (per thousand). Three studies reported on "involutional psychosis," giving rates of 0.02‰ (Sichuan), 0.04‰ (Nanking) and 0.1‰ (Shanghai) (per thousand). The Hunan group specifically reported a 0.15‰ (per thousand) rate for paranoid states. The Shanghai group was the only one

to include obsessive-compulsive neurosis in their survey. They found a 0.03‰ (per thousand) prevalence rate.

*Overall Morbidity Rate and Impact of Psychiatric Disorders on Society*

Total psychiatric morbidity rates ranged from 1.37 to 6.72‰ (per thousand). Two of the studies rated patients on the impairment of their productivity (work role impairment). The Shanghai study estimated that 25.9% were totally impaired, 14.8% partially impaired, and the rest were able to function with full capacity. The Peking survey reported that 39.6% had total impairment, 18.7% had partial impairment, and 41.7% had no impairment.

Disturbances defined as affecting the social order, including wandering, violent outbursts, suicidal attempts, occurred in 9.4 to 16% of the patients.

#### DISCUSSION

The size of the populations involved in these studies is impressive. No previous psychiatric surveys with comparable degree of assessment have covered such immensely large groups (Beiser 1978; Dohrenwend and Dohrenwend 1974; Lin 1953).

Cooperation of local health personnel and neighborhood cadres who have intimate knowledge of almost every individual in the local area is essential for surveys conducted in this manner. Perhaps partly for this reason, only the more conspicuous psychiatric syndromes that represented potential threats to the social order, and were relatively easily identifiable, were included in the studies. Psychological problems that were less well defined and less likely to catch public attention were omitted from the studies. Thus, neither neurosis nor personality disorders were included.

Since suspected cases were all interviewed by the researchers before the final diagnosis was made, the cases reported in these studies are likely to be "genuine" psychiatric patients, and the "false-positive" rate is probably negligible. Errors on the other side, however, may be more of a problem. Many less disturbing, less impaired psychiatric patients may not be noticed by the neighborhood cadres or health personnel responsible for reporting. This may be one of the major reasons why their prevalence rates reported in these papers tend to be lower than those previously reported from other societies, including Taiwan (see Table II).

With the sole exception of Qingdao, the definition and diagnostic criteria for the psychiatric syndromes under study were not mentioned in these reports. Differences in conceptualization and diagnostic assessment of psychiatric syndromes

TABLE II  
Comparison of rates of major psychiatric syndromes: China, Taiwan, and worldwide

	China (per thousand)	Taiwan (per thousand)		Worldwide (per thousand)
		1946-48	1961-68	
Schizophrenia	0.77-4.8 <sup>o</sup> / <sub>oo</sub>	2.1 <sup>o</sup> / <sub>oo</sub>	1.5 <sup>o</sup> / <sub>oo</sub>	2-10 <sup>o</sup> / <sub>oo</sub>
Manic-depressive illness	0.03-0.09 <sup>o</sup> / <sub>oo</sub>	0.7 <sup>o</sup> / <sub>oo</sub>	0.4 <sup>o</sup> / <sub>oo</sub>	4-12 <sup>o</sup> / <sub>oo</sub>
"Involuntal psychosis"	0.02-0.1 <sup>o</sup> / <sub>oo</sub>	0.05 <sup>o</sup> / <sub>oo</sub>	-	-
Severe major depression				Female 60 <sup>o</sup> / <sub>oo</sub> Male 30 <sup>o</sup> / <sub>oo</sub>
Paranoid states	0.15 <sup>o</sup> / <sub>oo</sub>	-	-	rare
Reactive psychosis	0.04-0.32 <sup>o</sup> / <sub>oo</sub>	-	-	-
Senile dementia	0.03-0.13 <sup>o</sup> / <sub>oo</sub>	0.3 <sup>o</sup> / <sub>oo</sub>	0.3 <sup>o</sup> / <sub>oo</sub> (5 <sup>o</sup> / <sub>oo</sub> for age > 60)	20-40 <sup>o</sup> / <sub>oo</sub> (age > 65)
Hysteria	0.29-0.83 <sup>o</sup> / <sub>oo</sub>	0.45 <sup>o</sup> / <sub>oo</sub>	-	-
Mental retardation	1.13-2.9 <sup>o</sup> / <sub>oo</sub>	3.5 <sup>o</sup> / <sub>oo</sub>	4.4 <sup>o</sup> / <sub>oo</sub>	10 <sup>o</sup> / <sub>oo</sub> (IQ < 70)
Obsessive-compulsive neurosis	0.03 <sup>o</sup> / <sub>oo</sub>	0	-	rare
Alcoholism	-	0.5 <sup>o</sup> / <sub>oo</sub>	-	40 <sup>o</sup> / <sub>oo</sub>

could well account for some or most of the variability of prevalence rates from study to study. The Chinese psychiatrists themselves, however, are apparently aware of this problem, and in the editorial note prefacing this publication an effort to "unify diagnostic criteria" was called for.<sup>3</sup>

From Table II, several interesting points emerge:

(1) Despite the general trend of lower prevalence rates reported in these studies, the rates for schizophrenia are within the range of the data reported from other countries (American Psychiatric Association 1980; Sartorius and Jablensky 1976) and comparable to the rates determined earlier in Taiwan among populations of Chinese descendents (Lin 1953; Lin, et al. 1969). Schizophrenia with its usually vivid symptom presentation and its often chronic, deteriorating clinical course is certainly more easily identifiable by the paramedical personnel and lay people involved in these surveys. Also, with their practical concern for providing adequate care to the severely ill and minimizing the impact of mental illness on community productivity and social order, the Chinese psychiatrists have undoubtedly been more interested in schizophrenia than other kinds of psychiatric afflictions. This in turn may have had an effect on the intensity of the case finding.

(2) The rates of manic-depressive illness are extremely low compared to not only the rates found in Western countries, but also the findings from Taiwan. The episodic nature of affective disorder may have made patients with this problem much less conspicuous to the workers involved in case finding. Variation in

diagnostic practices may also account in part for the difference. Further research using internationally accepted diagnostic criteria is needed to resolve the question as to whether or not this finding indeed indicates less manic-depressive disorder in China.

(3) The rate of senile dementia in the community, as noted by Yang et al. (Hunan Medical College) is unexpectedly high when compared to hospital-based statistics. This "alarmingly" high figure, however, is still so impressively lower than rates from other countries that it deserves much further study.

(4) The rates for mental retardation are comparable to those reported in Taiwan. Since in both cases formal IQ test was not employed, it is likely only severely retarded individuals are reported.

(5) The prevalence rates of hysteria in these studies are similar to that reported in a Taiwan survey in 1946–48 (Lin 1953). The trend of reduction in the prevalence of hysterical disorders over time as well as the observation of rural-urban differences are in accord with previous observations in other countries.

(6) Although clinical researchers in the past have suggested that Chinese may be less likely to develop obsessive-compulsive neurosis (LaBarre 1946; Lin 1953) and that when they suffer from psychiatric disorders paranoid symptoms may be more prevalent (Yeh 1972; Rin, Schooler, and Caudill 1973), no previous data have been available regarding either the rates of these problems in Chinese or in other populations. Consequently, it is difficult to evaluate the meaning of the rates of these two diagnoses.

(7) Similarly, with a lack of comparable data from other countries, it is hard to interpret the finding for reactive psychosis.

(8) Alcoholism was not included in any of these surveys. Yang et al., when comparing their findings from Hunan Province with Western data, specifically addressed the rarity of alcoholism and other drug dependence problems in China, and attributed it to differences in the political and economic structure. However, this cannot explain the similarly low prevalence rates of alcoholism among Chinese in Taiwan (Lin 1953; Chafetz 1964), Hong Kong (Singer 1974), as well as among Chinese-Americans in the United States (Wang 1968; Hsu 1955). It would seem that Chinese cultural influences that cross the boundaries of these distinctive sociopolitical orders are more likely determinants of this important finding.

In comparing these Chinese findings with Western ones, the most prominent discrepancy lies in the area of major depressive disorder. In Western countries, severe unipolar depression requiring hospitalization has been estimated to be 3% for men and 6% for women (American Psychiatric Association 1980). The only comparable diagnostic category in these studies, labeled "involuntional psychosis," shows a rate of only between 0.02 and 0.1‰ (per thousand). Variations in diagnostic practice and method of case finding are likely to account

for only part of the striking difference in these rates. It is far more likely that the great tendency of depressed Chinese patients to somatize may have kept them from the attention of psychiatrists and local personnel (Tseng 1975; Tseng and Hsu 1969). Most of these individuals may have assumed a medical sick role and been treated by other doctors for their somatic complaints, including Chinese traditional physicians and barefoot doctors (Kleinman 1977; 1979), rather than being regarded as psychiatrically ill. Moreover, since during the Cultural Revolution depression was stigmatized as wrong ideology, this contemporary political bias may have contributed to the well-known psychocultural bias of Chinese worldwide not to openly complain of dysphoria or label depression. For fuller discussions of this problem as well as reviews of the nature and significance of past findings regarding mental illness among Chinese readers should consult Lin, Kleinman, Lin (1981) and Kleinman and Mechanic (1981). It is to be hoped that in future depression will no longer be considered a potentially controversial topic and hence will receive the same rigorous assessment that other psychiatric disorders have received in the studies we have reviewed. For research such as this not only informs us about mental illness among one-fourth of mankind, but also helps to correct a Western bias in psychiatric epidemiology and by so doing improves our understanding of universal and culture-specific aspects of psychiatric disorders. Hence the contributions under review, especially after such a long period of silence and delay in reporting these findings, will be appreciated by mental health researchers and clinicians worldwide, who will look forward with great interest to future publications on this subject by their Chinese colleagues. If those future studies take Chinese cultural influences (beliefs, values, behavioral norms) and social relations (stress, social supports, institutional arrangements) as seriously as psychiatric categories then we can expect significant contributions to our emerging though still inchoate understanding of the relationship between cultural meanings, social relations, psychological processes, and illness.

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#### NOTES

1 These six papers are:

(1) Liu, C. C., et al.: 1980, A Psychiatric Epidemiological Survey in the District of Hsu-Hui, Shanghai City. *Chinese Journal of Neurology and Psychiatry* 13(1): 1-6.

(2) Liu, H. H., et al.: 1980, A Survey of the Occurrence of Psychosis in Sichuan. *Chinese Journal of Neurology and Psychiatry* 13(1): 7-9.

(3) Peking Medical School Psychiatric Teaching and Research Team, et al.: 1980, A

Survey Report of Psychiatric Disorders in the District of Hai-Ting, Peking City. *Chinese Journal of Neurology and Psychiatry* 13(1): 10–12.

(4) Nanking Neuropsychiatric Prevention and Treatment Center: 1980, A Psychiatric Epidemiological General Survey Report in Nanking City. *Chinese Journal of Neurology and Psychiatry* 13(1): 13–14.

(5) Yang, D. S., et al.: 1980, A Survey Report of Psychosis in Hunan Province. *Chinese Journal of Neurology and Psychiatry* 13(1): 15–18.

(6) Ma, S. F.: 1980, An Epidemiological Survey of Psychosis in Lau-Shan District, Qingdao City. *Chinese Journal of Neurology and Psychiatry* 13(1): 22–23.

- 2 The six are the Departments of Psychiatry of the Hunan, Peking, Sichuan, Nanjing, Shanghai No. 1, and Shandong Medical College. The first five have been designated by the Ministry of Health as the major centers of psychiatric research and advanced clinical training in China.
- 3 Editorial Note, *Chinese Journal of Neurology and Psychiatry*: 1980, 13(1): 1.

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