Mental Disorders in India: An Analysis of Epidemiological Studies

H.C. GANGULI

Fifteen epidemiological studies on psychiatric morbidity in India have been analysed. Prevalence rates for all mental disorders and five specific disorders for all-India and six regions have been worked out. The national prevalence rates for 'all mental disorders' arrived at are: 70.5 (rural), 73 (urban) and 73 (rural + urban) per 1000 population. Prevalence of schizophrenia is 2.5/1000 and this seems to be the only disorder whose prevalence is consistent across cultures and over time. Amongst the Indian States, Uttar Pradesh has the lowest total morbidity, making it, mentally, the most healthy state in India. West Bengal has the highest morbidity rate. Urban morbidity in India is 3.5 per cent higher than the rural rate. But rural-urban differences are not consistent for different disease categories. Also, unexpected rural-urban differences may be found due to factors such as social networking amongst city dwellers on the basis of caste, language, and so on, and their village linkage. In Hindi speaking north India, mental morbidity amongst factory workers is two and half times that of the non-industrial urban inhabitants and five times the rural morbidity. Finally, four large high risk groups have been identified: housewives, the unemployed, the elderly and the rank and file factory workers. Suggestions for improving epidemiological studies in India have been made and attention drawn to the need for testing socially useful hypotheses.

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INTRODUCTION

'Epidemiology may be defined as the study of the distribution of a disease in space and time within a population, and of the factors that influence this distribution' (Lin and Standley, 1962). Results of epidemiological studies are presented in terms of prevalence or incidence rates. Prevalence is defined as the number of cases of the disease present in a population at a given time, while incidence is the number of new cases occurring within a specified time period. Rates for these are normally expressed as per 1000 population.
From about 1960, epidemiological studies of psychiatric morbidity in different samples of the Indian population have been conducted. Although these studies have told us about mental illness in specific population samples, the implications for the country in general which is undergoing fast urbanisation and industrialisation have not been analysed. The present paper analyses fifteen epidemiological studies to clarify the following:

1. National all-India prevalence rate for mental disorders.
2. Regional rates of mental illness.
3. Difference in morbidity rates between rural and urban populations.
4. Morbidity rates in urban industrial population and its relation to morbidity in rural and urban general populations.
5. Major high risk population groups.

SAMPLE

The epidemiological studies reviewed here are listed below state-wise:

**Uttar Pradesh**
- Dubey (1970)
- Sethi, Gupta, Kumar and Kumari (1967)
- Sethi, Gupta, Mahendru and Kumari (1974)
- Sethi and Prakash (1979)

**Bihar**
- Bhaskaran, Seth and Jadava (1970)

**West Bengal**
- Elnaggar, Maitra and Rao (1971)
- Nandu, Ajwany, Ganguli, Banerjee, Boral, Ghosh and Sarkar (1975)
- Nandi, Banerjee, Boral, Ganguli, Ajmany, Ghosh and Sarkar (1979)
- Nandi, Das, Chaudhury, Banerjee, Datta, Ghosh, and Borat (1980)

**Gujarat**
- Shah, Goswami, Maniar, Hajariwala and Sinha (1980)
The above list contains the major Indian studies in this field. If any study has been left out, the omission is inadvertent. Carstairs and Kapoor's (1976) study has not been included in this analysis on methodological considerations. The authors write that 'the results of this study cannot be strictly compared with those obtained in other studies carried out in India or abroad'.

METHODOLOGICAL ISSUES

Ganguli (1968), Shah and others (1980) and Nandi and others (1980) have expressed reservations about inter-study comparisons. The studies listed above have been conducted in three or steps:

1. Delineation of the sample and initial contact with subjects including collection of background demographic data.

2. Identification of suspected cases, usually on the basis of interviews and questionnaires by non-psychiatric personnel like social workers, and sometimes through psychological tests. Physical examination of suspected cases of medical personnel is part of this phase. False negative is a major risk herein.

3. Psychiatric examination and clinical diagnosis and classification of suspected cases is the third stage.

However, in spite of the similarity of designs, sources of error are several. For example, in defining a psychiatric case, none of the investigators have followed any uniform operational definition of a case, a point specifically underlined by the World Health Organisation (WHO) Expert Committee on Epidemiology of Mental Disorders (WHO, 1960). Rather, the psychiatric assessment, as made on the basis of personal interview by the psychiatrist, provided the major and perhaps sole guideline for diagnosing the subject. In this matter, the point mentioned by Ley (1970) deserves attention, namely, that psychiatrists tend to develop diagnostic stereotypes. They have personal preferences in ways of describing patients and, often, their own
personality traits affect diagnosis and prognosis, thus lowering validity of assessments.

Many Indian investigating teams did not have on their staff a full-time professionally qualified statistician. Thus, sampling and collection of demographic data as well as final analysis and tabulation of results might have been affected. Questionnaires and schedules used for screening out symptom-free individuals and detecting suspected cases were usually improvised by individual team members. Errors may creep in here, leading to false negatives.

The above are real problems in any psychiatric assessment, more so in field studies. On the positive side, however, team leaders of these Indian study groups were highly experienced and trained in their disciplines in India and abroad. Many were Chairpersons of University and medical college departments. The projects were carefully scrutinised and monitored by expert groups of funding agencies like the Indian Council for Medical Research. For classification, these studies followed the WHO's International Statistical Classification of Diseases (ICD) or the American Psychological Association's Diagnostic and Statistical Manual of Mental Disorders (DSM), revised from time to time.

Overall, a certain homogeneity in these studies exists that supports a pooling of these for arriving at larger inferences of some importance for the Indian society.

RESULTS

Computation of Data

Prevalence rates are given for 'All Mental Disorders' and for five specific disorders, namely schizophrenia, affective disorders (depressions — psychotic and neurotic), anxiety neurosis, hysteria (dissociative and conversion) and mental retardation. 'All mental disorders' or total mental disorders include all categories of recognised psychiatric syndromes — psychoses, neuroses, personality disorders, mental retardation, alcoholism, and soon. On the principle of higher inter-psychiatrists agreement for broader diagnostic categories (see Beck, Ward, Mendelson, Nuck and Erbaugh, 1962; and Ley, 1970, for studies on reliability of specific mental disorders and their groupings), the 'all mental disorders' rate is expected to have higher reliability than rates for specific disorders. This is the broadest category. Rates are
computed for all-India and for specific regions or states of India. Where possible, rural-urban differences shall be brought out.

The mean, as a measure of central tendency for any distribution of scores, has greater stability than the median since it is computed on the basis of every single score. The advantage of the median is that it gives the 50 per cent point in the distribution and extreme scores do not disturb the median as these do to the mean. However, the difference between mean and median for the same set of data can be considerable. For example, in the 1948 study of Kinsey, Pomeroy and Martin the total sexual outlet per week for married males in the age group 31-35 had a mean value of 2.38; the median was 1.58.

In this study, we shall present the national all-India results in terms of medians as the number of studies involved are large and there are also extreme values. Regional results are from smaller number of studies and scores are more homogeneous. The regional rates shall, therefore, be given in terms of means.

In epidemiological studies, rural and urban data are usually shown separately on the understanding that there is a difference here. Malzberg (1963) compared rates of first admissions to New York State mental hospitals and concluded: 'Though there is not a completely regular progression in the rates, it is known that smaller cities tend to have lower rates than larger cities and that all cities have higher rates than the rural populations.' To test the situation in India, results of three pairs of rural and urban studies made by the same investigating team, with same tools, similar methodologies and in the same neighbourhood had been compared. Errors shall be less in comparison of such pairs of studies. Table 1 presents results of three such pairs of studies.

**TABLE 1: Rural and Urban Morbidity Rates from Paired Studies (Rate/1000: All Mental Disorders)**

<table>
<thead>
<tr>
<th>Region</th>
<th>investigator</th>
<th>Rural Rate</th>
<th>Urban Rate</th>
<th>Rural to Urban Morbidity Ratio (Rural = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Bengal</td>
<td>Nandi and others (1980)</td>
<td>142</td>
<td>207</td>
<td>100:146</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>Sethi and others (1972, 1967)</td>
<td>39</td>
<td>73</td>
<td>100:185</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>Dube (1970)</td>
<td>18</td>
<td>25</td>
<td>100:139</td>
</tr>
</tbody>
</table>
Table 1 shows that urban morbidity rates are substantially higher than the rural morbidity rates by a factor of about 1.6, range of 1.4 to 1.9. For rural rate as 100, the mean urban rate is 157. In view of this finding, subsequent tables will present data for rural and urban areas separately.

National Rate

All Mental Disorders

The Bhore Committee (India, 1946) extrapolated from rates in the United Kingdom and the United States of America and concluded that mental patients requiring hospitalisation in India be taken as 2 per 1000. In 1966 the Mental Health Advisory Committee of the Government of India 'suggested a probable prevalence of mental illness of 20 per thousand population in general, 18 per mille for semi-rural and 14 per mille for rural areas.' (cited from Elnagger and others, 1971). A Sri Lanka study showed a low prevalence rate of 4/1000 (Jayasundera, 1969); rates were 150 in Nigeria (Mbaneo, 1971); 166 in Iran (Bash and Bash-Licheti, 1973) and 285 for males and 349/1000 for females in rural Israel (Lev and Arnon, 1976).

Table 2 gives the Indian national prevalence rates for all mental disorders, computed from the epidemiological studies being considered here. Table 2 shows the all-India national rate (rural+urban) to be 73/1000, rural rate as 70.5 and urban rate as 73. Thus the urban rate is higher than the rural, but the difference is only 3.5 per cent.

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Urban</th>
<th>Rural+ Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>70.5</td>
<td>73</td>
<td>73</td>
</tr>
<tr>
<td>Range</td>
<td>18-142</td>
<td>25-207</td>
<td>18-207</td>
</tr>
<tr>
<td>N</td>
<td>6</td>
<td>9</td>
<td>15</td>
</tr>
</tbody>
</table>

Rural/Urban Ratio = 100:103.5

The Indian rate for all mental disorders is substantially more than Sri Lanka's in south Asia and less than for west Asian and African countries. Dohrenwend and Dohrenwend (1974) have estimated 'true prevalence' rates of treated and untreated functional psychiatric disorders in different continents. These are presented overleaf for purpose of comparison.
From the above data no overall pattern of prevalence of mental illness is seen in different parts of the world. Further, the Indian urban value of 73/1000 is about four times more than the median Asia rate, but one-third of the North American rate and only 15 per cent of the Middle East. Substantial differences also exist for rural rates in India and other countries. It seems that the prevalence of mental illness is not uniform across cultures, but is determined by the unique combination of biological, sociocultural, psychological and other factors obtained in each society.

<table>
<thead>
<tr>
<th>Site</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median/1000</td>
<td>Range</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No. of Studies</td>
</tr>
<tr>
<td>North America</td>
<td>173</td>
<td>17-690</td>
</tr>
<tr>
<td>South America</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>119</td>
<td>11-286</td>
</tr>
<tr>
<td>Middle East</td>
<td>99</td>
<td>45-149</td>
</tr>
<tr>
<td>Africa</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td>10</td>
<td>4-540</td>
</tr>
<tr>
<td>Australia</td>
<td></td>
<td>54-68</td>
</tr>
</tbody>
</table>

**Specific Disorders**

Table 3 gives the prevalence rates in the country for five disorders. The Table is self-explanatory. The following additional points are made.

For schizophrenia, the national rate is 2.5/1000 and 10 out of 13 studies or 77 per cent show a rate of 4.3 or less. The category of 'Affective Disorders' combine all depression data, neurotic and psychotic. The
Psychosomatic disorders are not shown separately in these studies, except in the Delhi study on industrial workers (40/1000) and for a West Bengal rural community (9.4/1000). Actually, some investigators (for example, Elnagger, 1971; Sethi, 1974) mention having excluded psychosomatic cases from their studies. The significance of somatic complaints in psychological disorders is seen from the following comment on depression in India by Verghese (1974) '...depressives in our country appear to have more somatic complaints... Among the 62 depressed patients investigated in this study, the commonest features were sadness, fear and somatic complaints. In many cases, the main complaints of the patient were somatic ones.'

Thus, reactive depression rate is three times more than psychotic depression. Mental retardation has a national value of 5.3/1000 and 80 per cent of the scores fall below 10.5/1000. The most widely prevalent disorders are depression and anxiety, in that order. Also, large rural-urban differences are noted and discussed subsequently.

TABLE 3: National Prevalence Rates for Five Mental Disorders (Rate/1000, Median, Range and No. of Studies)

<table>
<thead>
<tr>
<th>Mental Disorder</th>
<th>Rural</th>
<th>Urban</th>
<th>Rural+ Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>3.6</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Affective Disorder-Depression</td>
<td>37.4</td>
<td>33.7</td>
<td>34</td>
</tr>
<tr>
<td>(Psychotic and Neurotic)</td>
<td></td>
<td></td>
<td>0.5-53</td>
</tr>
<tr>
<td>Anxiety Neurosis</td>
<td>15</td>
<td>16</td>
<td>16.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11-70</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N=8</td>
</tr>
<tr>
<td>Hysteria</td>
<td>7</td>
<td>3.1</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.5-17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N=17</td>
</tr>
<tr>
<td>Mental Retardation</td>
<td>3.7</td>
<td>9</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.4-25.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N=10</td>
</tr>
</tbody>
</table>

Psychosomatic disorders are not shown separately in these studies, except in the Delhi study on industrial workers (40/1000) and for a West Bengal rural community (9.4/1000). Actually, some investigators (for example, Elnagger, 1971; Sethi, 1974) mention having excluded psychosomatic cases from their studies. The significance of somatic complaints in psychological disorders is seen from the following comment on depression in India by Verghese (1974) '...depressives in our country appear to have more somatic complaints... Among the 62 depressed patients investigated in this study, the commonest features were sadness, fear and somatic complaints. In many cases, the main complaints of the patient were somatic ones.' In a similar vein,
Carstairs and Kapoor (1976) wrote: 'The highest prevalence rates in the total Kota sample were found to be those of the two "somatic" category of symptoms; "pains and aches", "bodily heat and cold".' Spelling out the nature and distribution of psychosomatic symptoms in Indian population groups would be useful, particularly because psychosomatic patients in India are mostly treated by non-psychiatric professionals.

Regional Rates

Most states of India are large and culturally diverse. Consequently, their mental health are likely to be different. Tables 4 and 5 give the regional or state rates for 'all mental disorders' and for five specific disorders. Important points from Tables 4 and 5 are summarised below.

TABLE 4: Regional Prevalence Rates for all Mental Disorders (Rate/1000. Mean, Range and No. of Studies)

<table>
<thead>
<tr>
<th>State</th>
<th>Rural</th>
<th>Urban</th>
<th>Rural+Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttar Pradesh</td>
<td>29</td>
<td>55</td>
<td>44.4</td>
</tr>
<tr>
<td>18-39</td>
<td>25-73</td>
<td>N=2</td>
<td></td>
</tr>
<tr>
<td>N=2</td>
<td>N=3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Bengal</td>
<td>94</td>
<td>207</td>
<td>116.4</td>
</tr>
<tr>
<td>28-142</td>
<td>N=4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tamil Nadu (including Pondicherry)</td>
<td>83</td>
<td>66-99</td>
<td>N=2</td>
</tr>
<tr>
<td>Gujarat</td>
<td>47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delhi (Urban-Industrial)</td>
<td>140</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bihar (Urban-Industrial)</td>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Uttar Pradesh**

This state has the lowest prevalence rate for all mental disorders amongst the states considered — 44.4/1000. This is 61 per cent of the national value of 73. Low prevalence of affective disorders — 8.4/1000 or 25 per cent of national rate; high prevalence of mental retardation— 19.4/1000 or 367 per cent of national rate of 5.3.
Schizophrenia of 2/1000 is lower by 20 per cent than the national value. This is a mentally healthy state.

**Gujarat**

Prevalence of all mental disorders in urban area is 47/1000 or 64 per cent of national urban rate of 73; low in affective disorders (44 per cent of national rate) and low in mental retardation — 1.8/1000 or 20 per cent of national urban value. Schizophrenia of 1.5 is only 60 per cent of the all-India rate. Thus, Gujarat values are as healthy as for Uttar Pradesh.

**Tamil Nadu (including Pondicherry)**

Urban prevalence of all mental disorders of 83 is higher by 14 per cent than the national urban rate. Affective disorders of 43.3/1000 is higher by 28 per cent than national urban prevalence. A schizophrenia rate of 2.5 is just the same as for all-India. Tamil Nadu values are closest to the national rates.

**West Bengal**

Rural plus urban prevalence of 116.4 is 60 per cent more than the national rate and is highest amongst non-industrial Indian populations. Affective disorder rate of 40.2 is higher by 18 per cent, anxiety neurosis higher by 29 per cent and hysteria higher by 275 per cent than respective national values. However, mental retardation is slightly lower, by 8 per cent. Schizophrenia rate of 6/1000 is 240 per cent higher than the national value and highest amongst non-industrial populations. Table 1 also shows that the West Bengal rural rate is 3.6 and urban rate is 2.8 times the respective Uttar Pradesh rates. Thus, West Bengal values are deviant from the general trend in India and arise largely from the Nandi studies. It is possible that this may be an experimental artifact, due to a wider definition by the Nandi group of what constitutes a 'case'. On the other hand, these rates may reflect the true or real mental health status of the people of West Bengal. Bengalis also have one of the highest suicide rates in India. The mental health condition of Bengalis needs serious attention from West Bengal health authorities.²

*Urban Industrial Morbidity of Delhi and Bihar*

These studies are on the Hindi-speaking industrial populations and are treated together. Sethi and Prakash (1979) write on the paucity of
<table>
<thead>
<tr>
<th>Mental Disorder</th>
<th>Uttar Pradesh</th>
<th>West Bengal</th>
<th>Tamil Nadu</th>
<th>Gujarat</th>
<th>Delhi Industrial</th>
<th>Bihar Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>2</td>
<td>6</td>
<td>2.5</td>
<td>1.5</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>1.1-2.5</td>
<td>1.5-14.2</td>
<td>2.5, 2.6</td>
<td>N=1</td>
<td>N=1</td>
<td>N=1</td>
</tr>
<tr>
<td></td>
<td>N=3</td>
<td>N=4</td>
<td>N=2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective Disorder- Depression (Psychotic and Neurotic)</td>
<td>8.4</td>
<td>40.2</td>
<td>43.3</td>
<td>14.8</td>
<td>33.6</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>1.5-37.4</td>
<td>N=4</td>
<td>N=2</td>
<td></td>
<td>N=1</td>
<td>N=1</td>
</tr>
<tr>
<td>Anxiety Neurosis</td>
<td>14.7</td>
<td>21.3</td>
<td>14.5</td>
<td></td>
<td>15.3</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>N=1</td>
<td>12-35</td>
<td>11.3, 17.7</td>
<td>-</td>
<td>N=1</td>
<td>N=1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N=3</td>
<td>N=2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hysteria</td>
<td>3.3</td>
<td>9.1</td>
<td>2.9</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>N=1</td>
<td>3.1-17</td>
<td>2.5, 3.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Retardation</td>
<td>19.4</td>
<td>4.9</td>
<td>3.2</td>
<td>1.8</td>
<td>9.2</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>10.5-10.5-25.3</td>
<td>N=1</td>
<td>N=1</td>
<td>N=1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N=3</td>
<td>N=2</td>
<td>N=2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psycho-somatic disorders</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
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</tbody>
</table>
industrial psychiatric studies in India: 'There are barely a couple of systematic epidemiological researches to date (Ganguli, 1968; Bhaskaran, 1970; Gandhi, Trivedi and Chakravarthy, 1971).' Unfortunately, Gandhi's study was on sickness absenteeism and the Sethi and Prakash's study was on depressions only, leaving only two studies on industrial morbidity given in Table 4.

The 'all mental disorders' rate for these two factory populations (non-migrants) comes to 145/1000, which is nearly double the national urban (general) rate and the rural plus urban rate of 73/1000 (Table 4). Kornhauser (1965) noted a similar rate of 140/1000 of 'low positive mental health' in Detroit automobile factory workers. The mean affective disorders rate (all neurotic depressions) is 42/1000 and is marginally higher than the national rate. Mental retardation rates are 9.2 and 0.0 in the two samples with a mean of 4.6 and is similar to the national rate. The total of psychoneurotic cases (reactive depressions, anxiety and psychosomatic cases) are similar in both the industrial samples — rate of 125 in Delhi and 120 in Ranchi, Bihar — giving a mean of L22.5/1000. This rate of psychoneuroses is almost three times the equivalent national urban value of 43/1000 (22.8 reactive depression, 16.5 anxiety and 3.3 hysteria).

Of the major psychoses, one case of schizophrenia (10/1000) is noted in Bihar and none in Delhi. Thus, major psychoses may not be a problem in established industries. Mindus (no date) comes to the same conclusion: 'The incidence of psychosis in the industrial population is mostly the same as per the general population. The incidence in the age group of 15-58 years will not exceed 6.5 per milie.' However, rates for special groups of workers handicapped by unusual socio-psychological stress (for example, migrant workers), unusual physical and psychological stress (for example, underground coal miners), and so on may have different mental morbidity patterns. For example, Bihar migrant workers rate: 40 schizophrenia, 60 paranoia and 370/1000 'all mental disorders'.

Rural-Urban Difference
It is commonly believed that the quality of life in the countryside is more benign, where human relationships are based on mutual concern, understanding, tolerance and love. In contrast, urban life is characterised by impersonality, competition and tension. Mayo (1952) has termed modern urban/industrial life as a change over from an 'established' society (village economy) to an 'adaptive' society where
people 'live in a constant flux of personal association as of technical procedures'. Hoch (1966) describes the stress of modernisation and urbanisation as: 'The loss of secure shelter through the crumbling of a relatively static order of society, the need for emerging from being safely embedded in a collective consciousness into standing out as a separate individual who has to take decisions and assume responsibilities on his own.'

The paired studies in Table 1 shows that mental morbidity is higher in urban areas by a factor of about 1.6. Table 6 presents a consolidated version of the rural-urban ratios at the national level. Table 6 indicates the following:

**TABLE 6: Rural-Urban Percentage Differences for National Prevalence Rates (Rural Rate -100)**

<table>
<thead>
<tr>
<th>Mental Disorder</th>
<th>Rural/Urban Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>100 : 69</td>
</tr>
<tr>
<td>Affective Disorder</td>
<td>100:90</td>
</tr>
<tr>
<td>Anxiety Neurosis</td>
<td>100:106</td>
</tr>
<tr>
<td>Hysteria</td>
<td>100:44</td>
</tr>
<tr>
<td>Mental Retardation</td>
<td>100 : 243</td>
</tr>
<tr>
<td>All Mental Disorders</td>
<td>100 : 103.5</td>
</tr>
</tbody>
</table>

1. Urban rate is substantially less than rural rate for schizophrenia (by 31 per cent) and for hysteria (by 56 per cent).
2. Urban areas have a higher prevalence of mental retardation by 143 percent.
3. Marginal rural-urban differences of 10 per cent or less are seen for affective disorders (urban: 10 per cent less) and for anxiety neurosis (urban: 6 per cent more).
4. For 'all mental disorders', rural-urban difference is only minor — urban exceeds rural prevalence rate by 3.5 per cent.

Overall, three urban area values exceed the corresponding rural values and another three urban values are less. The difference between rural and urban mental disorders, thus, depends on the disease category and is not uni-directional.

Other scholars have also investigated the rural-urban differences. Dohrenwend and Dohrenwend (1974) noted that is eight out of ten studies reviewed, the urban rate was higher than the rural, but the median difference for the total rates was only 1.1 per cent. The present finding of a difference of 3.5 percent is, therefore, in accord with these
results. The rural-urban difference is a vexed issue, giving contradic-
tory results. Gallagher (1987), for example, notes that schizophrenia
is evenly distributed between rural and urban areas, but affective
disorders are more in rural areas. Table 6 shows schizophrenia to be
higher in rural areas, though affective disorder rates are similar.

In India, there are several factors that make any general inference on
rural-urban morbidity somewhat difficult and the results apparently
contradictory. The classification of subjects as rural and urban is done
mostly on the basis of geographical location at the time of study. Very
rarely analysis of the rural-urban background of individual subjects are
made or criteria set up for analysing such background as, for example, in
the study of Kinsey and others (1948). Further, considerable movement
of population between villages, townships and cities makes clearcut
rural-urban demarcation difficult. For example, as the Chief Minister of
Delhi/New Delhi has pointed out, the national capital is receiving villagers
from Uttar Pradesh, Rajasthan, Bihar, and so on at the rate of about
500,000 per year over the last several years. Lastly, extensive social
networking in large chunks of urban populations enable them to maintain
their traditional kinship and caste relations and cope with the stress of city
life. They create mini-communities like they had in their villages. In
addition, many maintain their village links though regular visits during
summer, and for festivals like Holi, functions like marriages, and so on.
The investigator should, therefore, be prepared for unexpected results
about rural-urban differences in India.

Modernisation in developing countries usually leads to increased
urbanisation and industrialisation. In India, between 1951 and 1991,
the urban population increased from 17.3 percent (62 million) to 25.7
per cent (218 million) and the number of industrial workers have
expanded similarly. Thus, industrialisation is an additional dimension
to the rural-urban setup and comparison of rural, urban (general) and
urban (industrial) populations is needed. Some comparative figures are
available in other countries. For example, Mayer-Gross (1947) in
South Scotland small town and rural areas: all mental disorders: 90.7/1000; Fraser (1947) in heavy and medium engineering factories
in Birmingham, England: incidence rate of 80/1000 for 'definite
disabling neurosis' and 160/1000 for 'minor' neurosis.

In India, the Delhi and Ranchi (Bihar) factory workers are Hindi-
speaking north Indians and linguistically and culturally similar to the
Uttar Pradesh population and the three are comparable. The rates (all
mental disorders) are: 29 (rural Uttar Pradesh); 55 (urban Uttar
Pradesh) and 145 (Delhi+Bihar, north Indian industrial). These rates give a ratio of 1: 1.9: 5.0. With rural morbidity as 100, the morbidity for urban non-industrial population is 190 and for urban factory workers, 5000. Among city dwellers in the Hindi speaking areas only, factory workers have a prevalence rate of two and a half times more than rates for general city dwellers. Migrant workers have a prevalence rate that is five times the national rate (for example, Bihar). It was noted that the mentally ill in the Delhi factory did not differ significantly from the healthy group in age, education, IQ, marital status, length of service, actual income, income aspiration and productivity. But they had significantly less job satisfaction, and poorer interpersonal relations with the work group, within the family and with neighbours. In the workers with psychiatric symptoms, there was a general dissatisfaction factor present that adversely affected their personal 'fit' with the environment. These results apply particularly to dead-end jobs providing little or no opportunity of getting out. Workers in modern automated factories have different mental health problems (WHO, 1962).

**Tribal Data**

Neurosis is the price humanity pays for civilisation. This is partly evidenced in the low morbidity rates of tribal populations living close to nature. Nandi and others (1980) reports the mental morbidity rates for tribes living in rural West Bengal as 43/1000 for Santhals and 37/1000 for Lodha and Munda tribals. In contrast, a Brahmin group of high caste Hindus living in an adjoining village had a mental morbidity rate of 142 and government officers from a nearby township, a rate of 199/1000. Likewise, two Australian aboriginal groups had low mental illness rates of 54/1000 and 68/1000 (Kidson, 1967; Kidson and Jones, 1968).

Nandi and others (1980) studied the social value system, child-rearing practices and way of life of their tribal subjects and concluded that whereas the Brahmins and government officers followed 'a rigid, formal and codified value system in their personal and community life', among the Santhals 'life is liberal, informal and instinctive desires are allowed a greater freedom.' Beside, the Santhals, in contrast to the two high caste groups, are not preoccupied with the idea of a secure future and have little urge to plan for it. Nandi and others also report that their team had no difficulty in conducting tribal surveys with the same questionnaires, schedules and interview techniques as
for the non-tribal high caste groups. That the tribal subjects could be accommodated within the usual psychiatric nomenclature and classification system indicate that mental illness in Indian tribal groups is not psychodynamically or, for symptoms, different from that in urban industrial societies.

**CONCLUDING REMARKS**

The epidemiological studies included in this article are a storehouse of valuable information much of which becomes available only through a comparative analysis, which has been attempted here. Some of these studies are old; but in a large and culturally complex country like India with so few studies of the type, none can be ignored. In other countries also, analysis of past studies continue, primarily to seek out socially relevant factors for strategic focus and also for a re-examination of their methodologies, and so on.

**Consistency in Schizophrenia Rates**

How stable over time are the prevalence rates noted above? As of now, it is the rate for schizophrenia that seems to have a stability over time and across cultures. The median rate for schizophrenia was 2.9/1000 in 15 pre-1950 studies in nine countries — USA, Japan, Finland, Sweden, Denmark, Germany, China, Britain and Norway (see Ganguli, 1968; Primrose, 1962). Crocetti and Lemkau (1967), while writing about USA and Yugoslavia, say that with diagnosed and hospitalised cases plus estimates of the undiagnosed and unknown schizophrenics in the population, 'the prevalence figure approximates 290 per 100,000 population', that is, 2.9/1000. The present Indian national prevalence rate of 2.5/1000 is similar to Crocetti and Lemkau's estimate and the pre 1950 world value. In 70 per cent of the Indian epidemiological studies, rates were less than 3/1000. It is, therefore, reasonable to assume that in many countries in the world, including India, and for unselected general populations, schizophrenia rate shall be in the neighbourhood of 3/1000 and rarely go beyond 0.5 per cent of population. However, as new studies are published, the figures should be re-evaluated in the light of fresh data.

**High Risk Groups**

Females tend to have higher rates for mental disorders than males; on an average, about 1.5 times. Examples of male-female ratio are: in West Bengal— 1:1.7 and 1:1.2 (Nandi and others, 1975; 1979); in
Gujarat—1:1.4 (Shah, 1980); in Tamil Nadu—1:1.2 (Verghese, 1973); in Pondicherry — 1:1.3 (Premrajan, 1993); in Uttar Pradesh — 1:2 (Dube, 1970; Sethi and others, 1967). This is similar to the higher rates noted in females in Europe, America and other cultures.

Amongst females, the group most vulnerable to mental illness is that of housewives. The prevalence rates for housewives are: Uttar Pradesh 104/1000 and 131/1000 (Sethi and others, 1967; 1974); Tamil Nadu: 104/1000; Pondicherry: 202, nearly half of these (99/1000) were suffering from depression of various types. In urban Uttar Pradesh, Sethi and others (1967) noted: 'The majority of patients (78 per cent) in the group of psychoneurosis, depression and schizophrenia were housewives.' In most studies, the rate for housewives was larger than the general population rate in the particular study. Since housewives are also mothers, the adverse implications of this high morbidity for mothering and child rearing attitudes and practices are noteworthy. Further, among females, widows had the highest morbidity rate: for example, in Pondicherry — 217/1000. For centuries, widowhood in India has been a synonym for helplessness, dependency and exploitation.

A second large and vulnerable group in India is that of the elderly persons of 60+ age. Some Indian studies have reported a positive association of mental illness with age. Nandi and others (1975, 1976), Elnaggar (1971) and Shah and others (1980) have reported increased morbidity with advancing age, similar to findings in the West. Shah noted the following percentage of index cases in each age group: up to 14 years — 0.8 per cent; 15-44 — 4.8 per cent; 45-59 — 15 per cent; 60+ years — 19 per cent. However, other investigators have reported maximum morbidity in the middle age group; between 30-50 years (for example, Sethi and others, 1967; Verghese and Beig; 1974); between 18-34 years (for example, Mohan, 1970). This apparent fall in rates after 50 may be due to greater preoccupation and concern with physical disorders after 50, quite common in India, and leading to mental symptoms being overlooked.

Among the aged (60+), overall prevalence rate of mental morbidity has been estimated at 89/1000 population, which when projected, gives a figure of nearly 4 million for India (Rao, 1997). 'The risk for psychiatric illness in the elderly increases pari passu with age' — from 71.5 for 60 to below 70 years, to 124 in the 70 seventies and 155 in those over 80 years (Rao, 1997). Sixty per thousand, in the general population, suffer from geriatric depression. Thus, the elderly is another large and high risk group.
A third group with high mental morbidity rates is that of the unemployed youth. Premrajan and others (1993) noted a rate of 78/1000 amongst 128 unemployed in their group; Verghese — 64/1000; Shah and others (1980) — 6 out of 10 subjects; Dube (1970) — 121/1000. During 1997, the total number of job seekers registered with the Employment Exchanges in India numbered 39.1 million (answer to a Parliament Question by the Labour Minister of the Government of India on July 13, 1998), thus indicating the magnitude of the problem. Besides, there is an unspecified but large number who have lost their jobs due to retrenchment, downsizing, closure of companies, or because of accidents.

A common feature of the three groups of housewives, the aged and the unemployed is that these persons are essentially non-earning members of the community. Work that is unremunerative and does not bring in a cash income (for example, the housewife) or no work and no income (the unemployed or the aged) usually mean increased susceptibility to mental illness. Retirees, who usually have some income from pension, provident fund, and so on, but no work, have also high prevalence rate — for example, 115/1000 in Uttar Pradesh, 147 in Gujarat and 122 in Tamil Nadu. Apparently, both income and work are important conditions for sound mental health. Work with little or no income and income with little or no work are repugnant to the human psyche.

Finally, the factory workers in India, a large group with high mental morbidity rates (for example: 145/1000 for domicile workers and 370/1000 for migrant workers), constitute a fourth identifiable vulnerable group.

Treatment Facilities

Sethi and others (1974) observed, thus, about one of his own studies: 'the prevalence rate of 67 per thousand found in this study is indeed a high figure for a country with a population of 550 millions... In fact our prevalence rate would have been higher if cases of psychophysiological reaction and personality disorder had been included.' In view of these observations, it is felt that the national rate of 73 per thousand arrived at in the present analysis is not to be construed as inordinately high. But it is still uncertain for what proportion of the 65 million Indians, 7.3 per cent of a 900 million population, provision for psychiatric treatment should be made. Carstairs and Kapoor (1976) have discussed the treatment question with the help of concepts like 'need
for help', 'Demand for help' and availability of treatment, but with no conclusions. The issue is complicated because of the coexistence in this country of traditional and modern forms of therapy — Allopathy, Homeopathy, Ayurveda, Yoga, Tantra, Mantra, Siddhi, and so on (Singh 1977). The need for psychiatric treatment and ways and means of fulfilling that need for Indians have to be discussed in depth separately. Role of the general practitioner in medicine, clinical psychologist, psychiatric social worker, Indian systems of medicine, homeopathy, and so on, particularly for treatment of psychoneurotic and psychosomatic cases, also needs assessment.

**Suggestions for Epidemiological Studies**

Following suggestions are made for improving the quality and usefulness of Indian epidemiological studies on psychiatric morbidity.

1. There should be a full-time qualified statistician in the research team. Sampling, analysis, tabulation of data, and so on shall improve.

2. At the initial stage of case detection, as far as possible, only standardised and published questionnaires, schedules and tests should be used instead of those improvised by individual teams.

3. The significance of the psychiatrist's personal bias and stereotypes in clinical diagnosis deserves to be underlined for better reliability and validity.

4. Psychosomatic disorders rarely find a mention in epidemiological reports. Unfortunately, in India, hypertension, asthma, arthritis, bowel disorders, and so on are common incapacitating reactions to life's problems. A separate mention of these shall be helpful.

5. Epidemiological studies in India are usually of the survey and exploratory type. In the design of these studies, provision for testing of medically and socially useful hypothesis may be made. Examples: alcoholic husband and depressive wife, family structure (unitary and joint families) and relation to mental illness; vulnerability of the eldest son and its relation to child rearing practice and family values and expectations.

6. Epidemiological studies are time consuming and expensive and usually collect a mass of useful data and information. But reports are usually published in single journal articles which perforce leave out the finer points of design, methodology, and so on. Also primary data are often lost after some time, preventing
their later reexamination. It is suggested that in addition to journal articles, detailed reports be published as books, research monographs, and so on.

NOTES

1. Traditionally, mental disorders have been classified under the broad categories of organic disorders, psychosis, psychoneurosis, psychosomatic and personality disorder. The specific disorders which have been mentioned in this article are briefly described below.

Schizophrenia

Thought disorder is a central feature of this disease. The 'four As' of Blueler (Association, Affect, Autism and Ambivalence) is a shorthand description of the schizophrenic's symptoms. Association is loose and lacks continuity of ideas and orderly movement of thoughts. Affect tends to be flat, blunted or inappropriate. Autism stands for a self-centred type of thinking, according to his/her own private and idiosyncratic rules of logic, and filled with fantasy. Ambivalence or two opposite feelings or emotions, some positive and some negative, towards the same object, person or situation is generally present, and delusions or false ideas, (for example, of being controlled by some unknown mysterious power from a distance) occur in most schizophrenics. He/She is preoccupied with invisible forces of electricity, radiation, witchcraft, philosophy and religion. Conversation may be stilted and grotesquely quaint, and mutism may be present. Behaviour shows a general reduction of energy, spontaneity and initiative. Mannerisms of speech and movements may be peculiar, grimacing, or grotesque. Perceptual disorders and hallucinations may be noted.

Anxiety Reaction

Characterised by a diffused, highly unpleasant and often vague feeling of apprehension, accompanied by bodily sensations that are characteristic of the person concerned. The somatic difficulties may be of many types, such as tightness of the chest, pounding heart, tremor, perspiration, headache, diarrhoea, breathing difficulties, back pain, and a desire to urinate. Restlessness and a desire to move around are common. Anxiety is different from ordinary fear in that in anxiety the object is unknown, the threat is internal and vague, the duration is chronic and conflict of internal needs with reality is always present. There is anticipation that something bad is going to happen to and it may lead to increased vigilance and scanning.

Hysteria

In conversion hysteria, an unconscious conflict is converted into a bodily symptom. Paralysis of body parts, anesthesia, blindness, deafness, mutism, seizures, and vomiting are some of the classical symptoms. The person shows a curious lack of concern, known as 'la belle indifférence', for the bodily symptom. In fact, some people enjoy their disability. There is usually a secondary gain from this
disability. Dissociative reaction is an attempt to escape from excessive tension and anxiety by separating or isolating some parts of ego function from the rest. Psychogenic amnesia (a memory loss not due to organic causes), psychogenic fugue (a state of aimless wandering), sleep-walking, trances, estrangement and depersonalisation are examples of lost functions. Multiple personality is occasionally reported or observed.

**Depression**

Neurotic depression and major or psychotic depressions are placed in the Affective Disorders Group in DSM III. The neurotically depressed person is dejected, sad, self-deprecating. He/She may be restless and anxious. Guilt plays a leading role in producing this. Psychotic depressions are mood disorders where dejection, self-depreciation and self-condemnation reach delusional proportions. An acute sense of worthlessness and guilt develops and danger of suicide is grave. Manic episodes are also mood disorders, accompanied by delusions which are exaggerations of normal elation and often mistaken for happiness. With some individuals, depressive and manic moods alternate and these are known as circular or bipolar disorders.

**Mental Retardation**

Two types are distinguished by the World Health Organisation:

- Mental retardation where subnormal intellectual functioning is due to environmental causes without central nervous system pathology. The socio-psychological factors are developmental impairment in infancy and in preschool years, learning difficulties in school age, and so on.
- Mental deficiency describes subnormal functioning due to pathological organic causes. IQ is the measure. According to the WHO, Mild Subnormality = IQ 50-69; Moderate Subnormality = IQ 20-49; Severe Subnormality = IQ 0-19.

2. There can not be a single explanation for the high psychiatric morbidity in the West Bengal samples studied. But contradictions in the Bengali 'national character' come out in the following excerpts from the London Times (date not known; perhaps early twentieth century); 'Bengal differs more from most other Indian provinces than they differ from one another. Economic, temperamental and social causes account for this difference. Caste is less powerful; a common literary language unites over forty million Bengalis. Even the Muslim community, who form a narrow majority of the population, are indisputably less divided both socially and politically from their Hindu countrymen than they are in other parts of India. The Bengali temperament at once calculating and emotional, critical and enthusiastic, baffles other Indians almost as much as it puzzles British administrators.' The National Crime Records Bureau reports (India, 1994) that West Bengal is the 'most suicide-prone' state in India, accounting for 13.5 per cent of 84,244 suicide deaths in India. West Bengal population is only 7.3 per cent of India, with a suicide rate of 0.17/1000 against all-India rate of 0.09/1000. On the positive side, all the four Nobel Laureates from India were either Bengali born and/or did their work in Calcutta, the premier city of West Bengal.

3. Sethi and Manchanda (1978) write: 'The eldest or early born sibs have been over represented in most of the psychiatric groups in several studies conducted in India'.
Over representation of firstborns from small families and lastborns in sibships of five or more in mental hospitals elsewhere have also been noted. But in the Hindu society, the eldest son has been burdened by the Scriptures, tradition and practice with almost total responsibility for the parental family and simultaneously given special privileges or preferences in food, education, authority, and so on.

The ideas, values and beliefs of a social group are transmitted through patterns of child rearing and nurture. Studies on features of child rearing can be linked to increased vulnerability of eldest sons (and also eldest daughters) to psychopathology are needed and is being suggested here.

Nandi and others (1979) write: 'A religious group living as a minority community has a significantly higher rate of mental morbidity than the same religious group having a dominant status.' His data are the Muslims of village Gambhirgachi, a dominant community, had a low schizophrenia rate of 3.1/1000 as compared to the high rate of 8.9/1000 in Muslims of Paharpur, a minority community in that village. This differential prevalence rates in the two samples were true for all diagnostic entities except epilepsy.

In multi-ethnic societies like India, the USA, and so on, there are minority groups, distinguished on the basis of caste, language, colour, religion, nationality, and so on. Governments and social scientists have studied the operation of prejudice in the light of discrimination, social tension and social violence. However, the above differential mental morbidity rates for minorities indicate the operation of a different chain: Prejudice Antilocution (verbal expression of antagonism and prejudice) => Avoidance (of members of the disliked group) => Discrimination (denial in sharing of opportunities and privileges) => High mental morbidity in minority groups, with or without social violence (see Ganguli, 1972).

It is suggested that influence of minority status on mental morbidity is a significant social problem and be enquired into by mental health specialists.

REFERENCES

Bash, K.W. and Bash-Liechti, J. 1973


Bhaskaran, K., Seth, R.C. and Jadava, S.N. 1970

Carstairs, G.M. and Kapoor, R.L. 1976


Migration and Mental Health in Industry, Indian Journal of Psychiatry, 12(1,2), 102-116.

Crocetti, G.M. and Lemkau, P.V. 1967

H.C. Ganguli

Dohrenwend, B.P. and Dohrenwend, B.S. 1974


Dube, K.C. 1970

A Study of Prevalence and Biosocial Variables in Mental Illness in a Rural and an Urban Community in Uttar Pradesh, India, Acta Psychiatrica Scandinavica. 46, 327-359.


Mental Health in an Indian Rural Community, British Journal of Psychiatry, 118, 499-503.

Fraser, R. 1947


Gallagher III, B.J. 1987

: The Sociology of Mental Illness, New Jersey: Prentice-Hall.

Gandhi, H.S., Trivedi, B.K. and Chakravarthy, A.K. 1971

A Study of Sickness Absenteeism among Textile Workers of Kanpur, Indian Journal of Medical Research, 59(9), 1467-1479.

Ganguli, H.C. 1968


1972


India 1946

: Report of Health Survey and Development Committee, New Delhi, 75.

India: Ministry of Home Affairs 1994


Hoch, E.M. 1966

Transcultural Psychiatry. Paper Presented at the Annual Meeting of Indian Council of Medical Research, Institute of Post-Graduate Medical Education and Research, Chandigarh.

Jayasundera, M.G. 1969

Mental Health Survey in Ceylon. In W. Caudill and T.Y. Lin (Eds.), Mental Health Research in Asia and the Pacific, Honolulu: East West Centre Press.

Kidson, M.A. 1967

Psychiatric Disorders in the Walbiri of Central Australia, Australian and New Zealand Journal of Psychiatry, 1, 14-22.
Kidson, M.A. and Jones, I.H. 1968

Kinsey, A.C., Pomeroy, W.B. and Martin, C.E. 1948

Kornhauser, A. 1965

Lev, I. and Arnon, A. 1976

Ley, P. 1970

Lin, Tsung-Yi and Standley, C.C. 1962

Malzberg, B. 1963

Mayer-Gross, W. 1948

Mayo, E. 1952

Mbanefo, S.E. 1971

Mindus, E. no date

Mohan, B. 1970


Psychiatric Disorders among Aborigines of the Australian Western Desert, *Archives of General Psychiatry*, 19, 413-17.


The General Practitioner and Psychiatry. In *Psychiatry and Mental Health Care in General Practice*, University of Ibadan.


Socio-economic Status and Prevalence of Mental Disorders in Certain Rural Communities in India, *Acta Psychiatrica Scandinavica*, 59, 276-293.
1980  

Premrajan, K.C., Danabalam, M., Chandrasekar, R. and Srinivasa, D.K.  
1993  

Primrose, E.J.R.  
1962  

Rao, A.V.  
1997  

Sethi, B.B., Gupta, S.C. and Kumar, R.  
1967  

Sethi, B.B., Gupta, S.C, Kumar, R. and Kumari, P.  
1972  

Sethi, B.B., Gupta, S.C, Mahendru, R.K. and Kumari, P.  
1974  

Sethi, B.B. and Manchanda, R.  
1978  
Socio-economic, Demographic and Cultural Correlates of Psychiatric Disorders with Special Reference to India, *Indian Journal of Psychiatry*, 20(3), 199-211.  

Sethi, B.B. and Prakash, R.  
1979  

Shah, A.V., Goswami, U.A., Maniar, R.C., Hajariwala, D.C. and Sinha, B.K.  
1980  

Singh, H.G.  
1977  

Verghese, A. and Beig, A.  
1974  


World Health Organisation 1960

Epidemiology of Mental Disorders (Technical Report No. 185), Geneva.

1962