

## MENTAL MORBIDITY AND URBAN LIFE—AN EPIDEMIOLOGICAL STUDY\*

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### SUMMARY

A survey of the mental morbidity of an urban group and two rural groups was made with the same method, same operational definition of a case and by the same team. The aim was to find out the nature and extent of the difference in their rates of morbidity and to identify the psychosocial variables associated with this difference. It was found that the rate of total morbidity was significantly higher in the urban group than in the rural groups. Psychosis was, however, commoner among the Brahmins, a rural group. The wide difference in the rates of mental morbidity between the urban and rural groups was mainly due to the difference in the rate of neurosis (165.3/1000, 51.6/1000 and 1.5/1000 respectively). The rate of neurosis in its turn was considered to be positively correlated with certain psychosocial characteristics irrespective of urban or rural residence of the group concerned.

The relationship between the prevalence of diseases and the external condition surrounding the individual and the manner of his life is one of the important area of epidemiological study. Several field-studies have been undertaken to examine the prevalence of mental disorders in urban and rural areas of this country and many of them have reported that the rates of prevalence are higher in urban than in rural areas (Sethi *et al.*, 1967, 1972; Dube, 1970). In the rural population surveyed by Sethi *et al.* (1972) prevalence was 39 per thousand. In their study of urban population (1967) the rate was 72.7 per thousand. Dube (1970) reported 18.24 per thousand in rural population and 24.98

per thousand in urban (industrial) population.

In an industrial population surveyed by Ganguli (1968) the rate of morbidity was 146 per thousand. Shepherd *et al.* (1966) found a total prevalence rate of 139.4 per thousand for all types of psychiatric disorders in a representative sample derived from 46 general practices in Greater London. Leighton (1956) discovered by a sample survey in the small town of Bristol the prevalence of 370 per thousand. Nandi *et al.* (1975) found that the rate of prevalence was 102.8 per thousand in a rural community. Elnagar *et al.* (1971) surveyed a rural area in West Bengal and reported that the rate of prevalence was 27 per thou-

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sand of population. These widely varying rates of prevalence reported by different team of workers might be at least partly due to the difference in the methodology of the field-studies.

We, therefore decided to estimate the prevalence of mental disorders in urban and rural areas by the same team using the same methods, diagnostic criteria and operational definition of a 'case'.

Our aim was to compare the nature and extent of the difference in the rates of mental morbidity in the urban and rural areas and to identify the social variables associated with this difference.

With this aim in view, a team of psychiatrists made a door to door survey of the prevalence of mental morbidity in a group of families of high officers resident in their official quarters in an urban area. The same team conducted a survey of the mental morbidity in two rural communities—Brahmins and Santhals.

#### MATERIAL

##### *General remarks :*

It was anticipated that difficulties and prejudices are likely to be encountered by workers unknown to the population under survey. Hence special care had been taken to gain the confidence of the people before the actual survey began. The workers of the team made personal contact with the significant members of the communities and spoke freely with each of them till doubts were dispelled about the nature and purpose of the survey. It was made abundantly clear that the survey would be made in the best tradition of scientific enquiry and complete anonymity would be maintained. Facts divulged by them would never be used against their personal interests.

##### *The Sample :*

The field-survey was conducted in certain villages scattered in the non-industrialized areas of West Bengal. All the

families of every village constituted our sample. All the families of officers staying in their official quarters in a particular area of a city were taken as our urban sample. The villages had no facility for general medical or psychiatric care, no adequate facility for transport or communication throughout the year and they were not yet fully electrified. The officers' residential area on the other hand, had all these facilities.

##### *Demographic characteristics of the sample :*

The three groups were very close to one another in size. The number of persons in the officers' families was 647 (Male—307, Female—340). The Brahmins numbered 562 (Male—293, Female—269) and the Santhals, 653 (Male—335, Female—318). Size of the families in different groups, however, varied significantly. The average size of the Brahmin families was the biggest (6.5) and that of the officers smallest (3.8). The average number of members in a Santal family was 4.4. There were certain peculiarities in the distribution of the families in different groups. Among the Brahmins big families having 7 or more members were quite common (39.1%). Among the officers such families constituted only 2.3% of the total families. The large families of the Brahmins were possibly linked with their land-based economy, whereas the small families of the officers might have been the outcome of the compulsions of urban life and horizontal mobility.

**Socio-economic status** as measured by the per capita income showed a marked disparity among the three groups. The rural groups—Brahmins and Santhals—did not have among them a single family having a per capita income above Rs. 300. Among the officers, on the other hand, over 80% of the families have a per capita income above Rs. 300. Economically the groups are poles apart. The officers have the highest per capita income (Rs. 504.5) and the San-

thals, the lowest per capita income (Rs. 45). The Brahmins are marginally better off than the Santhals (Rs. 67).

**Age-distribution**—Among the rural groups—Brahmins and Santhals extremes of age showed a relative concentration of population. In the youngest age-group (0-4 yrs.) the Brahmins had 9.6% of the population and the Santhals, 11.5%. In the oldest age-group (60 yrs. and above) Brahmins 6.2%, Santhals 4.3%. The corresponding percentage among the officers were 2.8% and 1.1% respectively. This fact may possibly be explained by a lower birth rate among the officers and their retirement from active service before they attain 60 years of age. Among the officers maximum concentrations of populations were found in the 15-24 year and 45-59 year age-groups. Among the rural groups (Brahmins and Santhals) the biggest single group was the 5-14 year age-groups.

## METHODS

### Collection of data :

The team of workers took pains to establish rapport with the communities to be surveyed. They contacted the significant persons of the locality, met them in small group meetings and explained to them the purpose of the study. They were assured that the facts divulged by them would never be used against them and complete anonymity would be maintained.

Four Schedules were prepared to collect and tabulate the data. (i) Household Schedule—records the data concerned with the family structure, housing, economy, identification of the family etc. (ii) Case-detection Schedule—put in Bengali, leads to the identification of all possible mental diseases. (iii) Case record Schedule—gives all relevant information regarding the case detected and records the findings of the examination and final diagnosis. (iv) Structured Interview Schedule—contains questions which deal with the moral and ethical

values and the general way of life of the community.

An operational definition of a 'Case' and a diagnostic criterion of each disease were formulated prior to the beginning of the survey (Nandi *et al.*, 1973).

The core of the design of the study was a door to door enquiry of each family as a unit and of each individual member of the family separately. The data were collected first from the head of the family and again from each member of the family to make sure by cross-verification that all the facts are obtained. Whenever a probable case was detected, a thorough examination both physical and psychiatric was made by the two seniormost psychiatrists of the team separately and diagnosis was made independently. In the event of divergence of opinion between them, the issue was discussed, the case was re-examined and an agreed diagnosis reached. The agreement between the two psychiatrists was very high.

### Total morbidity

The rates of total mental morbidity in the three groups differ significantly from one another. The highest rate of morbidity (20.7% or 207 per thousand) was found among the urban group. Dohrenwend and Dohrenwend (1974) analysed the reports of several studies made by investigators who

TABLE I—Distribution of the affected members in the three groups

Groups	Affected	Non-affected	Total
Officers	194 (20.7)	513 (79.9)	697
Brahmins	80 (14.2)	482 (85.8)	562
Santhals	28 (4.3)	625 (95.7)	653

Figures in parentheses are percentages  
 $\chi^2=78.6$ , d.f.=2,  $p<0.01$

surveyed both rural and urban segments of the populations and came to the conclusion that despite the diversity of time, place and method of assessing disorder, there is a consistent tendency for total rates of psychiatric disorder to be higher in urban than in rural areas.

The two rural groups differ from each other more widely. The Brahmins have a rate of morbidity as high as 14.2% (142 per thousand) while the Santhals—the other rural group have the low rate of 4.3% (43 per thousand). In our study of other tribal groups (Lodha and Munda), we found 3.7% (37 per thousand) as the rate of mental morbidity (Nandi *et al.*, 1977). It appears that the tribal community has a comparatively low vulnerability to mental illness compared to their Brahmin neighbours

and the urban officers. The obvious question is why this should be so.

### Types of morbidity

A study of the subtypes of mental illness will enlighten us about the nature of this difference. Table II gives the distribution of different types of mental illness in the three groups by sex. The first point that attracts our attention is that Depression is the most prevalent psychotic illness and women have the higher rate in all three groups. In many other rural groups which include upper caste Hindus, Scheduled Castes, Muslims and Tribals, it was consistently found by us that Depression was the commonest illness and women were the worse victims (Nandi *et al.*, 1975, 1977, 1979). Schizophrenia is very common

TABLE II—Distribution of different types of illness in the three groups by sex

Disease	Officers			Brahmins			Santhals		
	M	F	T	M	F	T	M	F	T
Schizo	—	1 (2.9)	1 (1.5)	5 (17.1)	3 (11.2)	8 (14.2)	—	1 (3.1)	1 (1.5)
Depression	7 (22.3)	12 (35.3)	18 (29.4)	6 (20.5)	17 (63.2)	23 (40.9)	3 (9.0)	12 (37.7)	15 (23.0)
Mania	1 (8.3)	1 (2.9)	2 (3.1)	5 (17.1)	—	5 (8.9)	1 (3.0)	—	1 (1.5)
M.D.	1 (3.3)	—	1 (1.5)	8 (27.3)	5 (18.6)	13 (23.1)	5 (14.9)	1 (3.1)	6 (9.2)
Epilepsy	3 (9.3)	1 (2.9)	4 (6.2)	1 (3.4)	1 (3.7)	2 (3.6)	3 (9.0)	1 (3.1)	4 (6.1)
Anxiety	9 (29.3)	14 (41.2)	23 (35.5)	2 (6.8)	8 (29.7)	10 (17.8)	—	—	—
Hysteria	—	2 (5.9)	2 (3.1)	—	4 (14.9)	4 (7.1)	—	—	—
Obsession	7 (22.5)	22 (64.7)	29 (44.8)	4 (13.7)	6 (22.3)	10 (17.8)	1 (3.0)	—	1 (1.5)
Phobia	9 (29.3)	37 (108.8)	46 (71.1)	4 (13.7)	1 (3.7)	5 (8.9)	—	—	—
Dep (N)	—	7 (20.6)	7 (10.8)	—	—	—	—	—	—
Total	37 (120.5)	97 (285.3)	134 (207.1)	35 (119.5)	45 (167.3)	80 (142.4)	13 (38.8)	15 (47.2)	28 (42.9)

Figures in parentheses indicate rate per thousand.

among the Brahmins (14.2 per thousand). But among the officers and Santhals, who differ widely in their rates of total morbidity, the rate of Schizophrenia is identical (1.5 per thousand). This is a very significant pointer to the nature of difference in the vulnerability of the well placed urban and the lowly placed rural communities to mental illness. It may be noted that in our other field-studies too we found a high rate of prevalence of Schizophrenia among the Brahmins (Nandi *et al.*, 1980). It may be postulated that the low rate of Schizophrenia among the tribals may be a function of their inability to protect their chronically ill members (Nandi *et al.*, 1977) while the low rate among the urban families may reflect their inability to tolerate their perpetually deviant and burdensome members. It is interesting to note that Hysteria is rare among the sophisticated urban group and absent among the backward tribal groups. Among the Brahmins who stand between the two groups, Hysteria is quite common among their womenfolk (14.9 per thousand). Dube (1970), in his rural survey made near Agra, found that the prevalence of Hysteria among the Brahmins was 11.7 per thousand and the majority among them were women. He reported that Hysteria was as common as 18.4 per thousand among the Kayasthas (another upper caste Hindu) and implicated environmental stresses such as joint

family system, restriction of independence of women and monotony as the causative factors. In the lower castes (e.g. Jatavs) in his survey these factors were counterpoised by the active remunerative service performed by the women outside their family environment. The rate was also expectedly low among them (5.6 per thousand). The condition obtaining in our tribal sample is comparable to that of the Jatavs.

Obsession is quite common among the women of the urban officers and the rural Brahmins (64.7/thousand and 22.3/thousand). It has been suggested that obsession is a disorder of superego conflict. Both the groups have an abundance of it arising out of a struggle between a traditional value system and the forces let loose against them in the modern era (Nandi *et al.*, 1980). The Brahmins, who live in a stagnant rural economy, are disillusioned over the futility of their traditional values and way of life which fail to ensure them a decent living. The officers on the other hand are allured in their urban setting by the modern avenues of pleasures and frantically elbow their way to the ladder of upward mobility. Though the overall rate of morbidity is higher in the urban area than in the rural area, the rate of psychosis is the highest among one of the rural groups viz. the Brahmins (64/1000). Several workers who have reported data from both

TABLE III—*Distribution of psychosis and neurosis in the three groups by sex*

Disease	Officers			Brahmins			Santhals		
	M	F	T	M	F	T	M	F	T
Psychosis	8 (26.1)	14 (41.1)	22 (34.0)	16 (54.6)	20 (74.3)	36 (64.0)	4 (12.0)	13 (40.8)	17 (26.0)
Neurosis	25 (81.4)	82 (241.2)	107 (165.3)	10 (34.1)	19 (70.6)	29 (51.6)	1 (3.0)	—	1 (1.5)
Total	33 (107.5)	96 (282.3)	129 (199.3)	26 (88.7)	39 (144.9)	65 (115.7)	5 (15.0)	13 (40.8)	18 (27.5)

Figures in parentheses indicate rates/thousand

the urban and rural areas, have found higher rate of psychosis in the rural area (Dohrenwend and Dohrenwend, 1974). The rate of neurosis, however, is remarkably higher in the urban area. The officers have a rate as high as 165.3/1,000, the Brahmins, a rate of 51.6/1000 and the Santhals, as low as 1.5/1000. The rate of neurosis among the officers, an urban group, is three times that of the Brahmins, a rural group. This difference might be explained by the difference in the characteristics of rural and urban life. But the wide difference in the rate of neurosis between the two rural groups—Brahmins and Santhals needs a separate explanation. There must be some factors which might be associated with prevalence of neurosis, but independent of the characteristics of rural and urban life. In a recent study (Nandi *et al.*, 1979) we explored the possible relationship of socio-economic factors, with the prevalence of total mental morbidity, neurosis and psychosis. Though it was found that in certain groups socio-economic factors such as type of family occupation, land, farm power were positively related with higher rate of neurosis, these two rural samples could hardly be compared on those points.

We assumed that the apparently different psycho-social life of the two rural communities might give some clue to the possible cause of this difference. So we devised a structured interview schedule to obtain facts, ideas and practices relating to the social value system, child-rearing practices and the way of life with special reference to future planning—financial, educational of the three groups. The data obtained by this method were verified from different families and several adult members of the same family. The results indicate that the three groups differ significantly from one another in most of the items for which data were collected. The general trend of difference suggests that the officers and the Brahmins have many things in common. They followed a rigid, formal and codified

TABLE IV—Difference in the attitudes between the groups

Group Items	B/O	B/S	O/S
Education	NS	S	S
Toilet Training	S	S	S
Cleanliness	NS	S	S
Future Planning	NS	S	S
Smoking Habit	NS	S	S
Antisocial Acts	NS	S	S
Drinking Habit	NS	S	S
Ethical and Moral values.	NS	S	S

S=Significant NS=Non Significant

value system in their personal and community life. Among the Santhals, on the other hand, life is liberal, informal and instinctive drives are allowed a greater freedom. A significant point that differentiates the Santhals from the other two groups is that the former have little urge to plan their future while the latter have a great preoccupation with their future. This preoccupation with a secure future make the Brahmins and the officers vulnerable to more stress and more insecurity. This paradox is likely to be consistently associated with more neurosis. Indeed we do find a much higher rate of neurosis among the Brahmins and the officers than among the Santhals. Higher rate of neurosis among the higher socio-economic classes has been reported (Hollingshed and Redlich, 1958, Nandi *et al.*, 1977, 1979). Dohrenwend and Dohrenwend (1974) summarized data on the prevalence of neurosis and found that higher rate of neurosis is almost consistently present in the urban and upper classes. The ethos of the desirability of upward social mobility and the search for security which pervade the mind of the urban and upper classes might be related with this higher rate of neurosis. The Brahmins, though a rural group, are burning with the desire for upward social mobility but the Santhals have no social stratification and as

a corollary to commonly shared desire for upward social mobility.

The ecological characteristics of urban or rural life is not the correlate of rate of mental morbidity. The psychological characteristics of the people should be the target of further research for the identification of factors significantly related to the prevalence of mental morbidity.

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