

PSYCHIATRIC MORBIDITY IN AN URBAN SLUM-DWELLING COMMUNITY

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SUMMARY

The present study concerns the prevalence of psychiatric morbidity in a slum area in Calcutta and its relation to certain demographic and social variables. The survey was carried out by a team of psychiatrists by a door-to-door enquiry. Significant relationships of mental morbidity were found with age, sex, caste, socio-economic status and family size.

Psychiatric epidemiological studies differ in their methodologies, definition of a Case and in diagnostic criteria and classification. In spite of these differences some useful data have enriched our knowledge of the patterns of morbidity in India based on area of residence and socio-economic status of the community.

Dube (1970) made a field-survey of mental morbidity in a rural area in U. P. and reported that the rate of morbidity was 18.24 per thousand. Elnagar *et al.* (1971) surveyed a village in West Bengal and reported that the rate of morbidity was 27 per thousand. Sethi *et al.* (1967) made a survey of an urban area in U. P. and estimated morbidity at 72.7 per thousand of the population. Verghese *et al.* (1973) studied a representative group of families in a South Indian town and found that the rate of morbidity was 66.9 per thousand.

Nandi *et al.* (1979) conducted a

survey of mental morbidity in certain villages in West Bengal and reported that people belonging to higher socio-economic status had higher rate of mental morbidity. In their survey of an urban community of higher socio-economic status Nandi *et al.* (1980) found the rate of mental morbidity to be as high as 207 per thousand. It may be assumed that the rate of prevalence of mental morbidity of an urban community of lower socio-economic status may be different from that of an urban community of higher socio-economic status. Hard data on this topic is scarce in our country.

This lacuna in our knowledge of the prevalence of mental morbidity in the lower socio-economic class of the urban people prompted us to undertake a psychiatric field-survey of a slum dwelling community in a major city of India. An attempt has been made in this paper to present the salient findings of that survey.

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METHOD AND MATERIAL

A team, consisting of psychiatrists and a statistician, met on a few occasions for properly designing the study. Two members of the team (D. N. & B. S.) paid a number of visits to a slum locally referred to as Motijheel colony, in the eastern part of Calcutta. Acquaintance was made with a number of local young men, keenly interested in the welfare of the resident population. Through them contact was established with other significant members of the community. In a series of meetings the aim and nature of the study was explained with the assurance that the information obtained would be used for scientific purposes only and complete anonymity would be maintained. That the study would be of no material benefit to them was explicitly stated. However, assistance towards the treatment of the physical and mental ailments uncovered during the study was offered. More than two-thirds of the target population are Bengalee Hindu. Majority of the others came from Bihar and U. P. For the purposes of this paper, only the former will be discussed. For the main part the Bangalees are refugees from the erstwhile East Bengal (now Bangladesh), having migrated from their homeland and settled here about 30 years ago.

In occupation, the majority are skilled or unskilled manual labourers. A few beggars also reside in the area. There are a handful of well-to-do families who live in pucca houses with provision of private sanitary privies and water supply. In general, the families live in single-roomed units, three to six per room, about five or six families sharing a toilet and a common bathing area. An average room measures 9 by 7, the ceiling no higher than 8, with one or at the most two small windows for light and ventilation. The darkness inside is not fully dispelled even on a bright

cloudless day and ventilation is similarly poor.

Collection of data :

The study was conducted by a door to door survey by the team over a period of three months in April, 1980. Work was mostly carried out at the week-ends working till late evening and on other holidays during the span of the study.

Four schedules were prepared to collect and tabulate the data.

i. Household Information Schedule.

ii. Socio Economic Status Scale Developed by Kuppaswamy:—this scale is standardised to measure the socio-economic status of urban families in India. Scoring is done on the three items of education, occupation and income.

iii. The Case Detection Schedule—This schedule containing 75 questions in Bengali, has been prepared in consultation with other psychiatrists (not members of the team). To test the validity and reliability of the case detection schedule a pilot study was undertaken. The schedule was used by two workers independently to separate the affected ones from a group of persons. It was found that the schedule separated the normals from the abnormals consistently. The percentages of sensitivity (the ability to detect a high proportion of true positives) and specificity (the ability to detect correctly the true negatives) were very high.

iv. The Case-Record Schedule gives all relevant information regarding the case detected and records the findings of the examination and final diagnosis.

The operational definition of a 'case' mentioned in the W. H. O. Technical Report Series (1960) No. 185 was accepted with minor modification for use in

the present survey (*see Appendix*). Each case was diagnosed on the basis of a diagnostic criterion determined for each disorder prior to the beginning of the survey. The glossary of diagnostic criteria is given in the Appendix.

The core of the design of the study was a door to door enquiry of each family as a unit and of each individual members 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 were obtained. Whenever a probable case was detected, a thorough examination, both physical and psychiatric was independently made by two senior-most psychiatrists of the team and the two diagnoses correlated. In the event of divergence of opinion, the issue was discussed, the case was re-examined and an agreed diagnosis was arrived at. The agreement between the two psychiatrists was very high.

Statistical analysis of the data

The Chi-square test for association was employed to test the significance of the association between two attributes. Data were classified into two way tables and the value of the chi-square statistic was obtained by the usual formula. In case of $2 \times k$ tables, Brandt Snedecor's formula was adopted for computing the chi-square value. Whenever any cell frequency was observed to be lower than 5, necessary Yate's correction was made.

RESULTS

The total population was 2168. 51.06% or 1107 of these were males and 48.94% or 1061 were females. The average number of members per family was 6.23. The number of families affected comprise 26.72% of all the families. 99 cases were detected corresponding

with a case-rate of 48.7 per thousand. Among the males the case-rate is 30.71 per thousand while among females the rate is almost twice the former i.e. 61.26 per thousand.

The morbidity data in relation to different variables are presented in the following Tables.

TABLE I. *Distribution of the prevalence of Psychiatric morbidity by age and sex.*

Age	M	F	Total
0-4	0	1 (10.52)	1 (5.56)
5-14	12 (46.69)	5 (17.36)	17 (31.19)
15-24	6 (21.73)	12 (48.97)	18 (34.54)
25-34	6 (34.68)	12 (79.47)	18 (55.55)
35-44	1 (8.84)	7 (66.03)	8 (36.53)
45-59	5 (34.01)	15 (161.2)	20 (83.33)
60+	4 (71.42)	13 (156.62)	17 (122.30)
Total	34 (30.71)	65 (61.26)	99 (45.66)

$\chi^2=13.26$, d.f.=5, $p<0.05$

Figures in parantheses indicate rate per thousand

Table I presents the rate of morbidity by age and sex. It is found that morbidity increases proportionately with age except for a drop at the age group 35.44. This pattern is also followed if the females are separately considered but not for the males.

From Table II, which presents the distribution of different types of disorders by sex, it is seen that mental morbidity in females is almost twice that of males. The increase in morbidity rate of females over males is maintained in

TABLE II. *Distribution of different types of disorders by sex*

Diagnosis	M	F	Total
1. Schizophrenic	5 (4.51)	7 (6.60)	12 (5.9)
2. Depression	7 (6.3)	31 (29.2)	38 (17.3)
3. Manic Depression Psychosis	—	2 (1.88)	2 (0.98)
4. Anxiety Neurosis	2 (1.81)	2 (1.88)	4 (1.86)
5. Hysteria	2 (1.8)	8 (7.54)	10 (4.9)
6. Obsessive compulsive Neurosis	—	1 (0.94)	1 (0.49)
7. Phobia	—	3 (2.82)	3 (1.47)
8. Neurotic Depression	2 (1.8)	5 (4.7)	7 (3.2)
9. Epilepsy	4 (3.61)	3 (2.87)	7 (3.44)
10. Mental Deficiency	8 (7.2)	3 (2.82)	11 (5.07)
11. Behaviour Disorder	4 (3.61)	—	4 (1.96)
Total	34 (30.72)	65 (61.26)	99 (48.69)

Figures in parenthesis indicate rate per thousand

TABLE V. *Distribution of Psychiatric Morbidity by Caste*

Caste	No of Families	Population	Members per Family	Morbidity			Case rate per Thousand
				M	F	Total	
Brahmin	13	60	4.62	3	4	7	116.7
Intermediate Castes	252	1581	6.3	25	40	70	44.3
Scheduled castes	72	453	6.3	3	14	17	37.5
Total	337	2094		31	63	94	

all the disorders individually except Epilepsy, Behaviour Disorder and Mental Retardation.

TABLE III. *Distribution of affected and non affected families by their size*

Family size	Affected	Non affected	Total	% Of affected families
1	5 (5.4%)	15 (5.9%)	20	25.0
2-3	10(10.75%)	51(20%)	61	16.4
4-6	41(44.1%)	122(47.8%)	163	25.2
7-10	32(34.4%)	63(24.7%)	95	33.7
11+	5 (5.3%)	4 (1.6%)	9	55.6

(The last column i.e. % of affected families has been calculated as affected \times 100/total in each category)
 $X^2=10.20$, d.f.=4, $p<0.05$

TABLE IV. *Distribution of affected and non-affected families by the SESS (Kuppuswamy)*

SESS	Non-affected (N=255)	Affected (N=93)	% of affected families
I	3 (1.17%)	—	—
II	9 (3.52%)	—	—
III	59(23.13%)	22(23.65%)	27.2
IV	172(67.45%)	56(60.2%)	24.6
V	12 (4.70%)	15(16.12%)	55.6

(The last column i.e. % of affected families has been calculated as affected \times 100/total in each category)
 $X^2=11.37$, d.f.=2, $p<0.01$
 (based on frequencies in the last three SESS classes)

Table IV displays the distribution of affected and non affected families according to the socio-economic status scale of Kuppuswamy. The remarkable feature is that more than half the families of social class V are affected.

The distribution of psychiatric morbidity by caste is given in table V. It is seen that in the Brahmins, the case-rate is almost two and a half times as that in the intermediate castes.

DISCUSSION

With regard to age, there is an increase of morbidity with increasing age except for a drop in the 35-44 category (Table I). Nandi *et al.* (1975), in a rural survey, found that mental morbidity shows a tendency to rise with advancing age. Similar trends have been observed by Elragar *et al.* (1971). Dube (1970) reported that psychiatric morbidity increases proportionately upto the age of 34-44 years followed by a decline. Verghese *et al.* (1973) found that mental morbidity was lowest in the 13-20 age group and highest in the 31-45 category. Whereas Ganguly (1968) in an industrial population did not find any significant variations related to age group. After a review of literature Dohrenwend and Dohrenwend (1974) came to the conclusion that age shows no consistent relationship with morbidity in most studies.

Gove and Tudor (1973) surveying much of the Western literature came to the conclusion that mental illness was commoner in females. They suggested that the social forces upon females in western society may be responsible for this difference. It is possible that social roles played by women in the East, a mosaic of many ethnic and cultural groups, though different from those of the women in the West, are similarly responsible for this difference. Nandi *et al.* (1980) suggested that the sex diffe-

rence in the vulnerability to mental illness may be biologically rather than culturally based. The higher rates of mental subnormality and epilepsy in the males may be associated with child rearing practices in the community, as male children, normal or abnormal, are almost always entitled to greater care and attention than the female children. This may have a bearing on the greater survival rate of male children.

The rate of total morbidity in the community was 48.69 per thousand. This is slightly lower than the rate (72.7 per thousand) obtained by Sethi *et al.* (1967) in a sample of urban population considered irrespective of socio-economic class. The corresponding rate reported by Nandi *et al.* (1980) in a sample of urban population of higher socio-economic class was much higher (207 per thousand).

The higher rate of morbidity reported by Nandi *et al.* (1980) was partly explained by the fact that the rate of neurosis in that sample was very high (163.3 per thousand). In this urban sample belonging to lower socio-economic class the rate of neurosis is quite low (12 per thousand). This difference in the rate of prevalence of neurosis in upper and lower socio-economic classes might be at the root of the wide divergence in the rate of total morbidity of different socio-economic classes.

The prevalence of schizophrenia on the other hand is quite high in this sample (5.9 per thousand). In an urban upper socio-economic sample Nandi *et al.* (1980) found the rate of schizophrenia to be 1.5 per thousand. Nandi *et al.* (1975) in a survey of a rural community of lower socio-economic status found that the rate of prevalence of schizophrenia was 2.83 per thousand. The higher rate of psychosis in the lower socio-economic class of urban population has been reported by Srole *et al.* (1962). Faris and

Dunham (1939) reported that schizophrenics tend to come from the lowest social class and from the slum areas of great cities.

Depression was the commonest mental illness in the community (17.5 per thousand) and women were more vulnerable than men. This is in conformity with the findings of rural surveys of Nandi *et al.* (1975, 1979) and Field (1960) and urban survey of Nandi *et al.* (1980).

Increasing family size is positively related to the rate of mental morbidity (Table III). The percentage of affected families increases steadily from the 2-3 membered families to the 11+ category. However the relatively high percentage in the single membered category is interesting to note 4 of the 6 cases were widows above 55, economically dependent and suffering from Depression. The remaining member was a 46 year old unmarried male suffering schizophrenia. Sethi *et al.* (1967) in their urban survey in U. P. found that large families possessed greater number of patients.

Nandi *et al.* (1975) in their rural survey in West Bengal found that smaller families were healthier. The greater vulnerability of bigger families to mental illness, therefore, cuts across areas of residence. Both urban and rural families show a similar trend in this respect. The emotional stress caused to each member by the patterns of interaction peculiar to a large family may have some injurious effect on mental health.

In this survey we have found a higher rate of affectivity in families of the lower socio-economic classes (Table IV).

Although no satisfactory explanation of this phenomenon has so far been offered, a plausible suggestion is that lower socio-economic status of the affected families is an effect of the illness.

The psychiatric morbidity of 48.7/1000 in the present study is lower than

most other studies in urban areas in India and abroad. Further studies in other slum areas in the same city and other major cities in India will be required to elucidate the reasons. The high rate of mental morbidity among the Brahmin caste, as also among those in Social class V are other findings that merit further study.

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APPENDIX

Operational Definition of A Case (Adult)

“A manifest disturbance of mental functioning specific enough in clinical character to be consistently recognisable as conforming to a clearly defined standard pattern and severe enough to cause at least partial loss of working or social capacity or both of a degree which can be specified in terms of decrease in quality and /or quantity of work or of the taking of legal or other social action.

GLOSSARY OF DIAGNOSTIC CRITERIA

Schizophrenia:

A disorder characterized by a fundamental disturbance of the personality involving its most basic functions. The schizophrenic disturbance shows itself in a setting of clear consciousness. The patients has the utterly unfamiliar experience of his thought, feelings and acts being shared by others accompanied by bizarre delusions of thoughts being influenced by outside agencies which may be natural or supernatural. Hallucinations are common, predominatly auditory which comment on his thoughts

and action. Circumstantial and vague thoughts are often expressed in incomprehensible speech.

Thought block, thought withdrawal and thought broadcasting are also very often present. Affective state becomes capricious and inappropriate to a given situation. No sub-classification of schizophrenia should be attempted. Paranoid state and Paraphrenia should be included.

Depression:

An affective disorder characterized essentially by morbid changes of mood in the form of depression which is unprovoked by any physical or environmental cause and expressed by feeling of misery, gloom and wretchedness often tinged with anxiety. Self-rereproach, moral worthlessness (guilt feeling), and suicidal tendency, are quite common. When occurring for the first time in late forties, strong peranooid component may be present. Hypochondriacal ideas which in extreme cases may be

nihilistic and bizarre, are frequent. The mood tends to be worse in the morning. Biological symptoms like disturbances of sleep pattern, early morning waking being the rule, loss of weight, appetite and libido are almost invariably present. There is retardation of thinking and action which may proceed to the level of stupor. This psychotic state has a tendency to recur and is often self limiting.

Endogenous Depression, depressed type of MDP, Reactive Depression and Involutional Depression have all be included. But Neurotic Depression should be classified separately.

Neurotic Depression:

When depression follows a psychic trauma excessive preoccupation around it and with unmistakable difference in psychological and biological concomitants of (psychotic) Depression it is put in the category of Neurotic Depression. There are differences in biological symptoms e.g. disturbance of sleep is in the nature of difficulty in getting off to sleep in the early part of the night diurnal variation of mood shows worse mood in the evening and loss of weight, appetite and libido is not typically in evidence. The psychological symptoms of extreme misery, gloom, self-depression guilt feeling suicidal ideas etc. are not prominent.

Hysteria:

Both dissociative and conversion phenomena are included. In dissociative states, in the absence of organic brain disease, there is narrowing of the field of consciousness limited to a circumscribed area of experience. All activities, a redirected to a goal within that area. Usually a complete amnesia follows this periodic altered consciousness. By conversion is understood a psychogenic disturbance of function of

an organ or organs of the body. These symptoms often take the form of sensory, motor or visceral disturbances which are not based on the anatomical organisation of the body. Very often scizures of a pseudo-epileptiform or syncopal character without real unconsciousness occur which last for several minutes to hours, usually is presence of other persons. They are characterized by this variability and a symbolic meaning of which patients is unaware. Conversion phenomena must always bring a primary gain to the patient. Those who showed symptoms during the last 12 months from the date of examination are to be included.

Anxiety:

A disorder in which the principal manifestation is anxiety which may be described a painful uneasiness of mind, a state of heightened tension with an element of apprehensive expectations. It present in the psychic and somatic field and is diffuse in nature. Though other neurotic components such as obsessional or hysterical phenomena may be present, they do not dominate the clinical picture.

Obsession:

This is synonymous with obsessive compulsive Neurosis. This conditon manifests itself as persistent thoughts and acts which the patient is compelled to repeat, though he recognise their absurdity or unreasonableness. Attempt to dispel these experiences lead to an inner struggle which may involve the whole of the patient's a psychic activity. Although the content is experienced as alien to the personality it is always recognised as coming from within the self. Cases, in which obsessive compulsive symptoms are associated with Depression or Schizophrenia, should be excluded.

Phobia:

It is a condition of abnormally intense dread often amounting to panic of an object or situation which may be unique to the patient. But certain common forms are found e.g. dread of open or closed spaces dread heights etc. Though the patient is aware that no real danger exists, yet he cannot but experience the intense dread when exposed to the specific phobia stimulating object or situation.

Mental deficiency:

This category consists of persons of subnormal general intellectual functioning which originates during developmental period and is associated with impairment of maturation, learning and social adjustment. The upper age-limit or the developmental period is arbitrarily set at 16 years. The assessment is clinical. No psychometric test

need be given: nor any effort be made to determine the degree of defect.

Epilepsy:

A symptom complex characterized by periodic transient episodes of alteration in the state of consciousness which may be associated with convulsive movements or disturbance in the line or behaviour or both. No effort need be made to differentiate Epilepsy by types of seizures. Those showed symptoms at any time during the last 12 months from the date of examination would be included.

Behaviour Disorder:

This term embraces a heterogenous collection of phenomena in children comprising mostly problems of social or anti-social conduct. These are lack of sociability, emotional disturbances, truancy, wandering, temper tantrums, lying, stealing, begging, cruelty, sex misdemeanours, food fads, refusal of food.