

## NEUROPSYCHIATRIC MORBIDITY IN A BEGGARS' COLONY

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### SUMMARY

A beggar's colony where a neuropsychiatric extension clinic is being run by NIMHANS, Bangalore, was selected for this study wherein 78 neuropsychiatrically ill inmates and 85 well ones were examined and diagnosed as per I.C.D.-9 and followed up on treatment. A period prevalence of 131.09/1000 serious neuropsychiatric morbidity was found with psychoses, mental retardation and epilepsy being more frequent than in general population studies. Findings in this study, point towards a need for reaching neuropsychiatric care to this section of society, and also confirm the association of certain social factors with serious morbidity.

Epidemiological research on neuropsychiatric morbidity in India has to a large extent concentrated on studies of incidence and prevalence in rural and urban communities and to a lesser extent, work has been done on special population sub-groups such as industrial workers, slum dwellers, alcoholics, drug abusers, students etc. But Prabhu (1980) comments that "the underprivileged sections of our society have not received much attention. Social and cultural deprivation is seen in some of the minority groups". One such underprivileged section exists in the destitute homes and beggars' colonies of the country and very little, if any, information seems to be available on the inmates of these facilities.

A study of these inmates becomes important not only in terms of comparison with the already existing epidemiological data-base but also in terms of planning mental health programmes for them if found necessary and viable.

The findings of workers on general epidemiology vary widely (vide Table 1) from the 9.5/1000 prevalence rate reported by Surya et al (1964) to the 370.0/1000 reported by Kapur (1973).

However, the study of socially deprived classes have been few. Gehlot et al (1979)

conducted a mental morbidity survey of a predominantly muslim slum in Udaipur, Rajasthan. They found an overall prevalence rate of 22.6/1000 as per ICD-8 diagnoses. They found prevalence rate of alcohol dependence-8.9, mental retardation-6.8, and others including psychoses-6.9. The results of this study are to be viewed in the light of the prominent religious stratification of the population under study. Katagade (1976) conducted a door to door study of mental morbidity in low income group families of an industrial area and found an overall prevalence rate of 120.78/1000: Rates of Schizophrenia were 3.35, Melancholia-3.35, Organic psychoses-6.7, Mental retardation-6.7, Neuroses and miscellaneous disorders-81.83. Sharma (1983) in a study of a slum in Jaipur city with mixed religious, class and occupational status composition already receiving some psychiatric help from an extension OPD, found an overall prevalence of 91.6/1000 psychiatric disorders. Neurosis and miscellaneous disorders being 31.5/1000. Other rates were: Psychoses (no cases of Schizophrenia were detected)-4.1; Mental retardation-8.1; Epilepsy-2; Morbidity increased with decreasing social class, male cases outnumbered female, muslims had the least morbidity and migrants

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Table 1  
Prevalence of Neuropsychiatric morbidity reported in some General population studies\*

Sl. No.	Diagnosis	Surya et al (1964)	Sethi et al (1967)	Gopinath (1968)	Dube (1970)	Elnagar et al (1971)	Sethi et al (1972 b)	Kapur (1973)	Thacore et al (1973)	Vergheese et al (1973)	Nandi et al (1975)	Shah et al (1980)
1.	Schizophrenia	1.5	2.3		1.49	4.35	1.1		1.9	1.7	2.83	1.5
2.	Affective Psychosis		6.9	7.0	0.51	2.9	1.5	8.1	1.5	0.3	37.74	14.8
3.	Involuntional melancholia								0.4	1.7		
4.	Organic Psychosis				0.64				0.8	1.7		
5.	Epilepsy	2.2		2.36	2.24	4.35			1.9		10.38	
6.	Mental retardation	0.7	22.5	4.72	3.7	1.45	25.3	5.7	3.7	8.3	2.83	1.8
7.	Neuroses & Miscellaneous	5.1	41.0	2.36	9.4	14.5	11.5	253.0	71.4	52.7	49.04	29.2
	Total Prevalence	9.5	72.7	16.54	17.99	27.55	39.4	370.0	81.6	66.5	102.82	47.3

\* All figures are expressed per 1000 populations.

showed increased morbidity rates. Considering this data, it was felt that a study of the inmates of a beggars' colony would help increase our knowledge of the neuropsychiatric status of the under-privileged and may also throw light on the interplay of several social factors with their illness.

During the course of our work in a neuropsychiatric extension clinic from NIMHANS, Bangalore in a beggars' colony, we undertook an epidemiological study of the neuropsychiatric morbidity (especially of the functional and organic psychoses, epilepsy and mental retardation) amongst the inmates with the aims of:

- 1) determining the prevalence of severe neuropsychiatric disorders amongst the inmates of the beggars' colony
- 2) to compare them on available socio demographic variables with the well-inmates of the colony and try to understand if these variables had any specific association to morbidity.

#### Material and Methods

The study was carried out in the Nirashrithara Parihara Kendra (NPK) located about 12 km from central Bangalore. The

NPK functions under the Karnataka Prevention of Beggary Act of 1975 and the Superintendent of the Institution is the executive in-charge.

Inmates of the NPK gain entry there when the receiving officer charge sheets persons within Bangalore City limits for begging. An enquiry is held and subsequently the persons are detained by a Tahsildar or Taluk executive Magistrate to the NPK for a period of one year. In the NPK the inmates are allotted to one of the four available dormitories (three of which are for men and one for women). If it is felt by the Superintendent and other staff that an inmate is "mentally ill", he is housed in a fifth dormitory meant for the sick. In the case of women, however, ill and well persons share an exclusive female dormitory.

There is a PHC with a medical officer, pharmacist, ANM and class IV employees, situated fortuitously in the premises of the NPK and catering to it and the surrounding areas. The nature of medical problems seen most often amongst the inmates are skin conditions, malnutrition, G.I. disturbances, chest infections, injuries etc.

### Data Collection

The total number of inmates at the time of the study onset was 595 and examination of all of them was not possible due to logistic reasons. However, by exercising their own discretion the authorities had been isolating those they felt to be mentally ill (which included fits, excitements, withdrawal, unruliness, neglect of self care) to dormitory five. There were 43 such inmates. In addition we used the case finding method described by Isaac et al (1980) with a modification that instead of the recommended 3% of the population (i.e., in this case roughly 18 warders looking after the inmates) we administered the screening questionnaire to all the 34 warders in the NPK. By this we were able to supplement the identified probable cases by a further 36 inmates of whom 24 were females living along with the 'normal' females in their dormitory. Thus a group A of 79 suspected ill persons was formed. Utilising the registers maintained in the NPK, every 6th inmate excluding those in group A was serially included to a control group 'B' which finally consisted of 85 members.

Basic demographic data was collected about both the groups on a structured proforma; the information having been derived from the registers of the NPK and the inmates themselves. These inmates were clinically examined over a period of three months by a psychiatrist (PSVNS) to assign them diagnostic nomenclature as recommended by ICD 9 (1978). During the process of this examination three individuals from group B were found to be suffering from neuropsychiatric illness and were included into group A. Their place in group B was taken by three other individuals chosen serially from the register. Finally group A consisted of 82 members and group B (control) of 85 members. After diagnosis the members of group A were put on relevant chemotherapy and followed up for a period

of 6 months or till they left the NPK which ever was earlier. In three cases diagnostic revision occurred during this six month period.

### Results

Table 2  
Period Prevalence of Neuropsychiatric morbidity in the inmates of a Beggars' Colony

	N
Number of inmates studied as cases (Group A)	82
Number of inmates studied as controls (Group B)	85
Number of Group A members found not to be ill	4
Number of actual neuropsychiatric cases	78
Rate per 1000 population of neuropsychiatric cases	131.09

Table 2 indicates the period prevalence of neuropsychiatric morbidity in a Beggars' Colony to be 131.09/1000. The four persons found not to be ill in group A were excluded from further analysis.

From Table 3 - the period prevalence of Mental Retardation is 26.89/1000; of the functional psychoses is 43.70/1000 (Schizophrenia 21.84/1000), of epilepsy is 21.84/1000 and of the neuroses is 13.45/1000.

### Discussion

The primary aim of this study was to determine the extent and nature of serious neuropsychiatric morbidity in an underprivileged section of the society, i.e., a beggars' colony. A period prevalence of 131.09/1000 was found. There were three false negative cases in group B (controls) and four false positives in group A (study group) during case detection. However, the sensitivity of the detection procedure was found to be 96.15% and specificity was 95.34%; the efficiency of the procedure was 0.96 and the positive predictive value was 0.94. Considering this our finding may be considered valid, being higher than the

Table 3  
Diagnostic Breakup of the Ill inmates (N = 78)

Code No.	Diagnosis	Male %	Female %	N	Percentage
290	Senile and Presenile dementias	5 (9.26)	0	5	6.41
295	Schizophrenias	9 (16.66)	4 (16.66)	13	16.66
296	Affective psychoses	5 (9.26)	3 (12.5)	8	10.26
297	Paranoid psychoses	1 (1.85)	1 (4.16)	2	2.56
298	Unspecified psychoses	1 (1.85)	2 (8.33)	3	3.85
300	Neuroses	3 (5.55)	5 (20.83)	8	10.26
305	Non-dependent abuse of drugs	2 (3.70)	0	2	2.56
317	Mild Mental Retardations	2 (3.70)	0	2	2.56
318	Moderate to profound Mental Retardation	8 (14.81)	3 (12.5)	11	14.10
319	Unspecific mental retardation	2 (3.70)	1 (4.16)	3	3.84
345	Epilepsy	8 (14.81)	5 (20.83)	13	16.66
342	Hemiplegia	4 (7.40)	0	4	5.13
v40.9	Mental disorder not diagnosed	4 (7.40)	0	4	5.13
	Total	54 (69.23)	24 (30.77)	78	

figures quoted in the National Mental Health Programme (1982) or in the most of other general population surveys.

Although operationalised diagnostic criteria would have been preferable, the ICD-9 was used as a universally accepted clinical guideline to diagnosis. The lack however, of structured interview schedules or consensus diagnoses amongst more than one psychiatrist could not be avoided due to the logistics and the 'service' aspects of the extension clinic where this work was done. The presence of follow-up where the diagnoses were verified freshly during the course of therapeutic monitoring would offset some of the methodological issues raised here.

Table 4  
Socio Demographic variables in Neuropsychiatrically Ill and Well inmates of the Beggars' Colony

	Neuropsychiatrically ill inmates (N = 78)	Well inmates (N = 85)
<b>Age in years</b>		
15-24	15	22
25-34	26	30
35-44	23	14
45-54	8	11
55 and above	6	8
<b>Sex</b>		
Male	54	50
Female	24	35
<b>Marital Status***</b>		
Married	24	47
Single	46	26
Widow/Widower	5	12
Information not available	3	0
<b>Education***</b>		
No formal Education	65	52
Upto primary	10	33
Information not elicitable	3	0
<b>Father's Education***</b>		
Not working	7	12
Begging	26	52
Other including unskilled work	8	3
Person not knowing	34	18
Information not elicitable	3	0
<b>Domicile</b>		
Urban	47	56
Rural	28	29
Information not elicitable	3	0
<b>Income***</b>		
Less than Rs.100 p.m.	24	74
More than Rs.100 p.m.	6	9
Person not knowing	45	2
Information not available	3	0
<b>Migration*</b>		
Present	36	26
Absent	39	59
Information not elicitable	3	0
<b>Religion</b>		
Hindu	55	63
Muslim	12	16
Christian/others	8	0
Information not available	3	0

\*\*\* p < .001

\* p < .05

The prevalence rate of the functional psychoses of 43.7/1000 is higher than that reported by other authors except Nandi et

al (1975, 1980). The rates for epilepsy (21.84/1000), mental retardation (26.89/1000) and organic psychoses (8.4/1000) are also higher than those reported elsewhere. The rates of the neuroses and other minor mental disorders were at the lower end of the ranges reported in the general population studies. This may be a function of the case detection method used – which is probably able to detect major disorders more easily than the minor ones; and the actual prevalence rates may be expected to be higher with a more exacting detection method. The prevalence rate for Schizophrenia (26.84) is higher than in the general population surveys and would have been higher still if the change in diagnosis to Schizophrenia from two cases of unspecified psychoses and one of paranoid psychosis over six months were included in this analysis. Such changes in diagnosis in overlapping psychiatric syndromes are often reported (Ray and Roy Chowdhary 1984). Overall it appears that the major neuropsychiatric problems are grossly over represented in a population of beggars.

Existing literature regarding social factors and mental illness posits that schizophrenia (though not necessarily affective psychoses or neuroses) is more prevalent in the poor, the socially disorganised and over crowded parts of cities (Faris and Dunham 1939, Schroeder 1942, Gerard et al 1953, Hare 1956, Sunby et al 1963, Gardner et al 1966). Indian information on this aspect is indirectly gleaned from the work of Katagade (1976), Dube (1970), Shah et al (1980) and Sharma (1983). Similarly the association between schizophrenia (and sometimes other mental disorders) and low social status has been documented by Odegaard (1956), Stenbach et al (1966), Dohrenwend et al (1969), Mohan (1970) and Shah et al (1980). Nandi et al (1978) in the light of the contrary evidence from other authors, felt that class in isolation is not

possibly causally related to mental morbidity. However, Sharma (1983) has argued that 'class' as defined and commonly used may not be a true reflection of events when a group of economy and literacy-wise backward subjects is being studied. Several studies implicate poverty to an extent for the high prevalence rates, but isolation and anonymity are also explanatory hypotheses. Whilst the under privileged people appear to be burdened by the severely ill, it also seems that they are not necessarily the over destined to receive specialised care according to Innes et al (1962) and Grad de Alarcon et al (1975). Poverty with other disadvantages heightens the morbidity (Sainsbury 1955, Swinscow 1951). The moot point here is that in a large number of cases, poverty and other social handicaps such as isolation, disorganisation and migration do coexist and it is in groups where this occurs that prevalence rates are higher. This is seen in the works of Sethi et al (1967), Dube (1970, 1973), Elnagar et al (1971), Thacore (1973), Verghese et al (1973), Katagade (1976), and Sharma (1983). Even when the ill from such a population are identified for treatment, they have the characteristic of 'falling through the cracks and vanishing' from the public health eye or ending up in destitute homes or shelters as noted by Bassuk (1984). Hence it appears that the high prevalence rates reported here are a true reflection of the serious neuropsychiatric health problems of this underprivileged group.

When the comparisons are made between the well and the ill inmates, no significant differences emerge with reference to age and sex distribution. Though this finding is contrary to expectations when compared with general population surveys, it may be due to: (a) the process of selection of inmates to the facility which includes only one segment of society, and (b) the already considered high morbidity rates.

The highly significant ( $p < .001$ ) difference noted with regard to marital status and education (the ill being more often single and less educated) is likely to be a function of the high rates of mental retardation, epilepsy and schizophrenia in them. When the three cases where information was not elicitable were excluded and the  $\chi^2$  test reapplied, the results remained significant at the same level. A consideration of the father's occupation is necessary with the possibility, at least in schizophrenics, that there is a downward drift in the ill person's level of functioning as compared to his previous generation as noted by Goldberg et al (1963). A highly significant ( $p < .001$ ) difference emerged between the groups, less numbers in the ill group having fathers whose occupation was begging. When the  $\chi^2$  test was reapplied after excluding the 'not knowing' and 'information not elicitable' categories a reduced level of significance ( $p < .05$ ) was noted. This may largely be due to the people in the 'not knowing' category being those who had been wandering homeless for long or who were severely retarded. Evidence that those who have been homeless for long may themselves be having high rates of mental illness is discussed by Bassuk (1984). No significant difference was found over domicile. This is contrary to the findings of studies such as Sethi et al (1972), and may be due to the selected nature of this population. Evidently this point needs replication. Examination on the income variable produced significant differences between the groups but on excluding the 'not knowing' category and reanalysing the data the difference did not reach significance. Regarding the migration variable, a larger number of ill persons ( $p < .05$ ) had reported migration over the past one year. The role of migration on mental illness has been commented upon by Astrup et al (1960), Stole et al (1962), Wing et al (1967), Whitlock (1971), Sainsbury (1973), Pinto (1974, 1974a), Dube (1970), Sethi et al (1972),

Nandi et al (1978), Sharma (1983). The consensus of opinion supports the 'drift' hypothesis. It remains conjectural however, in this study, to commit whether these persons were ill or well before their migration. Religion as a variable did not differentiate the two groups. This is not in keeping with reports of relative preponderances of illnesses in certain religions, and is probably due to the effect of religion being offset by other social factors existing in an underprivileged group.

It is possible that an even higher rate of mental morbidity actually exists which may be documented by the use of case finding methods suited for picking up minor disorders also. In this study neuropsychiatrically ill inmates tend significantly more often to be single, have lower educational achievements, less often express their father's occupation as being begging, and more often experience migration than the well inmates. All these findings are in keeping with the existing literature on the social factors playing role in mental illness.

This study may form a data base for further, more sophisticated studies on this deprived class of society so as to formulate plans to reach health facilities to those who are needy and yet neglected, to treat them and to evolve viable rehabilitation services for them.

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