Indian Journal of Psychiatry, April 1985, **27**(2), pp 153-158

AN EPIDEMIOLOGIC STUDY OF PSYCHIATRIC DISORDERS IN A RURAL AREA IN TAMILNADU

PANKAJ MEHTA[1]
ABRAHAM JOSEPH[2]
ABRAHAM VERGHESE[3]

SUMMARY

An epidemiological study of priority psychiatric conditions in a rural area in Tamil Nadu is described. The prevalence of psychiatric disorders in this rural area is 14.5 per 1000 population and this is comparable to figures reported from urban studies. The prevalence is highest in the 15-44 year age group. It is higher in males in the younger age group and in females in the older age group. No significant statistical differences in the prevalence of psychiatric disorders are noticed when factors such as family size, caste, and socioeconomic status are considered. About 75 % of the patients have been sick for more than one year and they have not had any treatment. The implications of the above observations are discussed.

Introduction

Mental Health in the past was a relatively neglected area in the national and state health planning since it was considered to be of relevance only in affluent urban societies. But epidemiological research now provides impressive evidence of the overall magnitude and range of prevalence of seriously incapacitating mental disorders in the developing countries (Giel and Harding, 1976). Taking cognizance of this the "International Conference on Primary Health Care" held at Alma Ata in September 1978, rightly recommended that primary health care should include promotion of mental health as an important component (W.H.O. 1978). For this to be possible, mental health objectives should be defined for each country taking into account the nature, extent and consequences of mental disorders as well as the resources available as advised by a WHO expert committee on mental health (W.H.O. 1975). By throwing light on the association between psychiatric disturances and demographic and socio-cultural variables, well conducted epidemiolgical surveys greatly enhance the planning of psychiatric facilities in the community.

Most of the mental health surveys conducted in India have been mainly urban or semi urban. Sethi et al (1972) and Nandi et al (1976) have reported the findings of their epidemiological surveys in rural areas.

In this paper certain epidemiological features of priority psychiatric disorders in a rural area in Tamil Nadu are presented. The concept of priority psychiatric disorders is new and is emphasised in primary mental health care. Schizophrenia, Organic psychosis, Affective disorders (M.D.P.), Epilepsy, and Mental retardation are included in this group of priority psychiatric disorders.

Methodology

Description of the study area

This study was conducted during the period March 1981 to September 1982 in Kaniyambadi block of North Arcot District

1. Lecturer, Department of Community Medicine M. S. Ramaiah Medical College, Bangalore – 560 054.
2. Professor and Head, Department of Preventive & Social Medicine, Christian Medical College, Vellore – 632 002.
3. Professor and Head, Department of Psychiatry, Christian Medical College, Vellore – 632 002.

of Tamil Nadu. At the time of the study the total population of the block was 75,881 of whom 37,836 were males and 38,045 were females (sex ratio 1 : 1.006). The block has an area of 319.3 sq. kms. and is approximately 150 kms. south-west of Madras city. A national highway runs through the block and several small roads connect most of its 68 villages with this highway. A very large segment of the population are agricultural labourers.

The Community Health Department of Christian Medical College has an ongoing community health and development programme (CHAD) providing comprehensive care in this block with semi-literate, trained part-time-community-health workers (PTCHWs) stationed in each village and supervised by ANMs, Public Health Nurses and Doctors. It has a 50 bed base hospital at the Northern end of the block.

Selection of the study population

Eleven villages were randomly selected out of the 68 villages in this block for the study. By using a systematic sampling technique, 50 % sample households were selected from these eleven villages and this constituted the study population.

Case detection

For detection of psychiatrically disordered individuals, the 'symptoms in others' questionnaire part of the Indian Psychiatric Survey Schedule prepared by Kapur et al (1974) was used. This was administered by a doctor accompanied by a social worker to the head of the household or any other responsible adult member of the family of the sample households selected for the study. Names and addresses of individuals found to have any of the symptoms mentioned in the questionnaire were noted. They were examined by a psychiatrist at their homes in the village itself, to confirm as to whether they were having any priority psychiatric disorder such as shizophrenia, affective disorders (MDP including unipolar depression), organic psychoses, epilepsy and mental retardation.

Demographic data was obtained from census data of the block collected by trained professional staff working at Community Health & Development project (CHAD) of the Community Health Department of the Christian Medical College. To obtain the socio-economic status Pareek & Trivedi's scale for rural areas was modified to suit local conditions and used (Pareek and Trivedi, 1964).

Results

Thousand one hundred ninety five households having a population of 5941 of whom 2997 were males and 2944 were females (sex ratio 1.02 : 1) were studied in the 11 villages selected as mentioned in methodology.

A total of 86 individuals were found to have priority psychiatric disorders in this population thus giving a point prevalence rate of 14.5 per 1000 for priority psychiatric disorders (Table 1). Table 2 shows the prevalence of psychiatric disorders by age and sex in the population. In the younger age group males have a higher prevalence rate ; but as age advances, the females have a higher prevalence rate. In Table 3 the prevalence of psychiatric illness in the population is compared in those staying in households with 5 or less members and in those staying in households having more than 5 members. There is no difference between the two groups. Table 4 gives the distribution of households with psychiatric illness according to the caste of the households.

Table 1

Prevalence of Priority Psychiatric Disorders by Type of Illness

Type of illness	Prevalence per 1000					
	Male		Female		Total	
Mental retardation	(14)	4.7	(5)	1.7	(19)	3.2
Convulsive Disorders	(27)	9.0	(17)	5.8	(44)	7.4
Schizophrenia	(6)	2.0	(5)	1.7	(11)	1.9
Organic Psychosis	0		(3)	1.0	(3)	0.5
Affective disorders	(1)	0.3	(8)	2.7	(9)	1.5
	(48)	16.0	(38)	12.9	(86)	14.5

(Numbers in parenthesis indicate the actual number of cases)

Table 4
Prevalence of psychiatic illness in the population by caste

Caste	Number of cases	Prevalence per 1000
Scheduled caste	30	15.2
Non-scheduled caste	56	14.1
Total	86	1.4

Socioeconomic status of the 78 households with psychiatrically disordered individuals revealed that 27 (34.6%) of the house-

Table 2
Prevalence of priority psychiatric disorders by age and sex

Age (Years)	Population surveyed			Priority psychiatric disorders per 1000 population		
	Male	Female	Total	Male	Female	Total
< 14	1031	981	2012	25.21	11.21	18.39
15 – 29	847	856	1073	12.99	9.35	11.16
30 – 44	505	512	1017	13.86	23.43	18.68
45 – 59	394	363	757	10.15	13.77	11.89
60 and above	220	232	452	0	8.62	4.42
Total	2997	2944	5941	16.02	12.91	14.48

Table 3
Prevalence of psychiatic illness in the population by household size

Number of Individuals in a household	Number of cases	Prevalence per 1000
≤ 5	42	16.4
> 5	44	13.0
Total	86	14.4

There is no significant difference. In Table 5 is shown the duration of illness at the time of the survey. Majority of patients have been sick for more than one year.

Table 5
Duration of illness

Duration of illness		No.	%
0-6 months	...	13	15.2
7-12 months	...	9	10.5
1-5 years	...	33	38.3
> 5 years	...	31	36.0
Total ...	...	86	100

holds were from the lower socioeconomic class, 48 (61.5%) were from the lower middle class and 3 (3.8%) from the middle class and above. This compared well with the socioeconomic status of the households

studied where 25.5% of the households were from the lower socioeconomic class, 70.2% from the lower middle class and 4.3% from middle-class and above.

Discussion

Prevalence of priority psychiatric disorders: The prevalence of priority psychiatric disorders in this population was 14.5 per 1000. The concept of priority psychiatric disorders is new, and the need to include convulsive disorders and mental retardation in psychiatric epidemiological surveys are very recent trends, most of the previous studies not having included them. Neurotic and personality disorders were not included. Several studies show that about 10 per 1000 in any community have serious psychiatric disturbance which warrants active treatment (Dube, 1970; Sethi et al 1967; Srinivasa Murthy, 1982; Verghese et al 1973). Including epilepsy and mental retardation, it comes to about 20 per 1000 (Verghese, 1982). The prevalence of convulsive disorders in the present study is 7.4 per 1000 population (Table 1). Though Dube (1970) and Shah et al (1980) obtained lower values, this compares well with the prevalence of 6-8 per 1000 population as reported from many developing countries (WHO 1978).

The prevalence of mental retardation in the present study was 3.2 per 1000 population (Table 1). This compares well with the prevalence obtained by Verghese et al (1973) in their urban study of Vellore town and by Dube (1970) in Agra. The Expert Group on National Planning for the mentally handicapped in India estimates that 2-3% of the population are mentally handicapped (Srinivasa Murthy, 1982). It has to be admitted that the tip of the iceberg only is represented here and that there may be a large number of people with mild and moderate mental retardation in the community. It is difficult to diagnose or screen these individuals using a questionnaire technique, becasue in a labour oriented society mild mental retardation may not pose a major handicap and is therefore unlikely to cause severe disability or be identified as an illness. The technique used in this study identifies people who need help and rehabilitation and thus makes the survey relevant and realistic.

In the present study, the prevalence of schizophrenia was 1.9 per 1000 (Table 1). This is comparable to the figures quoted by other workers. It is interesting to observe that there is consensus of opinion that the prevalence rate of schizophrenia is about 2-3 per 1000 in any community.

Most epidemiological studies have not classified affective illness as a separate group. Wig et al (1978) and Singh (1979) report low rates of affective disorders whereas other researchers report a much higher prevalence (Sethi et al 1970). The low prevalence in this study of 1.5 per 1000 (Table 1) may be because of the strict criteria applied for diagnosing such disorders in order to exclude other diseases like the common neurotic depression from this group. All the patients diagnosed were severely depressed patients who needed active treatment.

The relationship of priority psychiatric disorders with various socio-demographic variables

(i) Age

The high prevalence of psychiatric disturbance in the less than 14 year group may be due to inclusion of convulsive disorders and mental retardation, both being disorders having an early age of onset. The highest prevalence is in the age group 30-44 years and there is a tendency to decline

after 45 years. A similar tendency is reported by Surya (1964), Sethi et al (1967), Dube (1970) and Verghese et al (1973). Most of the western studies show a gradual increase of psychiatric disturbance with age. If it is confirmed that a tendency for the prevalence of psychiatric disturbance to decline in the older age group exists in our culture in contrast to the common observation in western countries, two speculations can be made to explain this. In the eastern culture, the old people are more secure and protected from psychiatric disturbance. Secondly, in eastern countries the longevity of life is shorter and psychiatric conditions commonly seen in old age such as dementias are rare. These need more indepth studies to confirm.

(ii) Sex

In this study, though the males are seen to have a higher prevalence of psychiatric disorders in the age group < 30 years females have a higher prevalence as age advances. A similar trend is reported in other studies also (Verghese et al 1973 ; Sethi et al 1967 ; Dube 1970 ; Shah 1980). The social stresses and the factors associated with menopause may be responsible for this difference.

(iii) Family size

There was no difference in the prevalence of psychiatric disturbance between smaller and larger families. Verghese et al (1973) in their study also have not found any significant difference in the prevalence of psychiatric disorders among members belonging to small or large households, although Sethi et al (1967), Dube (1970) and Shah et al (1980) reported a higher prevalence of psychiatric disturbance in larger families.

(iv) Caste

The population is broadly divided into two groups (i) scheduled caste and (ii) non scheduled caste. No difference was seen in the prevalence of priority psychiatric disorders between the two groups.

(v) Socio-economic status

Our findings do not show any relationship between prevalence of psychiatric disturbance and socioeconomic status. Ray (1962) and Neki et al (1963), in their studies found a positive relationship between the socioeconomic status and mental illness, there being higher morbidity in the poorer class. Shah et al (1980) report a higher prevalence in the extreme poles of the socioeconomic scale and mention that the reason may be because these families are exposed to a greater degree of stressful living. The fact that in a rural community such as the present one studied, there was not much of a polarisation between different socioeconomic subgroups may account for the above observation.

(vi) Duration of illness

About 75 % of the patients had their illness for more than 1 year and 36 % for more than 5 years. None of those patients had any psychiatric treatment before inspite of the fact that there was a good psychiatric hospital nearby. This emphasises the need for extending the mental health services into the rural areas to reach the unreached.

References

DUBE, K. C. (1970), A study of prevalence of mental illness in Uttar Pradesh, India, *Acta Psychiatrica Scandinavica*, 56, 327-332.

GIEL, R. & HARDING, T. W. (1976), Psychiatric priorities in developing countries, *British Journal of Psychiatry*, 128, 513-552.

KAPUR, R. L., KAPUR, M. & CARSTAIRS, G. M. (1974), Indian psychiatric survey schedule, *Social Psychiatry*, 9, 71-76.

NANDI, D. N., AJMANY, S., GANGULI, H., BORAL, G. C., BANERJEE, G. (1975), Psychiatric disorders in a rural community in West Bengal: an epidemiologic study, *Indian Journal of Psychiatry*, 17, 87-92.

NANDI, D. N., AJMANY, S., GANGULI, H., BANERJEE, G., BORAL, G. C. & Sarkar, S. (1976), The incidence of mental disorders in one year community in West Bengal, *Indian Journal of Psychiatry*, 18, 79-87.

NEKI, J. S. & KAPOOR, R. K. (1963), Social stratification of psychiatric patients, *Indian Journal of Psychiatry* 5, 76-86.

PAREEK, U. & TRIVEDI, G. (1954), Manual of the socioeconomic status scale (Rural). Hyderabad: Manasayan

RAY, S. DUTTA. (1962), Social stratification of mental patients, *Indian Journal of Psychiatry*, 4, 3-7.

SETHI, B. B., S. C. GUPTA., RAJKUMAR & P. KUMARI (1972), A psychiatric study of 500 rural families, *Indian Journal of Psychiatry*, 14, 183.

SETHI, B. B., GUPTA, S. C. & RAJKUMAR (1967), 300 urban families: a psychiatric study, *Indian Journal of Psychiatry*, 9, 280-302.

SETHI, B. B. & GUPTA, S. C. (1970), An epidemiological and cultural study of depression, *Indian Journal of Psychiatry*, 12, 13-20.

SHAH, A. V., GOSWAMI, U. A., MANIAR, R. C., HARIWALA, D. C. & SINHA, B. K. (1980), Prevalence of psychiatric disorders in Ahmedabad: an epidemiological study, *Indian Journal of Psychiatry*, 22, 384-388.

SINGH, G. (1979), Depression in India: a cross-cultural perspective, *Indian Journal of Psychiatry*, 21, 235-238.

SRINIVASA MURTHY, R. (1982), Status paper on delivery of mental health services in India: the last 40 years, New Delhi, Indian Council of Medical Research.

SURYA, N. C. (1964), Mental morbidity in Pondicherry, Transaction-4, All India Institute of Mental Health, Bangalore.

VERGHESE, A., BEIG, A., SENSEMAN, L. A., SUNDAR RAO, P. S. S. & BENJAMIN, V. (1973), A social and psychiatric study of a representative group of families in Vellore town, *Indian Journal of Medical Research*, 61, 608-620.

VERGHESE, A. (1982), Editorial: A national mental Health programme for India, *Indian Psychological Medicine*, 5, 1.

W.H.O. (1975), Organization of mental health services in developing countries, *WHO Tech. Rep. Ser.* 564.

W.H.O. (1978), Alma Ata Conference on Primary Health Care, *WHO* Geneva.

W.H.O. (1978), The application of advance in neurosciences for the neurological disorders, *WHO Tech. Rep. Ser. No.* 629.

WIG., N. N., VARMA, V. K. & KHANNA, B. C. (1978), Diagnostic characteristics of a general hospital psychiatric adult outpatient clinic, *Indian Journal of Psychiatry*, 20, 262.