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AN EPIDEMIOLOGICAL STUDY OF PREVALENCE OF DEPRESSIVE ILLNESS IN RURAL PUNJAB

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The prevalence of manic depressive illness the world over is generally believed to be around 3-4/1000, whereas the period prevalence for all forms of depressions has been estimated at 3 per cent per annum in North American population (Lehmann, 1971).

Hospital data from various centres in India have given conflicting findings. Generally the figures from North India have been consistently high, ranging between 22 per cent to 35 per cent (Wig, 1969—21.7 per cent; Singh, 1979—34.9 per cent) and the vast bulk of these cases being diagnosed as MDP (25.9 per cent MDP and 9.07 per cent depressive neurosis) rather than depressive neuroris. In comparison the figures from South reported by Satyawati and Sunderraj (1964—4.9 per cent), Venkoba Rao (1970—6 per cent, and 12 per cent in 1978) have been relatively lower (4—12 per cent) with Raju (1980) recently reporting an overall rate of 26.7 per cent comprised of MDP 6.6. per cent and 20.1 per cent depressive neurosis.

In western studies also the frequency of depression has been always noted to be high amongst hospital patients. Ratcliffe (1964) noted that 40 per cent of males and 60 per cent of female admissions to a Scottish hospital had depression.

In recent years, there has been considerable speculation as to whether these high hospital figures for depressive illness and especially for psychotic type in North India reflect a true high prevalence in the population or is it due to some other factors. As such it was decided to undertake a survey of a rural population of Punjab with the following aims:

1. To estimate the prevalence of depressive illness in the population.
2. To estimate the relative frequency of different types of depression i. e.
   i) Manic depressive psychosis (primary depressives) ICD-9-296, and its subtypes viz., unipolar and bipolar.
   ii) Depressive neurosis (secondary depressives).

MATERIAL AND METHODS

It was decided to conduct this survey on a population of approximately 4000 and villages Ajnouda Kalan, Ajnouda Khurd, Dandrala and Dandrali of District Patiala were selected for this purpose. The survey was carried over a period of three-and-a-half months. The first fifteen days were utilized for getting aquainted with the local people and practicing with tools used in the survey. The actual survey was carried between January 1981 and March 1981. The survey conducted was house to house type and covered a population of 4008. For this purpose, the information was gathered on four structured proformas. (1) A Household Schedule. (2) A case detection schedule, (3) Amritsar Depressive Inventory, and (4) A Case history schedule.

The household schedule was designed to give the basic socio-demographic data on the population, while the case detection

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schedule consisted of a list of twenty-two questions designed to elicit history of affective disorder in the respondent and his family. A person must have scored positively at least on two items to be included in the study. Any person with a past/present history of organic brain disease, mental retardation, or with symptom of schizophrenia was excluded from the study. The ADI is a self-report questionnaire which was administered to all suspected patients along with a detailed psychiatric history and mental state examination to form the diagnosis and type of depressive illness. All the probands had to fulfill the diagnostic criteria as proposed by Feighner *et al.* (1972) for affective disorders for inclusion in the present study.

The demographic characteristics of this population are given below:

Population size 4408
Number of families 613
Age range taken was between 15-70 years
Sex: Males 2226 (55.5 per cent)
Females: 1782 (45.5 per cent)

Marital status:	Married	1636	(41%)
	Single	2178	(54%)
	Widowed	194	(5%)
Literacy:	Illiterate	3311	(83%)
	Literate and above	697	(17%)

Occupation:
- Farming and farm labour 38%
- Artisan and skilled workers 8%
- Business and professionals 9%
- Students 13%
- Housewives 22%
- Others (including those with no occupation) 12%

RESULTS

This table depicts the prevalence of affective disorders in the surveyed population. There were 197 cases of depressive illness. Thus prevalence of all types of depressive illness was 49.1 per thousand. Out of these manic depressive psychosis (MDP) had a prevalence rate of 41.4 per thousand, and depressive neurosis had a prevalence rate of 7.7. Thus primary affective disorder MDP was far more common than the secondary type (D. N.).

TABLE 1. *Affective illness—Prevalence per thousand of different subtypes*

Diagnosis	Number	Rate per thousand
MDP	166 (84.25%)	41.4
Unipolar subtype	143 (72.58%)	35.7
Bipolar subtype	23 (11.67%)	5.7
Depressive neurosis	31 (15.75%)	7.7
Total affective disorder	197 (100.00%)	49.1

In primary affective disorder MDP unipolar subtype had a prevalence rate of 35.7 per thousand, while bipolar subtype had a prevalence rate of only 3.7 per thousand. Thus unipolar subtype of depressive illness seems to occur most frequently in the surveyed population.

TABLE 2. *Sex distribution of affective disorders*

	Male	Females	Total
MDP	52(30.2%)	114(69.8%)	166
Unipolar	38(73.0%)	105*(92.0%)	
Bipolar	14(27.0%)	9(8.0%)	
Depressive neurosis	8(25.8%)	23(74.2%)	31

$X^2 = 53.10$, d.f. = 1, $p < .001$

In all types females significantly outnumbered the male patients by a ratio approximately 2:1 to 3:1, except in bipolar subtype, where males significantly outnumbered the females.

TABLE 3. *Affective disorder—Age group distribution*

Age group (in yrs.)	MDP (Unipolar)		MDP Bipolar)		Depressive neurosis	
	N	Age specific rates	N	Age specific rates	N	Age specific rates
15—24	11	1.15	7	0.73	4	0.42
25—34	10	1.66	6	1.00	5	0.83
35—44	25	7.71	4	1.23	3	0.92
45.54	27	7.56	3	0.84	10	2.80
55—64	38	16.96	1	0.44	4	1.78
65 and above	32	19.16	2	1.19	5	2.99
X^2		212.15		1.67		19.15
d.f.		5				5
p		.001		N.S.		.01

TABLE 4. *Affective aisorder—age group distribution according to age at onset*

Age groups (in years)	MDP				Depressive neurosis	
	Unipolar		Bipolar			
	N	%	N	%	N	%
15.24	15	1.6	13	1.4	6	0.6
25—34	21	3.5	3	0.5	3	0.5
35—44	32	9.9	4	1.2	8	2.5
45—54	37	11.4	1	0.3	10	2.8
55—64	27	12.0	1	0.4	2	0.9
65 and above	19	11.4	1	0.6	2	1.2
X^2		97.76		6.12		32.6
d.f.		6		5		5
p		.001		N.S.		.01

The prevalence rate of MDP unipolar type shows a progressive and highly significant rise with advancing age. The same trend is present in depressive neurosis. However, in bipolar subtype, the pattern is reversed in that there are large number of cases in younger age groups and get less with advancing age.

The rise of prevalence according to age at onset is significant in MDP and is most marked in age groups 35-44 years and 55-64 years. In the unipolar subtype the rate increases significantly between 45-64 years but falls again after fifty six years. In the bipolar subtype, the majority have their first episode between 15-25 years and again another peak in the 35-44 years age group. In depressive neurosis type also age at onset is significantly marked in age groups 35-54 years.

DISCUSSION

Comparing these figures with those reported in other community surveys conducted in India and abroad (Tables 5) we notice that the prevalence figure of 49.1 per thousand is the highest amongst all surveys reported so far in India and closest to the figures reported by Nandi *et al.* (1975) who reported a prevalence rate of 42.6 per thousand of all depressive illness including 38 per thousand for psychotic type and 4.6 for neurotic i. e., depressive reaction. Thus our finding regarding excess of psychotic depressive illness as compared to neurotic depression is also confirmed by his findings. Carstairs and Kapur (1976) reported a rate of 30.8 per thousand for depressive symptomatology without specifying the type of illness, hence the figures cannot be strictly compared. Of the recent studies conducted in the South, the study by Verghese and Beig (1973) conducted on an urban population of Vellore offers an interesting comparison. Verghese and Beig reported total prevalence rate of 35.9 per thousand composed of a figure of 32.8 per thousand for depressive neurosis and a

figure of only 3.1 per thousand for psychotic depression which is just the reverse of what is reported in our study. The same comparison holds if study of Nandi *et al.* and Verghese and Beig's studies are compared with each other.

whereas in our population over 85 per cent of depressives detected were typically of the endogenous type (MDP) and minority were suffering from depressive neurosis. It is possible that depressive neurosis is more common in western countries but this

TABLE 5. *Indian community surveys showing prevalence of depression*

Sr. No.	Investigator	Year	Place	Type of area	Prevalence/1000 of the POP N.		
					Psychotic endogenous	Neurotic/ DR	Total
1.	Surya et al.	1964	Pondichery	Urban	Depression not represented		
2.	Dube and Kumar	1973	Agra	Urban/ Rural	Not included	1.26	1.21
3.	Elnagar et al.	1971	West Bengal	Rural	—	—	2.81
4.	Sethi and Gupta	1970	U.P.	Rural	—	1.5	1.5
5.	Verghese et al.	1973	Vellore	Urban	3.1	32.8	35.9
6.	Nandi et al.	1975	Calcutta	Rural	38.0	4.6	42.6
7.	Carstairs and Kapur	1976	Kota	Rural	—	—	30.8
8.	Shah et al.	1980	Ahmedabad	Urban	14.8	7.7	22.5
9.	Present study	1982	Patiala	Rural	41.4	7.7	49.1

The observations of a large number depressed patients attending hospital clinics had suggested that affective disorder may be more common in the north as compared to the southern part of India and this study appears to confirm the hypotheses, that the high hospital figures are not an artefact but probably are a simple reflection of a corresponding high prevalence rate of affective illness in the population, the only other community having reported high rates of depressive illness being the rural population of West Bengal (Nandi *et al.*, 1975). Our figures of total depressive illness are very similar to those reported in some European studies but they generally show a preponderance of depressive neurosis over MDP further highlights the very high level of MDP in our population.

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