

THE PREVALENCE AND RECOGNITION OF DEPRESSION IN PRIMARY CARE

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ABSTRACT

In a two stage study of depression, 200 patients attending primary care were randomly investigated. All patients were screened using Beck Depression Inventory (BDI) (Beck & Beamesderfer, 1974) and were interviewed using Clinical Interview for Depression (CID) (Paykel, 1985). Sixty (30%) patients crossed BDI threshold for moderate or severe depression. On CID, forty two (21%) had depression. Being women, divorced or widowed and belonging to unitary families are associated with increased depression. Unemployment and lack of confiding relationship were related to depression. The more common manifestations of depression viz. depressed mood, lack of energy and fatigue, decline in work and interest and anorexia had poor discriminatory power for the diagnosis of depression. The depressed patients did not have excess nicotine or alcohol dependence. The treating physicians missed diagnosis of depression in more than two third of patients. Implication of the study for the training of primary care physicians are discussed.

Key Words : Primary care, depression, physician recognition

Primary care is considered de facto mental health care. Most psychiatric patients seek treatment from the primary care physicians rather than the psychiatrists. The largest psychiatric morbidity in general practice involves depressive symptoms (Shepherd et al., 1966). Upto 17 percent primary care patients had depression in several Western studies (Hoepfer et al., 1979; Wright, 1993; Nielsen & Williams, 1980; Schulberg et al., 1985; Von Korff et al., 1987; Blacker & Clare, 1987 & Dadphale et al., 1989). Various Indian investigations have reported the prevalence of depression in medical out patients ranging from 4.3% to 39.3% (Bagadia et al., 1986; Sriram et al., 1986; Bhatia et al., 1987; Srinivasan & Suresh, 1989). The prevalence of depression in primary care in

India has been the focus of investigation in only a few studies (Naik & Wig, 1980; Sen & Williams 1987). Given immense costs of depression in terms of human suffering. Impaired socio-occupational functioning, increased medical service utilization, increased alcohol and other substance use disorders and suicides, the early recognition of depression and its effective treatment become priorities. Unfortunately about half of the depressed patients are missed by the primary care physicians (Paykel & Priest, 1992) and thus remain untreated. Paucity of literature of depression in primary care in India stimulated this study. The present study was undertaken with the aims : (i) To find out the prevalence of depression in primary care patients, its sociodemographic correlates and the clinical manifestations; (ii) to find out the

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extent of primary care physician recognition of depression.

MATERIAL AND METHOD

Patients attending Curative and Preventive General Practice (CPGP) at S.S.G. Hospital, Vadodara were studied. All patients attending this Medical College General Hospital pass through filter of CPGP making it similar to primary care setting. During the study period of one month, total attendance of CPGP was 6123 out of which 4206 were men & 1917 were women. This may be explained on the basis of independent gynaecological outpatients services in the same hospital. Every 20th patients was selected for inclusion in the study and there were no refusals. All patients responded to Beck Depression Inventory (BDI) Abridged (Beck & Beamesderfer, 1974) Gujarati Version. BDI is brief, 13- item self rating instrument widely used for detection of depression. With four alternative responses 0 to 3, the range of total scores for BDI are : 0 to 4 -no depression, 5 to 7 -mild depression, 8 to 15 -moderate depression, ≥ 16 - severe depression.

It has shown correlation coefficients of 0.62 to 0.75 with clinical ratings or other scales.

In the second stage, Clinical Interview for Depression (CID) (Paykel, 1985) was completed for all patients. CID is a semi structured interview for the diagnosis of depression derived from Present State Examination (Wing et al., 1974). CID items are related to depression and anxiety, each item is rated on a seven point scale with detailed anchoring points. For this study depression was operationally defined as follows :

A) Feeling of depressed mood

B) Four or more of the following : (i) Diminished work or interest; (ii) weight loss or increased appetite; (iii) initial, middle or delayed insomnia or increased sleep; (iv) psychomotor retardation or agitation; (v) lack of energy and fatigue; (vi) guilt, lowered self-esteem, worth-

lessness & (vii) suicidal tendencies.

The criteria were parallel to DSM -IV criteria (APA, 1994) for major depressive disorder. The ratings were made for past one month period prior to consultation by the interviewer who was blind to BDI scores. Primary care physicians were requested to opine for all patients whether they had depression or not.

For all patients risk factors thought to be associated with depression were noted viz, unemployment, three or more children with age less than 14 years, parental loss before age of 11 years. For currently married patients quality of marital relationship was rated on a six point scale (0=worst to 5=best). One more vulnerability factor the lack of someone to confide in (lack of intimacy) was also noted. The last 2 measures were subjective reports of the patients.

The data were tabulated. The depressed and non-depressed patients were compared.

The main interest was in knowing what manifestations can discriminate depressed patients from non-depressed patients as some of the clinical features of depression can occur in non-depressed medically ill patients. Hence, discriminatory power of each CID manifestation was calculated. Discriminatory power of CID items was determined by dividing proportion of depressed patients manifesting an item by proportion of non-depressed patients manifesting the same item. For testing statistical significance appropriate statistical tests were applied.

RESULTS

Out of 200 patients (133 men, 67 women), 60 (30%) scored eight or more on BDI suggestive of moderate or severe depression. On CID, 42 (21%) patients were found depressed. BDI could identify 36 of 42 (85.7%) CID depressed patients correctly. When the performance of BDI was examined at various cut off points, at 8/9 BDI had sensitivity 83.3%, specificity 89.2% positive predictive value 67.3%, negative predictive value 95.3%, and overall accuracy 87%. Above and below this cut off point overall accuracy declined. Thus

TABLE 1
CORRELATION BETWEEN BDI AND CLINICAL
INTERVIEW FOR DEPRESSION

CID	BDI		Total
	Positive	Negative	
Positive	0.18	0.03	0.21
Negative	0.12	0.67	0.79
Total	0.03	0.70	1.00

$$P_o = 0.18 + 0.67 = 0.85$$

$$P_c = 0.3 \times 0.21 + 0.70 \times 0.79 = 0.616$$

$$K = (0.85 - 0.616) / (1 - 0.616) = 0.61$$

TABLE 2
SOCIODEMOGRAPHIC CHARACTERISTICS

	Depression present (N=42) N (%)	Depression absent (N=158) N (%)
Gender		
Male	20 (47.6)	113 (71.5)
Female	22 (52.4)	45 (28.5)
	$\chi^2 = 7.49, d.f. = 1, p < 0.01$	
Age (in yrs.)		
Range	18-71	18-75
Mean \pm SD	40.4 \pm 14.7	34.4 \pm 13.7
	Z value = 5.10, $p < 0.001$	
Marital status		
Single	9 (21.4)	41 (25.9)
Married	26 (61.9)	112 (70.9)
Divorced/ widowed	7 (16.7)	5 (3.2)
	$\chi^2 = 8.29, d.f. = 2, p < 0.001$	
Domicile		
Rural	12 (28.6)	60 (38.0)
Urban	30 (71.4)	98 (62.0)
Family constellations		
Nuclear	30 (71.4)	43 (27.2)
Joint	12 (28.6)	115 (72.8)
	$\chi^2 = 26.11, d.f. = 1, p < 0.001$	
Education		
Illiterate	18 (42.9)	47 (29.7)
Primary	14 (33.3)	58 (36.7)
> secondary	10 (23.2)	53 (33.5)
Monthly income (Rs.)		
<1000	37 (88.1)	124 (78.5)
>1000	5 (11.9)	34 (21.5)

for BDI cutoff score 8/9 seems most appropriate threshold for depression in primary care settings.

Treating physicians identified only 13 out of 42 (30.9%) depressed patients correctly,

missing the diagnosis in more than two third of the depressed patients. Clinician diagnosed major depression as per DSM IV after interviewing patients according to CID. This was considered gold standard in absence of validation study. There was high correlation (0.61) between BDI & CID as shown in table 1.

Table 2 shows comparison of sociodemographic characteristics of the depressed and non depressed patients. Women, divorced and widowed and those belonging to nuclear families were over-represented among the depressed patients. Female-male ratio for the depressed patients was 1.1. The prevalence of depression was 15% among male & 32.8% among female patients. On an average, depressed patients were 6 years older to non-depressed patients. The vast majority of depressed patients had urban background, belonging to nuclear families and with monthly income of Rs. 1000 or less, however, statistically, the depressed and non depressed patients did not differ significantly as regards the domicile, education & monthly income.

Table 3 compares depressed and non-depressed patients regarding certain known risk factors associated with depression. Depression was seen more often in patients who were unemployed and those who lacked a confiding relationship. The groups did not differ regarding other risk factors like three or more children below age 14 years, parental loss during childhood and poor marital relationship.

The common clinical manifestations of depression in this study as defined by clinical interview for depression (Paykel, 1985) were as follows: feeling of depressed mood (100%), lack of energy and fatigue (100%), depressed appearance (90.5%), pessimism and hopelessness (88.4%), reduced work and interest (85.7%), guilt, lower self esteem and worthlessness (85.7%), anorexia (80.9%), middle insomnia (76.2%), suicidal tendencies (71.4%), and decreased reactivity to the social environment (71.4%).

The following manifestations had higher discriminatory power in decreasing order:

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TABLE 3
RISK FACTORS FOR DEPRESSION

Risk factors		Depression present (N=42) N (%)	Depression absent (N=158) N (%)
Unemployment	Present	11 (26.2)	13 (18.2)
		$\chi^2 = 8.51, d.f.=1, p < 0.02$	
> 3 children below age 14	Present	5 (11.9)	27 (17.1)
Parental loss	Present	4 (9.5)	5 (3.2)
Marital relation rating	Mean \pm SD	2.62 \pm 0.80	2.84 \pm 0.67
Confiding relationship	Present	20 (47.6)	24 (15.2)
		$\chi^2 = 18.49, d.f.=1, p < 0.001$	

TABLE 4
SELECTED ITEMS RATINGS ON CLINICAL INTERVIEW FOR DEPRESSION

Item	Depression present (N=42) Mean (SD)	Depression absent (N=158) Mean (SD)
1. Feeling of depressed mood*	4.10 (1.28)	1.09 (1.37)
5. Reactivity to social environment*	1.95 (1.65)	0.29 (1.01)
6. Guilt, lowered self esteem, worthlessness*	2.79 (1.52)	0.23 (0.66)
8. Suicidal tendencies*	2.02 (1.60)	0.15 (0.60)
12. Energy and fatigue*	3.38 (1.46)	1.51 (1.54)
18. Increased appetite	0.24 (0.90)	0.06 (0.41)
19. Weight loss *	1.00 (1.55)	0.25 (0.77)
21. Initial insomnia*	1.95 (1.45)	0.57 (1.11)
22. Middle insomnia*	1.93 (1.49)	0.32 (0.88)
23. Delayed insomnia*	1.64 (1.92)	0.31 (0.84)
24. Increased sleep	0.00 (0.00)	0.04 (0.25)
32. Retardation*	0.14 (0.65)	0.00 (0.00)
33. Agitation*	0.14 (0.68)	0.01 (0.11)

* $p < 0.01$

diurnal variation of mood ; guilt, low self esteem and worthlessness, panic attacks, suicidal tendencies, distinct quality of depression, self pity, pessimism and hopelessness.

Depressed patients had significantly higher CID total score compared to non-depressed patients. (mean \pm SD 40.9 \pm 13.5 vs.

10.4 \pm 9.6, $t=16.64, d.f.=198, p < 0.01$).

As shown in table 4 depressed patients had higher rating score on almost all CID items. Only on two items the depressed and non depressed patients did not differ significantly -increased sleep and increased appetite.

Depressed and non depressed patients did not differ significantly regarding comorbid nicotine dependence (14.32% vs. 25.32%) and alcohol dependence (14.3% vs. 9.5%, $\chi^2=0.11, d.f.=1, N.S.$). However depressed patients had more frequent family history of alcohol dependence (21.4% vs. 8.9% $\chi^2=5.15, d.f.=1, p < 0.05$).

None of the depressed patients in this study had family history of either depression or suicide

DISCUSSION

In this study 30 per cent primary care patients scored eight or more on BDI. In earlier studies the prevalence of depression in primary care ranged from 15 percent to 48 percent depending upon the cut off point of BDI (Salkind, 1969; Nielson and Williams, 1980; Williamson, 1987).

Based on clinical interview for depression (Paykel, 1985), the prevalence of depression in this study was 21 percent. Earlier two stage studies have reported the prevalence of depression ranging from 5.8 to 17 percent. The high prevalence in this study can be explained on the basis of less stringent criteria for the presence of a symptom, even the mild symptoms were rated as present.

BDI at cut off score 8/9 identified vast majority of depressed patients. However its utility remains limited due to high false positives. Women; divorced and widowed, and patients belonging to nuclear families were over represented among the depressed. In general practice sex ratio (F : M) of depressed patients rises to 3 : 1 or even 4:1 (Porter 1970; Dunn & Skuse, 1981; Sireling et al., 1985; Blacker & Clare, 1987). Women are more likely to consult their physicians even for minor complaints. Increased depression among women may reflect

psychosocial, genetic and hormonal factors (Paykel, 1991). Severing of marital bond either by divorce or death is associated with onset of depression. Psychological pain due to the loss, lack of social support, financial stress and increased responsibility may lead to depression. With the exception of hysteria all psychiatric disorders occur at a higher rate in India among persons belonging to unitary families possibly because of lack of support from elders (Sethi and Manchanda, 1978). Unemployment and lack of confiding relationship are well-known risk factors for depression (Brown and Harris, 1978). Parental separation during childhood is currently not considered a specific and important risk factor for depression (Gelder *et al.*, 1993).

More than two thirds of depressions in this study were moderate in severity based on BDI scores. Depressions in primary care are less severe, non endogenous, shorter in duration and with fewer depressive symptoms (Fahy, 1974).

Depressive delusions, other delusions, psychomotor retardation and agitation were present only in less than 5 per cent depressed patients. This is in harmony with findings of Fahy (1974).

Somatic presentations in primary care are the rule rather than the exception. More common depressive symptoms like anorexia, fatigue, decline in work and interest, sad mood had low discriminatory value as these are also common in the physically ill. Psychological manifestations like guilt, hopelessness, suicidal ideas, decreased reactivity to environment and distinct quality of depressed mood have higher discriminatory power. Hence more weightage should be given to these manifestations for diagnosis of depression in primary care.

More than two third of the depressed patients were missed by the primary care physicians even when their opinion regarding the same was sought. Earlier studies reported that one third to half of the depressed patients in primary care go undiagnosed (Hoepfer *et al.*, 1979; Nielson & Williams, 1980; Blacker & Clare, 1987). The depressed patients are more

likely to consult a primary care physician rather than a psychiatrists. Hence, the need for physician education to enhance knowledge and skills in diagnosis and treatment of depression cannot be over emphasised.

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