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Somatization and Co-Morbidity Associated with Depression: Is Hdrs Useful in Such Situations? A Pilot Study

Debasish Sanyal; Tathagata Chatterjee; Syed Naiyer Ali

Abstract: Consecutive patients attending Psychiatric OPD meeting DSM-5 TR criteria for either Major Depressive Disorder or Somatoform Disorders were included in the study provided their age were within 18-65 years and no associated general medical conditions was present. Each patient was asked to mention their principal problem that made them attend OPD. SCID was used to confirm diagnosis and detect co-morbidity. The patients were then administered the HDRS -17. Study found that very few (i.e. only 21.1%) depressed patients present with depression as principal complaint. Somatic complaints (mainly physical pain) were the commonest (39.5%) principal complaint. Study also shows very high level of co-morbidity. 47.13% of depressed patients have co-morbidity (all anxiety disorders in our study), while 40.74% of somatoform disorder patients had co-morbidity (3.7% had anxiety disorders, 37.04% had depressive disorders). HDRS scores were lower in patients presenting with somatic complaint and may be a cause of somatisation. Most significant finding of our study was that, although HDRS total scores were more in depressed patients, it had little discriminating power to distinguish depression from somatoform disorders. The scores were heavily influenced by co-morbidity with specific gender related difference. Principal presenting problem does not bear any relationship with HDRS score. QUEST analysis indicated only Iteam12 of HDRS-17 (Somatic Symptoms, Gastrointestinal) was best variable in differentiating between depressive disorders and somatoform disorders. The research indicates need to study reasons for the above findings, especially analysis to detect inherent problems of HDRS in our clinical and cultural perspective.

Introduction

Until very recently, mental diseases were neglected worldwide perhaps because of limited mortality. However, recent studies assessing disability-adjusted life years (DALYs) lost due to various diseases show that psychiatric conditions account for about 22% of DALYs lost. Depression is by far the commonest amongst the psychiatric causes (WHO, 1999; Murray & Lopez, 1996). Depression has been projected to become the second-ranked cause of lost DALYs by the year 2020.Even presently the morbidity and disability due

to depression exceeds that of common medical conditions like hypertension, arthritis, diabetes, chronic lung diseases (Judd 1994). Worldwide, depression is principal or associated reason for attending primary care clinics in about 20-30% cases (Ustun and Sartorious, 1995; Goldberg & Huxley, 1992).

Despite the importance of depression and availability of highly effective treatments, the remains mostly undetected and untreated. Main causes for this are:

1) Lack of awareness about depression amongst common people and primary care physicians.
2) Stigma attached to mental illness.
3) Somatic presentation of depression.

Amongst the above mentioned causes somatic presentation is unique feature of non-western developing countries like India (Jablensky et al, 1981: Gada, 1982). Somatic presentation implies that a depressed patient comes to a doctor with various physical problems instead of classical psychological problems. More formally defined, Somatization is the process which allows experience and communication of psychological distress as somatic symptoms (Lipowski, 1988). Alternatively, somatisation has been defined as a process that can lead a patient to seek help for bodily symptoms which are attributed to organic disease but have no relevant organic basis (Murphy, 1989). Such somatic presentation often prevents diagnosis of depression in various clinical situations (Bridges & Goldberg, 1987). Such somatic presentation makes it difficult for the patients to accept a psychological diagnosis and creates difficulty in treatment compliance (Wright, 1990).

Somatization needs to be distinguished from Somatoform disorders which are defined as group of psychiatric disorders where the main feature includes physical symptoms suggesting physical disorder for which there is are no demonstrable organic findings or known physiological mechanisms and for which there is positive evidence, or a strong presumption, that the symptoms are linked to psychological factors or conflicts (APA, 1987). Somatization may be seen associated in many conditions including physical illness, depression etc. make a diagnosis of somatoform disorder either other psychiatric problems needs to absent or if present, judged to be not responsible for physical symptoms. Unfortunately, this decision is often difficult to make in a cultural setup like ours where somatisation is widely prevalent. In developing countries, the presenting complaints are somatic in most patients (Hardings et al, 1980). In China, many patients with mixed somatic and psychological symptoms receive a diagnosis of neurasthenia. However, in a detailed

assessment over 80% of these patients were given diagnosis of major depression (Kleinman, 1986). It has stated that many cultures do not have words that convey the Western concept of depression or depressive illness. Instead, emotional distress is often expressed in terms of somatic symptoms, for example the feeling that " the heart is uncomfortable" (Good, 1977).

Somatization is important in clinical practice because it is very common. Study conducted by De Leon et al (1987) on consecutive series of patients referred to psychiatric liaison service from other hospital departments found that nearly 50% were somatizers and 15% had somatoform disorders. In another study, Katon et al (1984) found that 48% of somatisers had depressive illness and 29% had somatoform disorder.

However, the distinction between depression and somatoform disorder becomes difficult to make especially when depression is co- morbid along with somatic problems, as is often the case. Since depression, it self can give rise to various physical problems like pain the diagnostic distinction becomes all the more difficult to make. Depression is the most common of the psychiatric diseases that present as a pain disorder. Difficulty arises because sadness accompanying the pain disorder can usually be ascribed to being a pain victim (Guggenheim &Smith, 1995). Sometimes the best way to make the diagnosis of depressive disorder in a patient presenting with pain is to initiate a treatment trial of an antidepressant in addition to nonspecific modalities. Dramatic clinical relief of both the pain and the vegetative signs of depression provide the answer to the clinical question.

The situation is further complicated by presence conditions like anxiety disorders along with depressive disorders.

Another issue that is likely to be complicated by the issues is measurement of severity of depressive disorder. The most commonly used rating scale for this purpose is Hamilton's Depression Rating Scale (Hamilton, 1960). However, this scale has many shortcomings. According to Maier & Philipp (1985) the shortcomings are- 1) Heterogeneous scale items, 2) Unstable factor- analytic structure, 3) Missing general factors, 4) Missing course validation and 6) Neglect of self-reported feelings of distress in favour of assessment of behavioral symptoms and somatic complaints. Indeed, to Maier & Philipp (1985) an Hedlund & Vieweg (1979), Montgomery-Asberg Depression Rating Scale (MADRS) (Montgomery & Asberg, 1979) is more suitable in the presence of physical disorders with an increased somatic element. Thus, HDRS might not yield good results in our cultural context, where somatic manifestation has been found common.

Keeping in view the importance of these issues in clinical practice, we decided to explore the following things:

1) To study the principal presenting features of people diagnosed to have depression.
2) To simultaneously study patients diagnosed to have somatoform disorders can compare their symptom profile with that of depression.
3) To study the co-morbid psychiatric conditions associated with depression.
4) Try to explore similarities and dissimilarities between somatising depressed patients and depressed somatoform disorder patient.
5) To explore whether HDRS total score or individual item scores can assist in differentiating between depressed patients and somatoform patients, in the situation of high incidence of somatic presentation of depression.
6) To explore whether HDRS is an effective measure of depression in our cultural milieu of somatic presentation.

Materials and Method

Consecutive patients attending Psychiatric OPD, KPC Medical College, Kolkata meeting DSM-5 TR criteria for either Major Depressive Disorder or Somatoform Disorders were included in the study provided their age was within 18-65 years and no associated general medical conditions was present. Each patient was asked to mention their principal problem which made them attend OPD and this information was recorded in a standardized format. The patients were then interviewed using standardized questions (translated into Bengali) from specific screeners and Modules of SCID-5 CV (First, 2015), to confirm diagnosis and detect co-morbidity. The patients were then administered the HDRS (17-item version) i.e. HDRS-17, using the structured questions (translated into Bengali) as laid down by Williams (1988). The study period was between June 2024 to August 2024. Appropriate ststistical analysis was done using SPSS vesion 10.0 and Answer Tree version 2.0.1.

Results

Sixty-five patients were included in the study, 40 females and 25 males.38 patients were suffering from major depressive disorder(25 recurrent,13 single episode), while 27 suffered from somatoform disorders (18 Pain Disorders, 5 Undiferentiated, 4 NOS).

Table-1 Break-Up of Mean Age of Patients According to Sex and Diagnosis

Diagnosis	Sex	Number	Mean	Standard Deviation
Depression	Female	24	33.42	7.37
	Male	14	34.14	9.09
	Total	38	33.68	7.93
Somatoform Disorders	Female	16	36.19	10.86
	Male	11	49.64	9.09
	Total	27	41.67	12.05
Total	Female	40	34.52	8.91
	Male	25	40.96	11.87
	Total	65	37	10.54

Table 1 shows the mean age of patients according to sex and diagnosis. Patients of somatoform disorders were older in age (41.67±. 12.05) than patients suffering from depression (33.68±7.93). In both the diagnostic groups, female patients were of younger age. The observed differences in age between the diagnostic groups and sexes was found to be highly significant statistically using ANOVA Table 2 (both individually and in interaction. hence, due to the difference in age between sexes, we shall use age as a co-variant in our subsequent analysis.

Table 2: Anova of Age of Patients with Diagnosis & Sex as Factors

Source	Type III Sum of Squares	d.f.	Mean Squares	F	Sig
Corrected model	2189.469a	3	729.823	9.048	<0.001***
Intercept	88277.979	1	88277.979	1094.385	<0.001***
Diagnosis	1251.710	1	1251.710	15.517	<0.001***
Sex	753.955	1	753.955	9.347	0.003**
Diagnosis × Sex interaction	607.369	1	607.369	7.530	0.008**
Error	4920.531	61	80.664		
Total	96095.000	65			
Corrected Total	7110.000	64			

a. R2 =0.308, (Adjusted R2 =0.274).

Table 3: Diagnostic Break-Up of Patients According to Sex

Diagnosis	Sex		
	Female	Male	Total
Major Depressive Disorder	24 (63.2, 60.0, 36.9)	14 (36.8, 56.0, 21.5)	38 (100.0, 58.5, 58.5)
Somatoform Disorders	16 (59.3, 40.0, 24.6)	11 (40.7, 44.0, 16.9)	27 (100, 41.5, 41.5)
Total	40 (61.5, 100, 61.5)	25 (38.5, 100, 38.5)	65 (100, 100, 100)

(Figure in parenthesis indicate percentage of the given cell value with respect to totals for respective diagnosis sex and total category)
Fisher's Exact Test, p=. 0. 800, N.S.

Table 3 shows the diagnostic break-up of patients according to DSM-IV diagnosis. Apparently, depression is far more common in female than males, but the difference is not statistically significant.

Table 4: Break-Up of Chief Presenting Problem According to Diagnostic Category

	Chief Presenting Problem					
	Depression	Somatic	Anxiety	Sleep	Other	Total
Major Depressive Disorder	8 (21.1, 100, 12.3)	15 (39.5, 35.7, 23.1)	5 (13.2, 100, 7.7)	7 (18.4, 100, 10.8)	3 (7.9, 100, 4.6)	38 (100, 58.5, 58.5)
Somatoform Disorders	0	27 (100, 64.3, 41.5)	0	0	0	27 (100, 41.5, 41.5)
Total	8 (12.3, 100, 12.3)	42 (64.6, 100, 64.6)	5 (7.7, 100, 7.7)	7 (10.8, 100, 10.8)	3 (4.6, 100, 4.6)	65 (100, 100, 100)

Table 4 shows Chief Presenting Problem in the two main diagnostic groups. Surprisingly, only 21.1% of depressed patients present with depressive features as chief presenting problem. Most depressed patients (39.5%) present with somatic features, followed by anxiety-related symptoms (13.2%) and sleep disturbance (18.4%). Patients of somatororm group of disorders

invariably present with somatic symptoms. It is important to mention that most (70% approx) of somatic presentations consisted of various bodily pains.

Table 5: Sex-Wise Break-Up of Chief Presenting Problem in Depressed Patients

	Chief Presenting Problem					
Sex	**Anxiety**	**Depression**	**Other**	**Sleep**	**Somatisation**	**Total**
Female	3 (12.5, 60.0, 7.9)	5 (20.8,62.5, 13.2 ,)	3 (12.5, 100, 7.9)	3 (12.5, 42.9, 7.9)	41.7, 66.7, 26.3)	100, 63.2, 63.2)
Male	2 (14.3, 40.0, 5.3)	3 (21.4, 37.5, 7.9)	0 (0, 0, 0)	4 (28.6, 57.1, 10.5)	5 (35.7, 33.3, 13.2)	14 (100, 36.8, 36.8)
Total	5 (13.2, 100, 13.2)	8 (21.1, 100, 21.1)	3 (7.9, 100, 7.9)	7 (18.4, 100, 18.4)	15 (39.5, 100, 39.5)	38 (100, 100, 100)

$\chi 2$=3.092, d.f. = 4, Asymptotic Significance (2-sided)=0.543, N.S.,

Table 5 shows the sex-wise break-up of chief presenting problem in depressed patients. Clearly, female depressed patients were more likely to present with somatic problems than males. Anxiety and depression was also more frequent in female patients than in males. Sleep disturbance was more common as chief complaint in males than in females. However, these differences were not statistically significant.

Table 6 Mean Hdrs-17 Scores in the Two Diagnostic Groups with Gender-Wise Break-Up

Diagnosis	**Sex**	**Number**	**Mean Hdrs-17**	**Standard Deviation**
Depression	Female	24	20.00	3.49
	Male	14	19.43	2.82
	Total	38	19.79	3.23
Somatoform Disorders	Female	16	10.00	5.13
	Male	11	14.82	13.51
	Total	27	11.96	9.55
Total	Female	40	16.00	6.47

Table 6 shows the HDRS-17 scores in the two diagnostic groups i.e. depression and somatoform disorders, along with gender-wise break-up. As expected HDRS-17 score was higher in depressed (20.00±3.49) patients than somatoform disorder patients (11.96 ± 9.55). HDRS-17 sores were higher in female depressed patients while reverse was true in somatoform disorder

patients. Indeed, HDRS-17 scores was quiet high in male somatoform disorder patients, perhaps due large number of cases with co-morbid depression, a fact that will be explored in Table-8A &B.

Table-7 Anova of Hdrs-17 Scores of Patients with Diagnosis & Sex As Factors

Source	Type III Sum of Squares	d.f.	Mean Squares	F	Sig
Corrected model	1148.524a	4	287.131	6.689	<0.001***
Intercept	552.156	1	552.156	12.863	<0.001***
Age	27.435	1	27.435	0.639	0.427, N.S.
Diagnosis	763.312	1	763.312	17.782	<0.001***
Sex	33.075	1	33.075	0.770	0.384, N.S.
Diagnosis × Sex interaction	65.832	1	65.832	1.534	0.220, N.S.
Error	2575.630	60	42.927		
Total	21503.000	65			
Corrected Total	3724.154	64			

a. R2 =0.308, (Adjusted R2 =0.262).
Levene's Test of Equality of Error Variances, F (3, 61) <0.001.

Table 7 shows the result of ANOVA in conducted on the HDRS-17 scores of Table-6. It shows the differences statistically significant with respect to diagnosis, but not with respect to sex (both alone and in combination with diagnosis).

Table-8 A) Break-Up of Hdrs-17 with Respect to Co-Morbidity, Principal Complaint, Sex in Depressed Patients.

	Co-Morbidity								
	Absent			Anxiety			Total		
Principal complaint	Female	Male	Total	Female	Male	Total	Female	Male	Total
Anxiety	18.50±0.71 (n=2)	-	18.50±0.71 (n=2)	21.00 (n=1)	20.00±0.00 (n=2)	20.33±0.58 (n=3)	19.33±1.53 (n=3)	20.00±0.00 (n=2)	19.60±1.14 (n=5)
Depression	-	21.00±0.00 (n=2)	21.00±0.00 (n=2)	22.60±0.89 (n=5)	21 (n=1)	22.33±1.03 (n=6)	22.60±0.89 (n=5)	21.00±0.00 (n=3)	22.00±1.07 (n=8)
Other	24±1.41 (n=2)	-	24±1.41 (n=2)	23(n=1)	-	23(n=1)	23.67±1.15 (n=3)	-	23.67±1.15 (n=3)
Sleep	18.5±4.95 (n=2)	17.67±3.06 (n=3	18.00±3.32 (n=5)	21.00 (n=1)	21.00 (n=1)	21.00±.00 (n=2)	19.33±3.79 (n=3)	18.50±3.00 (n=4)	18.86±3.08 (n=7)
Somatic	18.43±4.43 (n=7)	19.00±5.66 (n=2)	18.56±4.33	17.00±1.00 (n=3)	19.00±4.00 (n=3)	18.00±2.83 (n=6)	18.00±3.71 (n=10)	19.00±4.00 (n=5)	18.33±3.70 (n=15)
Total	19.31±4.05 (n=13)	19.00±3.27 (n=7)	19.20±3.71 (n=20)	20.82±2.64 (n=11)	19.86±2.48 (n=7)	20.44±2.55 (n=18)	20.00±3.49 (n=24)	19.43±2.82 (n=14)	19.79±3.23 (n=38)

Table-8 B) Break-Up of Hdrs-17 with Respect to Co-Morbidity, Principal Complaint, Sex in Somatoform Disorder Patients

	Co-Morbidity											
	Absent			Anxiety			Depression			Total		
Principal complaint	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
Somatic	7.20±3.88 (n=10)	3.5±2.74 (n=6)	5.81±3.87 (n=16	-	32.00 (n=1)	32.00 (n=1)	14.67 ±3.14 (n=6)	27.50± 5.20 (n=4)	19.80 ±7.64 (n=10)	10.00±5.13 (n=16	14.82± 13.51 (n=11)	11.96± 9.55 (n=27)

Table-8 A & B show the HDRS-17 scores in both the diagnostic groups with respect to co-morbidity and principal presenting problem. Apparently, in depressed patients, HDRS scores were highest (23.67±1.15) in patients presenting with other complaints, followed closely by patients presenting with depression (22.00±1.07). Patients presenting with somatic problems had lowest HDRS scores. Gender differences were small and showed no consistent pattern. HDRS scores were higher when anxiety group of disorders were co-morbid with depression. Similar findings were seen in somatoform disorder patients.

Table-9 Anova of Hdrs-17 Scores of Patients with Diagnosis & Sex Prncipal Co-Morbidity Principal Presenting Complaint as Factors and Age as Co-Variate (Full Model)

Source	Type III Sum of Squares	d.f.	Mean Squares	F	Sig
Corrected model	3190.206a	21	151.915	12.234	<0.001***
Intercept	1058.110	1	1058.110	85.212	<0.001***
Age	2.066	1	2.066	0.166	0.685, N.S.
Diagnosis	16.213	1	16.213	1.306	.0.259, N.S.
Principal co-morbidity	648.476	2	324.238	26.112	<0.001***
Principal complaint	79.787	4	19.947	1.606	0.190, N.S.
Sex	28.642	1	28.642	2.307	0.136, N.S.

Diagnosis×Complaint	0.000	0			
Diagnosis×Co-morbidity	402.121	1	402.121	32.384	<0.001***
Complaint×principal Co-morbidity	20.101	4	5.025	0.405	0.804, N.S.
Main Diagnosis×Complaint×Comorbidity	0.000	0			
Diagnosis×Sex	16.787	1	16.787	1.352	0.251, N.S.
Complaint×Sex	10.607	3	3.536	0.285	0.836, N.S.
Diagnosis×Complaint×Sex	0.000	0			
Co-morbidity×Sex	365.103	2	182.551	14.701	<0.001***
Diagnosis×Co-morbidity×Sex	0.000	0			
Complaint Co-morbidity×Sex	0.379	1	0.379	0.031	0.862, N.S.
Main Diagnosis×Complaint×Comorbidity×Sex	0.000	0			
Error	533.948	43	12.417		
Total	21503.000	65			
Corrected Total	3724.154	64			

Table 9 shows the result of ANOVA in conducted on the HDRS-17 scores of Table-8 A) & B). It shows the differences to be statistically significant with respect to co-morbidity alone and in combination with sex, and Diagnosis in combination with co-morbidity, but not with respect to diagnosis, sex and principal presenting problem individually. This model, which includes the entire study variable simultaneously, shows highest explanation among all other previous models [R2=0.857, R2 (adjusted) = 0.787].

Figure 1 Answer Tree Showing the Distiguishing Variable for Diagnosis after Quest Analysis

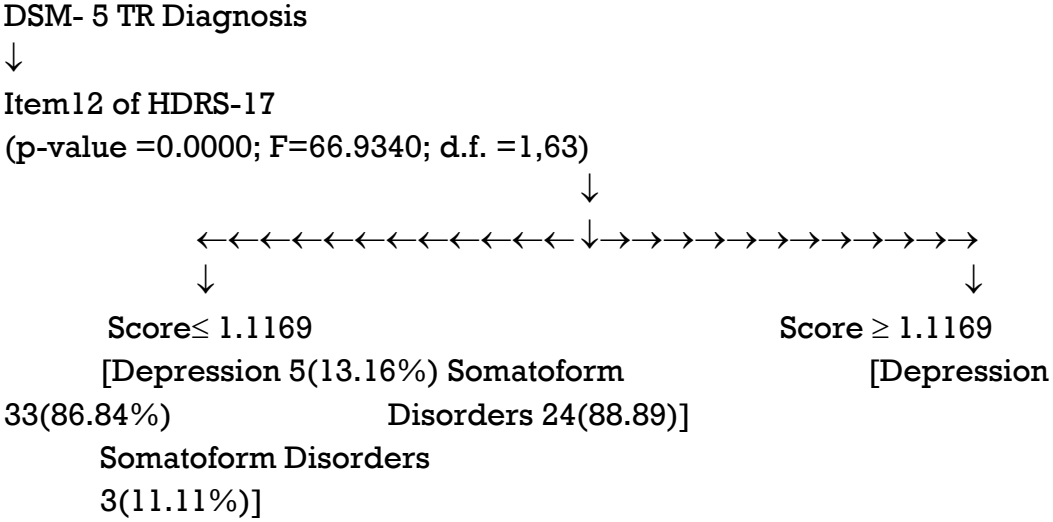

Figure 1 shows the result (i.e. ANSWER TREE) of QUEST Analysis done to probe which of the many variables (i.e. HDRS-17 individual item and total score, principal presenting problem, co-morbidity, age, sex) is best in distinguishing between depressive and somatoform disorder patients. It can be seen that Item 12 of HDRS-17 (Somatic Symptoms, Gastrointestinal) is best variable in this respect. 33 (86.84%) of depressed patients scored above 1.12 (approx.) while only 5 (13.16%) of depressed patients scored below that score on that item.

Discussion

One of the salient findings of this study is that very few (i.e. only 21.1%) depressed patients present with depression as principal complaint. Somatic complaints (mainly various bodily pains) were the commonest (39.5%) principal complaint. Such somatic manifestation is more likely in females, though not in a statistically significant manner. Such findings are similar to ones reported by other Indian studies like Gada (1982), Raguram, et al (1996). Our study also shows very high level of co-morbidity associated both with depression as well as with somatoform disorders.47.13% of depressed patients have co-morbidity (all anxiety disorders in our study), while 40.74% of somatoform disorder patients had co-morbidity (3.7% had anxiety disorders, 37.04% had depressive disorders).

Our study also shows that HDRS scores are lower in patients presenting with somatic complaint. Though not statistically significant, this might itself explain somatisation as described below. However, strong viewpoint expressed by

(Gelder et al, 1996) that presentation of less severe depressive disorders seems to be influenced by culture does not seem to hold in our study.

Most significant finding of our study is that, although HDRS scores are more in depressed patients, it has little discriminating power to distinguish depression from somatoform disorders. The scores are heavily influenced by co-morbidity with specific gender related difference. Principal presenting problem does not bear any relationship with HDRS score. HDRS has been given a status of very effective instrument due to its strong psychometric properties as well as due to it's comprehensive coverage of depressive symptoms and related psychopathology (Rehm & O'Hara, 1985). Many studies, mostly in Western set-ups, have shown the total HDRS score to be reliable and to have high degree of concurrent and differential validity (Carroll et al, 1973).

However, our study seems to support the objections about HDRS as expressed by Maier & Philipp (1985).

QUEST analysis indicated only 12 of HDRS-17 (Somatic Symptoms, Gastrointestinal) are best variable in differentiating between depressive disorders and somatoform disorders. 33 (86.84%) of depressed patients scored above 1.12 (approx.) while only 5 (13.16%) of depressed patients scored below that score on that item. This is not surprising considering the fact that anorexia has been considered to be amongst the most reliable indicators of depression provided medical disorders are ruled out (Akisal, 1995). Cicchetti & Prus off (1983) and Miller et al (1985) have mentioned the fact that most of the individual items of HDRS have poor discriminative validity. We believe that HDRS, which is frequently used in drug trials, needs a fresh study and analysis to detect inherent problems specially in our clinical and cultural perspective.

Various hypotheses have been advocated to explain Somatization. These include:

1) Lack of linguistic skills to express their emotional experience (Alexithymia) (Prince, 1987). In our study also, patients whose chief presenting problem could not be categorized (the other category), showed high HDRS scores, perhaps due to similar failure to communicate distress
2) Influence of culture in altering disease experience (Raguram, 1996).
3) In some patients somatisation is a result of an unspoken contract with their doctor and may be related to the physicians tending to 'organize' his patient's distress into mutually preferred disease. (Brown & Freeling, 1976)

4) According to Kirmayer (1984) stigma attached to mental illness (i.e. it's emotional distress) causes the depressive experience to be reconstructed through somatisation to make it less socially stigmatizing.
5) The Cartesian disjunction of mind and body, which shaped Western philosophy and scientific thinking, has caused mind to recede far from medical thinking, (Eisenberg,1977) thus not considering physical manifestation of psychological problem to be normal, even in such Eastern cultures where the mind body dichotomy is not a part of philosophy.

Main shortcomings of our study are:

1) Small study size, hence insufficient power to detect small differences.
2) No parallel instrument to measure depression (like MADRS) were used, hence comparison could not be made.
3) Anxiety, severity of somatic symptoms was not measured quantitatively, hence could not be analyzed.
4) Follow-up analysis to to see the pattern of symptom change in both the diagnostic groups was not attempted.
5) No attempt to study stigma and its association with distress was made.

To conclude, considering the importance of depression as a disease, follow-up study to clarify the issues raised is definitely needed. Such knowledge will perhaps contribute in formulating "Defeat depression" like campaign in our country and help millions of distressed in a more comprehensive manner.

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