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CULTURAL DIMENSIONS OF PSYCHIATRIC DIAGNOSIS:
COMPARING DSM-III-R AND ILLNESS EXPLANATORY MODELS IN SOUTH INDIA

Mitchell G. Weiss, M.D., Ph.D.*

R. Raguram, D.P.M., M.D.**

S.M. Channabasavanna, D.P.M., M.D.***

- * Associate Professor, University of Toronto, Department of Psychiatry, The Toronto Hospital, and Culture, Community, and Health Studies Program, Clarke Institute, 250 College Street, Toronto, Canada M5T 1R8
- ** Additional Professor of Psychiatry, National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore, India
- *** Director and Professor of Psychiatry, National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore, India

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SUMMARY

BACKGROUND: Cross-cultural research requires methods that integrate epidemiological and anthropological frameworks to examine the cultural validity of diagnostic categories and underlying concepts. **METHOD:** The Explanatory Model Interview Catalogue (EMIC) and SCID were used to study 80 psychiatric outpatients with depressive neurosis at a clinic in South India. Preparation of Kannada Language translations aided by back-translations preceded assessment of interrater reliability. **RESULTS:** Summary kappa values of .75 for the EMIC and .68 for the SCID confirmed interrater reliability. Patient explanatory models and SCID diagnoses showed patients emphasized somatic experience while clinicians emphasized depressive diagnoses. More than half the patients (55.0%) received a non-specific or dual diagnosis. **CONCLUSIONS:** Findings raise questions about the distinctiveness of depressive, anxiety, and somatoform disorders for this population. Examining epidemiological criteria for the specificity and distinctiveness of psychiatric diagnoses and comparing patient and professional illness meanings with the EMIC together clarify an important dimension of cultural validity.

**CULTURAL DIMENSIONS OF PSYCHIATRIC DIAGNOSIS:
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Experience with minorities and use of DSM-III-R in non-Western societies have raised serious questions about limitations of this diagnostic system and presented a challenge for its successors. The validity of psychiatric diagnosis depends on assumptions that may be misleading about stability and variation across cultures in the relationship between mental health problems and categories to classify them (Littlewood, 1992). Current priorities of cross-cultural psychiatry emphasize the need to test these assumptions with empirical research that recognizes the importance of cultural validity as a distinct concern (Rogler, 1992; Flaherty et al, 1988). Critical analysis of cultural validity should address not only standard questions about the coherence of diagnostic categories and associations with other clinically significant phenomena on which epidemiological formulations of validity are based (Robins and Barrett, 1989), but also underlying concepts that clarify the meaning and the basis of these professional constructs. Establishing the validity of diagnostic categories across cultures requires careful attention to the relationship between local and professional ideas of distress and disorder, employing interdisciplinary research methods that integrate anthropological and epidemiological frameworks. Although this agenda has been widely accepted, the question of how to proceed has proved more nettlesome.

The American Diagnostic and Statistical Manual (DSM) and WHO's International Classification of Diseases (ICD) both regard depression, anxiety, and somatoform disorders as distinct groupings, but these are frequently difficult to distinguish in practice and in the community, especially in developing countries where many patients present with a mixture of symptoms. Social scientists and clinicians have begun to question assumptions implied in the subordination of somatoform disorders with respect to depression (Shweder, 1988; Fabrega et al, 1988). Although somatization is frequently regarded as a feature of depression, in Third World countries like India, where its prominence is striking, one might ask whether it is just as reasonable to consider depression a feature of somatization.

Epidemiologic Catchment Area (ECA) studies in the United States also indicate the value of reconsidering previously held notions about the distinctiveness and clinical boundaries of depressive, anxiety, and somatoform (DAS) disorders. Based on their analysis of ECA data, Simon and VonKorff (1991) show that interrelationships among DAS disorders are more complex than one might realize from the clear-cut diagnostic hierarchies outlined in the classificatory systems. They conclude that depressive and somatoform symptomatology are not necessarily primary or secondary to one another. Arguments for dimensional rather than categorical diagnoses, recently advanced by Goldberg (1992), also address the problem of inappropriate diagnostic hierarchies.

To clarify the relationship between patients' experience and professional theory, it is necessary not only to consider clinical problems with respect to a professional nosology, but also to examine dimensions of distress from patients' points of view, with reference to the social and cultural groups to which they belong and which give meaning to these experiences. Appreciation of illness meanings are an essential consideration for diagnostic validity, empathy, and clinical alliances on which effective treatment relies. The explanatory model paradigm of Arthur Kleinman (1980) provides a framework to study the cultural and individual basis of illness experience, acknowledging the value of assessing patients' ideas about their problems as complementary to the aims of diagnosis and an integral component of a sensitive clinical evaluation.

Based on this model, research at the National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore, adapted the Explanatory Model Interview Catalogue (EMIC) to study the experience and meanings of depression, anxiety, and somatoform disorders to clarify the relationship between illness experience and professional diagnostic concepts. The EMIC is a semi-structured interview that characterizes the experience of illness from a patient's perspective with reference to patterns of distress, perceived causes, and preferences for help seeking and treatment; these constitute operational components of explanatory models. Based on local experience and

anthropological theory, and linking quantitative and qualitative components of a dataset, the EMIC extends the scope of attribution theories, health belief models, and other explanatory model frameworks that have influenced considerable research in psychology, public health, and medical anthropology.

Kleinman's explanatory model concept was developed initially for ethnographic description of communities and as a means to enhance empathy and effectiveness in individual clinical consultations; the EMIC applies this framework for systematic comparisons between and within groups that are needed to characterize interrelationships among illness meanings and dependent variables of practical significance, such as diagnosis, course, and outcome. The clinical ethnographic contribution to its development and use ensures the descriptive and analytic explanatory model data are meaningful with a high degree of face validity. Developed initially from research at several centers in India (Weiss et al, 1986), the EMIC was adapted for this study from a version developed at The KEM Hospital, Bombay, to study the meanings and impact of leprosy (Weiss et al, 1992). Leprosy-specific queries were replaced and categories were revised under sections of the interview on patterns of distress, perceived causes, and preferences for help seeking and treatment to reflect the focus of this study on depression, anxiety, and somatoform disorders in another subculture. For example, dermatological symptoms appropriate for a study of leprosy, but not depression, were dropped.

Complementary to this assessment of patients' experience of illness, the Structured Clinical Interview for DSM-III-R (SCID) was also used to systematically make criterion-based diagnoses. A growing body of international research with the SCID has documented its reliability (Williams et al, 1992). In addition to the English and other Western language versions, non-Western language translations have been prepared in Chinese and Zulu with studies confirming interrater agreement. Indian language versions in Hindi and Marathi have been also been prepared (Weiss et al, 1992), and the current research produced a Kannada Language version and examined its interrater reliability.

Methods

We studied a sample of 80 psychiatric patients presenting for the first time with an ICD-9 diagnosis of depressive neurosis to the NIMHANS outpatient clinic in Bangalore, India. Patients not requiring admission, who were at least 18 years old without overt psychosis, substance abuse, or organic mental disorder, and whom cooperating physicians staffing the clinic assessed as having depressive neurosis were referred into the research study. In most cases referred patients readily agreed to participate in the study, no more than 10 refusing, most of these because they feared problems returning to their distant homes later in the day from the clinic. Explanatory models of their presenting problems were evaluated systematically with the EMIC. Their diagnosis according to DSM-III-R was evaluated with the SCID.

To prepare for this study all of these instruments were translated into the local language (Kannada) independently by two Kannada-speaking clinical researchers. These translations were discussed in detail with others on the research team to produce a draft in Kannada. This draft was back-translated by a consultant who was uninvolved in the preparation of the initial translations. The research team met as a group with this consultant, reviewed each item, and suggested modifications that were incorporated into the final version used in the study.

Two raters in a single interview made categorical judgments independently specifying values of precoded explanatory model variables to study the interrater reliability of the EMIC. Immediately afterwards the interrater reliability of the SCID and Combined Hamilton Scale for Depression and Anxiety (HDARS) was examined by two independent raters in a test-retest format, repeating these evaluations of the same patient on the same day. After completing both interviews, the raters met, discussed any discrepancies, and reached a consensus diagnosis.

Results

The sample consisted of 54 (67.5%) women and 26 (32.5%) men. The mean age ($\pm$ s.d.) was 34.3 ($\pm$ 9.1) years. Most were urban from Bangalore (71.2%) and Hindu (78.7%). All but 17.5% had at least some primary education, and 25.0% had graduated from secondary school. Nearly half the sample were housewives (43.7%), and among the others very few were unemployed (5.0%).

We studied the interrater reliability of coded variables in the EMIC. Table 1 indicates values of the kappa statistic for key variables of the EMIC, including those we consider in this analysis, under major groupings of patterns of distress, perceived causes, and preferences for help seeking. For most items agreement was good, as was the value of the summary kappa (.79). Additional key items, for which the summary kappa value was .75, are presented in another report (Channabasavanna *et al*, 1993).

The EMIC specified whether patients refer to depressive, anxiety, somatoform, and other symptoms spontaneously in response to an open-ended question initially, only after focused probes, or later in the course of the interview. Most patients reported somatic symptoms initially but depressive symptoms only in response to symptom-specific probes (Figure 1). The interview also inquired about most troubling symptoms; most patients identified somatic symptoms as most troubling (58.8%), followed by symptoms of depression (28.8%) and anxiety (6.3%).

The most frequent depressive diagnoses were dysthymia (52.5%) and major depression (20.0%); the most prominent somatoform diagnosis was somatoform pain disorder (43.8%); and the most common anxiety disorder was generalized anxiety disorder (10.0%). Interrater agreement for the depressive disorders was in the range of "good" ($\geq .70$); it was in the upper range of "fair" (.5 - .7) for somatoform pain disorder (.67) and in the lower range of "fair" for generalized anxiety disorder (.54) (Table 2). Among patients judged to have a clinically significant depressive, anxiety, or somatoform (DAS) disorder, 13 (16.3%) did not meet criteria for a specific category and were diagnosed under the heading "not otherwise specified (NOS)." A diagnosis of at least two DAS disorders (47.5%) was nearly as common as a diagnosis of a single DAS disorder

(51.3%). The most frequent combination was depression and somatoform disorders (30.0%), twice as common as depression and anxiety (15.0%). The kappa for interrater agreement for a dual diagnosis was .50, and for an NOS diagnosis it was indistinguishable from 0 ((kappa = .09, s.e. = .20, p = .33).

The diagnostic system, DSM-III-R, on which the SCID is based, was highly responsive to a patient's emphasis of depressive symptoms as an indicator of a depressive diagnosis, but less so to somatoform symptoms as an indicator of a somatoform diagnosis. Of the 23 patients who identified depressive symptoms as most important, all received some diagnosis of depression (i.e., a positive predictive value of 1.0). Among those emphasizing depression, 21.7% qualified for diagnosis of an additional somatoform disorder. By comparison, the positive predictive value was lower for the 47 patients emphasizing somatic symptoms who qualified for a somatoform diagnosis (.72). Among them, only 29.8% received a diagnosis only of a somatoform disorder, and about two-thirds (66.0%) received an additional diagnosis of depression.

Viewed from another perspective, these data further underscore differences in the relationship between symptomatology and diagnosis. Among the patients who received a diagnosis of a somatoform disorder, most identified a somatic symptom as most important (82.9%), but among those who received a diagnosis of depression, fewer identified a depressive symptom as most important (37.0%). Depressive categories were more inclusive. Mentioning depressive symptoms was more likely to be sufficient to receive a depressive diagnosis, but patients needed to emphasize somatic symptoms to receive a somatoform diagnosis.

To examine the relationship between meanings of patients' presenting problems and categories of psychiatric disorders, the names by which patients identified these problems were cross-tabulated with diagnostic groups of pure depression, pure anxiety, pure somatoform, and mixed DAS disorders (Table 3). The names given by the patients were grouped according to whether they emphasized a psychological and/or physical basis. Among patients who gave names that were unambiguous, those with a pure somatoform disorder and those with a mixed DAS disorder were not clearly distinct from one another (p = .09,

Fisher's exact test, two-tailed). The distinction between mixed DAS disorders and pure depression with respect to the names by which these patients identified their problem was also marginal ($p = .06$, Fisher's exact test, two-tailed). Both groups of patients with a diagnosis of a pure somatoform disorder or a comorbid somatoform diagnosis, however, who identified their problem by specifying somatic or physical terms were distinct from those with a pure depressive disorder, who tended to give psychological names for their condition ($p = .006$ for the pure somatoform disorder comparison and $p = .004$ for the comorbid somatoform disorder comparison, Fisher's exact test, two-tailed).

We also examined the relationship between perceived causes patients designated most important and DAS disorders. As expected, a substantial majority of patients with pure depression (80.0%) attributed their problems to psychosocial causes, compared with nearly as high a rate for those with pure somatoform diagnoses who attributed their problems to somatic or physical causes (73.3%). Some patients, however, referred to a psychosomatic model, such as the 26-year-old woman who explained, "I feel my headache results from my sadness and my worry about the family." Others considered their somatic problems to be the source of the emotional turmoil that brought them to treatment. A 32-year-old woman explained, "I have this nerve problem. I get nerve weakness and pains in my arm. I also feel a pain in my mind, and I feel sad. How will I look after my children?"

DISCUSSION

Interrater Agreement for the SCID

The kappa value for interrater reliability of the Kannada version of the SCID was approximately .7 for depressive and somatoform disorders and .5 for anxiety disorders. All of these findings are consistent with other studies of interrater agreement for the SCID, interpreted with respect to accepted ranges for good, fair, and poor agreement (Williams et al, 1992). In view of the fact that we made relatively few diagnoses of anxiety disorders in this

sample, relatively poorer agreement for anxiety disorders may reflect problems with the kappa statistic for rare conditions (Spitznagel & Helzer, 1985).

A criterion-based system improves reliability by reducing a single difficult decision into several more manageable decisions, which constitute diagnostic criteria. Because there are no criteria for disorders classified "not otherwise specified (NOS)," they share none of this advantage. This accounts for the low kappa value for NOS diagnoses, close to 0, in contrast to the kappa values for more specific categories of DSM-III-R disorders, which were fair to good. Interrater agreement for NOS categories has not been reported previously in the literature.

Somatic Preferences of Patients and Depressive Bias of DSM-III-R

Although patients typically presented with somatic symptoms, clinicians more frequently diagnosed depression. A pattern of reporting somatic symptoms spontaneously, but identifying depressive symptoms when probed, was striking. We expect that similar studies of depressed patients in North American or Western European psychiatric clinics with the EMIC will reveal a tendency among these patients to report depressive, rather than somatic, symptoms. If it is true that depressed Western psychiatric outpatients typically report depressive symptoms spontaneously, such studies are expected to show findings that would be characterized by shifting the labels of "depressive" and "somatic" in Figure 1.

A question remains, however, whether Western patients will report somatic symptoms to the same extent that our Indian sample reported depressive symptoms when probed. Furthermore, we expect that in Western clinics diagnostic ambiguities more frequently confront problems distinguishing depression and anxiety diagnoses than distinguishing depression and somatoform disorders, which was more problematic in our sample and probably in non-Western samples more generally. Other disorders, such as hypochondriasis, may typically reflect a mix of anxiety and somatoform symptoms.

Validity of Diagnostic Categories and Concepts

Five criteria proposed by Robins and Guze (1970) provide a framework for studying the validity of psychiatric systems of diagnosis (Robins and Barrett, 1989). They include (1) clinical description, (2) laboratory verification, (3) delimitation from other disorders, (4) distinctive course and outcome, and (5) familial patterning. The first requirement, that disorders be specifiable with respect to discrete diagnoses, implies that for a diagnostic system to be valid, categories coded "not otherwise specified" should be minimal and clinicians should agree about class membership in this category. The rate of NOS diagnoses for our sample was 16.3%, and agreement for diagnosing them was virtually nil.

Findings from comparable studies in India highlight the same question. Saxena and colleagues (1988) found that 36.6% of 123 patients at the All India Institute of Medical Sciences, New Delhi, presenting to the psychiatric outpatient clinic primarily with somatic symptoms met criteria for DSM-III Dysthymic Disorder; 39.0% received a diagnosis of an "atypical" disorder, later termed NOS in DSM-III-R. That study made more than twice as many atypical diagnoses as our study made NOS diagnoses, possibly because we studied patients screened for depression, and they studied psychiatric patients screened for somatic symptoms. We have shown that somatoform symptoms are less likely to result in a diagnosis of somatoform disorder than depressive symptoms are to result in a diagnosis of depression. It also follows that patients screened for somatic symptoms are less likely to meet criteria for a depressive disorder. Furthermore, with DSM-III, which they had used, it was even more difficult to diagnose a discrete somatoform disorder than with DSM-III-R, which has the additional category of Undifferentiated Somatoform Disorder. Our findings provide empirical evidence, however, that even in DSM-III-R privileging depressive over somatoform patterns of distress in the professional nosology may be a cultural and historical artifact that is problematic for clinical practice in South Asia and probably among other cultural groups as well.

The requirement that disorders be delimited from one another (Robins and Guze criterion 3) implies that overlap between categories should be minimal,

unless there is meaningful co-morbidity. Our finding that nearly half the sample (47.5%) received a diagnosis of more than one DAS disorder raises additional questions about the validity of the system for this population and others for which frequent comorbidity appears to reflect diagnostic ambiguity. A study of patients with multiple somatic complaints at NIMHANS by Srinivasan and co-workers (Srinivasan et al, 1986) found that more than one ICD-9 diagnosis was required for 22% of these patients. The majority of their sample, like ours, had some combination of somatic, anxiety, and depressive symptoms.

These limitations of the diagnostic system identified here appear to reside more with the professional construction of categories than with the inability of patients and professionals to comprehend each other's concepts of distress and disorder. In contrast with challenges to the validity of the professional system of diagnostic categories reflected by the prominence of NOS diagnoses and overlapping DAS diagnoses, patients clearly specified names for their problems, and they had little difficulty delineating specific perceived causes in a coherent explanatory model. These explanatory models associated depressive disorders with local terms for depression and psychosocial causes, and they associated somatoform disorders with local terms for somatic and physical conditions, and with somatic and physical causes. With notable exceptions, the latter association ignored the psychosomatic basis of the professional concept of somatoform disorders. Inasmuch as psychosomatic and somatopsychic explanatory models may be better known and more popular in the West, we expect more patients will report a combination of psychosocial perceived causes and somatic symptoms (and vice versa) in similar studies of Western patients.

CONCLUSION

We have demonstrated the interrater reliability of the SCID and the EMIC in a study of patients screened for depressive neurosis in a South Indian outpatient clinic. Findings from our diagnostic evaluation and study of the meaning of psychiatric problems document preferences of patients to specify

somatic symptoms and the disposition of DSM-III-R to diagnose depression. This bias reflects Western cultural and historical influences on the development of current psychiatric nosologies, rooted in the emphasis on depression in England and Western Europe (Weiss and Kleinman, 1988).

If from the outset diagnostic systems and hierarchies had been based on clinical experience with a different set of patients, such as those we have studied in India, and if the significance of patients' perceptions and experiences had been acknowledged, we might then expect that current nosologies would emphasize somatoform, rather than depressive disorders. Instead of recurring references to masked depression in developing countries, which have been so prominent in the cross-cultural literature, authors might be writing with similar conviction about the role of "masked somatoform disorders" in the West. To the extent, however, that recognition of somatic symptoms, compared with mood symptoms, as a mental health problem is a more subtle matter, this may overstate the point. Implications for psychiatric nosology and clinical treatment nevertheless merit consideration and further research.

Personal meanings and other aspects of phenomenological and subjective experience should be incorporated into psychiatric evaluation and practice. In addition to facilitating an empathic clinical alliance and enabling a therapist to work with patients' beliefs over the course of treatment, they contribute a measure of face validity that complements standard epidemiological criteria for validity. Together they provide a more powerful framework for addressing questions of cultural validity in multicultural clinical settings.

Further research on the nature of complementary relationships between cultural explanatory models, psychiatric diagnosis, and outcomes of clinical significance will provide data required for a culturally valid psychiatry. Efforts to recognize cultural dimensions of psychiatric diagnosis have begun to advance such an agenda for DSM-IV (Mezzich et al, 1992). Additional research experience employing methods discussed in this report with different clinical populations and in other cultural settings has begun to generate data

needed to determine relevant parameters of cultural assessment and their practical implications. The EMIC provides a method for establishing a clinical ethnographic database to address these issues.

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