0022-3018/92/1806-0386$03.00/0
THE JOURNAL OF NERVOUS AND MENTAL DISEASE

Vol. 180, No. 6
Printed in U.S.A.

Hwa-Byung

A Community Study of Korean Americans

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One hundred nine Korean American community subjects were interviewed regarding their experiences with hwa-byung (HB), a Korean folk illness label commonly used by Koreans with a myriad of physiological and psychological complaints. During these interviews, standard instruments were also used to assess their depressive and somatic symptoms. The results indicated that a relatively high proportion (12%) of the subjects labeled themselves as having suffered from HB. While no apparent sociodemographic differences were found between HB and non-HB subjects, significantly more HB subjects fulfilled the diagnosis of DSM-III major depression and also had previous diagnoses of depression. The HB subjects also had significantly higher scores for the total, depressive, and somatic subscales and 16 of the 20 individual items of the Center for Epidemiologic Studies-Depression Scale. These data confirm previous observations of substantial overlap between HB and DSM-III major depression among Koreans and Korean Americans, and suggest that HB may be a culturally patterned way of expression for Koreans experiencing major depression and related conditions. The clinical and theoretical implications of these findings are also discussed.

—*J Nerv Ment Dis* 180:386–391, 1992

Hwa-byung (HB) is a Korean folk illness label commonly used by patients suffering from a multitude of somatic and psychological symptoms, including constricted, oppressed, or "pushing-up" sensations in the chest, palpitations, "heat sensation," flushing, headache, "epigastric mass," dysphoria, anxiety, irritability, and difficulty in concentration (Lee, 1977; Lin, 1983; Prince, 1989). It is said to be a very common condition that is particularly likely to afflict less educated, middle-aged married women who are trapped in an inescapable situation (Lin, 1983; Min, 1989; Min et al., 1989; Pang, 1990; Prince, 1989). For example, many of those experiencing HB report being financially and/or emotionally dependent on a husband who is unfaithful, violent, or alcoholic, or being dominated and abused by "vicious" mothers-in-law or sisters-in-law. These family difficulties are still frequently encountered by contemporary Korean women, especially those deeply immersed in the Korean cultural traditions, which are highly patriarchal and hierarchical (Kendall, 1987).

One of the fascinating features of HB is that persons self-labeled with this "illness" believe that the affliction is somatic in nature, yet at the same time report that psychological and interpersonal factors are important in the onset of the condition (Lin, 1983). In fact, while byung literally means sickness, the term hwa has multiple meanings. On the one hand, it denotes fire, which, if excessive, is believed to cause disturbance in the balance between yin and yang according to the Oriental traditional medical theory. At the same time, it also means anger, which, if chronically suppressed, is believed to disproportionally enhance the fire in the body and precipitate HB.

Since first reported over 10 years ago in Korea (Lee, 1977) and more recently in the English literature (Lin, 1983), the prevalence, clinical significance, and meaning of HB have remain unclarified. While some have suggested that the symptom patterns and pathogenesis of HB may be unique and should be regarded as a culture-bound syndrome not classifiable according to the prevailing Western psychiatric diagnostic system (Min, 1989; Prince, 1989), there is evidence suggesting substantial overlap of the symptom manifestation, clinical course, and treatment responses between HB and major depressive disorder as defined in the Western system (Lee, 1977; Lin, 1983). At the same time, others have argued that it represents a nonspecific, common way for Koreans to identify and communicate their emotional difficulties as well as frustration over their living situations and interpersonal relationships (Chang, 1983; Lee, 1983). In addition, while several recent studies conducted in Korea (Min et al., 1989, 1990) have confirmed earlier findings of a high prevalence of

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Supported in part by NIMH Research Center on the Psychobiology of Ethnicity grant MH47193, NIMH training grant MH 18586, and State of California contract no. 89-70266.

HB in clinical as well as community settings and have further elaborated on the symptom patterns, help-seeking behavior, and life experiences associated with HB, no systematic attempts have been made to study this Korean folk illness among Korean Americans.

In order to address some of the issues discussed above, we conducted a community survey focusing on HB as one of its major areas of investigation. In the present paper, we report findings from this study.

Methods

A total of 109 Korean Americans residing in metropolitan Los Angeles were randomly selected from the Korean language telephone book by two Korean-speaking psychiatrists and interviewed by phone. Only one adult (age 18 and above) subject was interviewed per household. The selection of the subject within each household for the interview was not predefined, but was determined by chance. The yearly updated Korean language telephone book had been in existence in the Los Angeles area for several years prior to this study, had enjoyed wide circulation in the Korean community, and is regarded as fairly extensive and comprehensive in its coverage of Koreans residing in the area. Although evidently not to be treated as fully representative of the community as compared with other more vigorous sampling techniques (Hurh and Kim, 1990; Kuo, 1984), a similar survey method was used by a number of researchers (Hurh and Kim, 1990; Kitano et al., 1985; Kuo, 1984) and was found to be cost effective and reasonably unbiased.

All subjects were asked the following two questions: a) Do you suffer from HB? and b) Do you know someone who suffers from HB? In addition to these questions, and the gathering of demographic information and past psychiatric history, the following instruments were also administered: a) the Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977), which has been previously translated into Korean. The Korean CES-D has been found to have satisfactory reliability and validity, and a factor structure similar to those reported with Caucasian populations (Kuo, 1984); b) the major depressive and dysthymic disorder sections of the Korean version of the Diagnostic Interview Schedule (DIS; Lee et al., 1990a, 1990b; Robins et al., 1981). The Korean DIS has been demonstrated to be cross-culturally valid and reliable and has been successfully used in a large-scale epidemiological study in Korea; c) the Symptoms of Somatization Scale, which includes 12 common somatic complaints. This scale has been constructed by us specifically for this study. The 12 items were extracted from two recent reports on symptoms of somatization (Kleinman and Kleinman, 1985; Sigvardsson et al., 1984).

Subjects were divided into HB and non-HB (NHB) groups. Results derived from the above-mentioned instruments were compared between the two groups by using the χ^2 test with Yates' correction when indicated and the Student's *t*-test (Colton, 1974). Discriminant function analysis (Lachenbruch, 1975) was then performed with selected variables that showed promise for differentiating the two groups (*i.e.*, differences either statistically significant or show a trend). Total and four subscale scores were calculated for such comparisons. The four subscales were originally identified by Radloff (1977) by using principal component factor analysis combined with varimax rotation. They include: a) the depressive affect (blue [item 3], depressed [item 6], lonely [item 14], crying [item 17], and sad [item 18]); b) the positive affect (feeling good [item 4], hopeful [item 8], happy [item 12], and enjoy [item 16]); c) somatic and retarded activities (bothered [item 1], poor appetite [item 2], effort [item 7], sleep problems [item 11], and difficulty getting going [item 20]; and d) interpersonal problems (unfriendly [item 15] and disliked [item 19]). This factor structure has been demonstrated to be applicable for Hispanics (Roberts, 1980) and four Asian groups, including Koreans (Kuo, 1984). The DSM-III diagnoses of major depressive and dysthymic disorders were made according to the DIS algorithm (Robins et al., 1981).

Results

Thirteen (11.9%) out of the 109 interviewed subjects reported suffering from HB. These HB subjects were comparable to the 96 NHB subjects in terms of their mean age (52.7 ± 16.5 *vs.* 51.3 ± 17.6 years), age range (22 to 85 *vs.* 31 to 81 years), years of education (12.8 ± 6.0 *vs.* 13.9 ± 5.6 years), years in the United States (3.3 ± 1.1 *vs.* 3.2 ± 1.0 years), percentage married (54% *vs.* 62%), and percentage unemployed (38.5% *vs.* 40%). Ten out of 68 female subjects reported suffering from HB (17.2%), as compared with three out of 41 male subjects (7.9%; χ^2 with Yates' correction = .72; NS). Relatively few subjects in both categories (38% in HB and 18% in NHB) knew of someone else with HB (χ^2 with Yates' correction = 1.5; NS).

Thirteen (11.9%) out of the 109 subjects were also identified as suffering from DSM-III major depression according to the DIS algorithm. However, fewer than half (5.5%) of these subjects had previously been identified as such. In contrast to the high prevalence of major depression, relatively fewer (three cases; 2.7%) fulfill the DSM-III definition of dysthymia. The mean total CES-D score was 12.64 for the whole group, and 14.7% had a CES-D total score higher than 15.

When the status of HB was examined against these indicators of depression, a high association between

TABLE 1
Hwa-Byung and the Center for Epidemiologic Studies Depression Scale Score in 109 Korean Community Subjects

	HB Cases (N = 13)	NHB Cases (N = 96)	t^a	p
CES-D Total score	24.47	11.04	4.08	.000
CES-D Subscales				
Depressive	1.14	.32	3.58	.003
Positive	1.81	1.30	2.29	.024
Somatic	1.28	.47	4.09	.001
Interpersonal	.62	.42	1.02	NS

[a]Correction for multiple comparison not performed.

the two was quite evident. Significantly more HB subjects fulfill the diagnosis of DSM-III major depression as reflected in the DIS (6 of 13 *vs.* 7 of 96; $\chi^2 = 16.5$; $p < .001$). They were also more likely to have been diagnosed previously as suffering from depression (4 of 13 *vs.* 2 of 96; χ^2 with Yates' correction = 18.1; $p < .001$), and had a CES-D total score higher than 15 (6 of 13 *vs.* 10 of 96; $\chi^2 = 11.7$; $p < .001$). In contrast, both groups were rarely diagnosed as having dysthymic disorder with DIS (1 of 13 *vs.* 2 of 96; χ^2 with Yates' correction = .1; NS).

As shown in Table 1, mean total CES-D score and three of the four subscales (depressed affect, somatic and retarded activities, and positive affect) also were significantly higher for HB as compared with NHB subjects.

A significantly higher proportion of HB subjects endorsed five of the 12 somatic items listed in the Symptoms of Somatization Scale. These include headache, weakness, dizziness, insomnia, and dyspepsia (60% to 89% *vs.* 17% to 32%). The items that failed to differentiate the two groups were chronic pain, upper respiratory symptoms, "ulcer," liver and gall bladder symptoms, urinary system symptoms, and back pain.

For the purpose of identifying significant variables that differentiate HB from NHB subjects, discriminant function analysis was performed. Age, sex, years of education, years in the United States, marital status, clinical diagnosis, major depression diagnosis generated by DIS, CES-D total score, four CES-D subscale scores, and the total number of somatic symptoms were included in this analysis as independent variables. The Wilks' stepwise method was used (with $F = 1.00$ to enter or remove). As a result, only three variables, the CES-D depression subscale score, total number of somatic symptoms, and major depression diagnosis generated by DIS, were selected, with standardized canonical discrimination function coefficients of .53, .44, and .35, respectively (Wilks' lambda = .72, $\chi^2 = 34.0$, $p < .0001$). As shown in Table 2, with these three discriminant indices, 83.5% of the 109 subjects were correctly classified.

TABLE 2
Classification Results of Discriminant Function Analysis[a]

Actual Group	Cases (N)	Predicted Group Membership: NHB	HB
NHB	96	84 (87.5%)	12 (12.5%)
HB	13	6 (46.2%)	7 (53.8%)

[a]Total agreement rate, 83.49%.

Discussion

The results of our study indicate that a remarkably high proportion of Korean Americans (11.9%) residing in the Los Angeles area regard themselves as suffering from HB. This confirms the generally held impression among Korean psychiatrists that HB is a fairly commonly used illness label for Koreans (Lee, 1977; Lin, 1983; Min, 1989; Min et al., 1989). In fact, our results suggest that HB may be even more prevalent among Koreans living in the United States than in Korea. To the best of our knowledge, there has been only one community based study of HB in Korea, which found that 4.3% (5.9% in women and 2.1% in men) of their subjects identified themselves as suffering from HB (Min et al., 1990).

Since most studies indicate a high correlation between HB and major depression, there is reason to believe that the higher HB rate in our study may be largely a reflection of an increased risk for depression in our sample. This apparently increased risk for depression among Korean immigrants was first observed by Kuo (1984) in a community survey. He noted that among the four Asian groups included in his study, Koreans had a significantly higher mean total CES-D score (14.37), as compared with other Asian groups (6.93 for Chinese, 9.72 for Filipino, and 7.30 for Japanese) as well as Caucasians (7.96 to 9.25). In a more recent survey in Chicago, Hurh and Kim (1990) reported a similarly elevated total CES-D score (12.6) for the Korean immigrants. These results are very similar to the mean score (12.64) derived from our study. Other authors (Hurh and Kim, 1990; Liu and Fugita, 1988) have reported a high prevalence among Korean immigrants of problems such as family violence, alcoholism, juvenile delinquency, and marital and intergenerational conflicts, all of which are potential risk factors for depression as well as other psychiatric disorders. Although the reasons for this apparently increased psychiatric morbidity among Korean immigrants are not totally clear, most authors believe that the recency of their immigration and the continuing high level of stress experienced in their initial phase of adjustment may be a major contributing factor. This is clearly reflected in our data, which showed that the majority of our subjects were fairly recent immigrants.

A comparison of our findings with recent epidemiological data from Korea also serves to support this hypothesis. In the above-mentioned survey conducted by Min and his colleagues (1990), only 1.6% were identified as experiencing symptom patterns compatible with DSM-III diagnosis of major depression. In another large-scale epidemiological study (Lee et al., 1990a, 1990b) using a method compatible to the American Epidemiologic Catchment Area studies, the rate of major depression as identified by the DIS was 3.3% in the city (Seoul) and 3.37% in the rural areas. These rates were all substantially less than that reported in the St. Louis study (5.5%) and even lower compared with the 11.9% of our sample.

Previous reports have indicated that HB is predominantly a problem among older women with less education. Surprisingly, our study did not confirm these findings. In our discriminant function analysis, most of the potentially relevant risk factors, including gender, age, and level of education, were tested as independent variables, but they were not found to contribute significantly to the variance to be included in the final equation for the prediction of the HB status. It is possible that the stress related to immigration overrides the significance of other risk factors associated with HB in Korea. For example, while those with higher education may hold higher social status and enjoy a greater degree of job security in Korea, they often have to restart their career just as the others after coming to the United States. In fact, studies have shown that an immigrant's premigration social status can be negatively correlated to their initial postmigration adaption (Abramson, 1966). To some extent, this may also explain the weaker association between gender and HB in our sample.

Similarly, although the variable tapping into the personal knowledge of others with HB was also included in the discriminant function analysis, it was similarly not deemed useful for the grouping decision. Several authors (Chang, 1983; Lee, 1983) have suggested that, rather than being an illness entity, HB may be a nonspecific term Koreans in distress use to describe their sufferings. If this were the case, one might expect that those self-identified as having HB would also know more people who regarded themselves as suffering from HB. Our data did not support such a hypothesis.

Confirming previous clinical observations by Lee (1977), Lin (1983), and Min and associates (1990), our data clearly show a strong association between HB and psychiatric morbidity, especially the diagnosis of major depressive disorder according to modern Western psychiatric criteria. This finding may be of major clinical and theoretical significance. Clinically, HB can be regarded as a high risk factor for major depression among Koreans and Korean Americans. All self-identified HB patients should thus be carefully screened in regard to whether they indeed suffer from major depression, which may be responsive to modern psychiatric interventions, including psychopharmacological and psychosocial treatment modalities.

At a theoretical level, our findings may help toward clarifying some of the issues that are centrally relevant to the interface between culture and psychiatric diagnosis in general (Kleinman, 1988a), and the meaning and significance of "culture bound syndromes" in particular (Simons and Hughes, 1985). Despite phenomenal progress in these areas of investigation in recent years (Kleinman, 1988a; Mezzich and von Cranach, 1988), controversies continue to exist regarding whether and to what extent modern psychiatric diagnostic categories and criteria can be meaningfully applied in non-Western populations (Fabrega, 1987, 1989; Kirmayer, 1991; Kleinman, 1988a). Patients suffering from culture-bound syndromes represent a special challenge to clinicians confronted with the heroic task of attempting to fit them into the "pigeonholes" of the DSM-III or DSM-III-R systems. At the same time, such difficulties in applying psychiatric diagnoses cross-culturally serve to highlight the ethnocentric (Eurocentric) nature of the current psychiatric diagnostic concepts and practices (Fabrega, 1987, 1989). With such profound diagnostic ambiguities and uncertainties in the background, there is an ongoing debate regarding whether the various culture-bound syndromes simply represent local cultural variants of psychiatric syndromes already included in the current diagnostic system, or whether they are indeed phenomenologically unique and should be treated as separate diagnostic categories, especially for consideration for the upcoming DSM-IV (Hughes, 1991). At the same time, there have also been suggestions that some of these so-called culture-bound syndromes may represent culturally sanctioned and patterned behavior which may serve special symbolic and communicative purposes in the particular culture, and thus may not be regarded as pathological (Kenny, 1978).

As evidenced by the highly elevated CES-D scores, our HB patients clearly experienced extremely high level of distress. Our findings, thus, do not support the cultural relativistic view purporting a functional rather than a dysfunctional nature of the condition, as espoused by Kenny (1978). Furthermore, since the results of our discriminant function analysis showed that all three significant variables are closely related to the phenomenon of clinical depression (the somatic symptoms are also frequently seen in patients with major depression), which together predict close to 85% of the cases in this series, the overlap between HB as a culturally constructed illness and the presumably scientifically based DSM-III major depression is quite extensive. This suggests that at least as far as HB is con-

cerned, the establishment of a separate diagnostic entity (*i.e.*, a Korean culture-bound syndrome) may not be necessary, since the majority of cases could be adequately classified with the use of the existing diagnostic system including major depression and other related conditions. Such substantial overlap between HB and major depression, however, in no way diminishes the clinical importance of HB and the need of systematic investigations into the meaning, psychosocial correlates, historical roots, and even the epidemiology of this folk syndrome. As eloquently argued by Kleinman (1976, 1982, 1988a, 1988b; Kleinman et al., 1978), culturally shaped illness experiences, behavior, and problems (such as HB) are as important as the biomedically defined diseases (such as the DSM-III-R diagnoses) in the care of psychiatric and medical patients. He and others (Kleinman et al., 1978; Weiss and Kleinman, 1988) have further argued that the systematic elicitation of patients' *explanatory models* in the clinical settings is crucial to the care of the majority of our patients, and research should focus as much on this aspect of the clinical reality as on the psychobiological processes that may be associated with the patient's sufferings. Future research on HB as a folk illness should further contribute to our understanding in this regard.

Regretfully, because of the nature of the original design, this study contained several significant limitations. First, previous studies have reported that some DSM-III-diagnosable conditions, such as somatization disorder and generalized anxiety disorder, were also more prevalent among HB patients (Min, 1989; Min et al., 1990; Prince, 1989). Unfortunately, since our study was originally designed to focus on depression, information gathered was not sufficient for other diagnoses. However, the results derived from the Symptoms of Somatization Scale did not reveal a pattern for HB that was similar to that commonly observed from patients with this diagnosis (*e.g.*, multiple symptoms present in the divergent organ systems).

Second, the present study also has not included questions that focus on information specific to the phenomenology of HB, such as the feeling and intensity of anger, the sensation of oppression of the chest, and epigastrial mass. Future studies with more comprehensive designs will be needed to clarify to what extent HB may overlap with somatization disorders, and in what ways the culturally unique symptom manifestations should be interpreted.

Third, since our sampling method was not completely random, and the sample size is relatively small, caution should be made in extrapolating our results to the whole Korean-American population. However, the similarity of our CES-D results to the two more vigorously designed community surveys with larger sample size is quite notable. It provides some degree of comfort, suggesting that the unusually high rate of HB and major depression identified in this study should not be dismissed lightly on methodological grounds.

Although limited by the caveats as discussed above, our data did provide some important information that helped to clarify several important issues relevant to the interpretation of the HB phenomenon. Many questions, however, remain unanswered. These include the further clarification of the precipitating factors, help-seeking pattern, clinical course, and treatment outcome of HB patients, and how they relate to contemporary psychiatric diagnoses and treatment practices. At the same time, studies of HB also bring up interesting "generic" questions: Since Koreans clearly identify anger and its suppression as the main feature of HB, and since HB overlaps significantly with major depression, should a more prominent role be given to "anger" and its overt and covert manifestation for the syndrome we currently label as "depression"? Does the concept of HB tap into an area that has not been adequately covered by the DSM-III system? Are the diagnostic categories of depression and somatization any more valid or clinically useful than HB? Shouldn't we have an "anger" syndrome in the diagnostic system in addition to syndromes covering depression, anxiety, and panic? Isn't anger one of the most fundamental human emotions? Are Koreans necessarily less "accurate" by labeling those suffering from "depression" as experiencing an "anger syndrome," which is the literal translation of HB? Or, is "anger," which has been reported to be highly prevalent among "depressed" patients in different cultural groups outside of the United States (Kleinman and Good, 1985) as well as in certain ethnic minority groups in this country (Adebimpe et al., 1982; Raskin et al., 1975; Tonks et al., 1970), and originally hypothesized by Freud (1950/1917) to be an important etiological factor in the pathogenesis of depression, de-emphasized in the contemporary conceptualization of the syndrome because of the influence of Western cultural biases which focus exclusively on intrapsychic phenomenon at the expense of those feeling states that may be regarded as more "interpersonal" in nature (Chang, 1983)? In fact, even in the contemporary Western literature on depression, there is also some evidence supporting the existence of a "subtype" of depression that is characterized primarily by anger, which appears to differ from the more "typical" depression in terms of sociodemographic variables and treatment responses (Overall et al., 1966). Considered in this context, the study of HB might not only be important for the understanding and treatment of Korean psychiatric patients, but could also contribute significantly to making the diagnosis of depression more universally valid.

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