Psychiatric Morbidity and Illness Experience of Primary Care Patients With Chronic Fatigue in Hong Kong

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Objective: The authors' goal was to examine the prevalence and experience of psychiatric morbidity among primary care patients with chronic fatigue in Hong Kong. **Method:** One hundred adult patients with medically unexplained fatigue for 6 or more months were assessed with the Explanatory Model Interview Catalogue, psychopathological rating scales, and an enhanced version of the Structured Clinical Interview for DSM-III-R. **Results:** The lifetime prevalence of DSM-III-R depressive and anxiety disorders was 54%. Current depressive and anxiety disorders were identified in 28 patients, who exhibited more psychopathology and functional impairment than other patients. Thirty-three patients had somatoform pain disorder, and 30 had undifferentiated somatoform disorder, but most of them could also be diagnosed as having *shenjing shuairuo* (weakness of nerves) and, to a lesser extent, ICD-10 neurasthenia. Chronic fatigue syndrome diagnosed according to the 1988 Centers for Disease Control criteria was rare (3%) and atypical. Generally, patients mentioned fatigue if asked, but pains (36%), insomnia (20%), and worries (13%) were the most troublesome symptoms. Most patients attributed illness onset to psychosocial sources. **Conclusions:** Psychiatric morbidity was common among primary care patients with chronic fatigue. Subthreshold psychiatric morbidity was very common and was more validly represented by the disease construct of *shenjing shuairuo* or neurasthenia than somatoform disorder.

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Fatigue is a common experience in the community and accompanies a variety of psychiatric disorders, especially depressive and anxiety disorders (1). A controversial condition known as chronic fatigue syndrome has arisen in the West (2). Its clinical similarity to neurasthenia, a once popular syndrome of lassitude and more than 50 other symptoms (3), has led to the contention that chronic fatigue syndrome and neurasthenia are equivalent disorders cloaked in disparate terminology (4).

Fatigue is a common experience among Chinese people in Hong Kong. A community health survey revealed that 71% of 1,449 women (age range=30–45 years) reported frequent fatigue (5). Although the psychiatric significance of fatigue has not been empirically examined in Chinese society, "neurasthenia," or more specifically *shenjing shuairuo* (weakness of nerves), remains a ubiquitous illness and a major source of health care utilization (6). This diagnosis is not formally found in DSM-IV, but it exists as a residual neurotic disorder in the national system of classification used in China, the CCMD-2 (7).

Weakness of nerves is flexibly defined by the presence of any three symptoms out of five nonhierarchical groups of fatigue, pain, dysphoria, mental agitation, and sleep symptoms. Neurasthenia is also found in ICD-10, where it is configured as a disorder with a core symptom of prominent fatigue after mental or minimal physical effort. Although weakness of nerves and neurasthenia are similarly named "neurasthenia" in the English language literature and both of them can

be diagnosed only after the exclusion of specific depressive and anxiety disorders, neurasthenia appears to represent a subset of weakness of nerves with a core symptom of fatigue (6). Both weakness of nerves and neurasthenia bear resemblance to chronic fatigue syndrome, but the connections among the three conditions remain unclear.

The objectives of the present study were 1) to examine the psychiatric morbidity of primary care patients with medically unexplained chronic fatigue in Hong Kong, 2) to investigate the psychopathological profile and illness experience of these patients, 3) to establish the prevalence of weakness of nerves, neurasthenia, and chronic fatigue syndrome, and 4) to examine their contextual validity.

METHOD

We recruited a study group of 100 subjects from the Lek Yuen Health Center, a primary care clinic operated by the Department of Community and Family Medicine of The Chinese University of Hong Kong. Patients 18–65 years old who had felt tired at least half of the time in the previous 6 months were referred for possible study. These patients underwent the following assessments in Chinese: 1) intake screening form, 2) general information form, 3) physical examination and laboratory tests, 4) SCL-90-R (8), 5) Explanatory Model Interview Catalogue (9), 6) Structured Clinical Interview for DSM-III-R (SCID) (10), and 7) Hamilton Rating Scale for Depression (11) and Hamilton Rating Scale for Anxiety (12).

The intake form ensured that the referred patients fulfilled the inclusion criteria. The general information form collected sociodemographic data and medical history. The results of clinical examination (by Y.W.) and laboratory tests (complete blood count, erythrocyte sedimentation rate, blood sugar, renal, liver, and thyroid function, and other clinically indicated procedures) were also recorded. Patients were excluded if they 1) had medical disease that could account for their fatigue, 2) had a history of psychosis, dementia, mental retardation, or substance abuse, 3) were currently in psychiatric treatment for an identified depressive disorder, or 4) were illiterate.

The Explanatory Model Interview Catalogue is an anthropologically based semistructured interview schedule that systematically examines patients' illness experience. It generates both quantitative and qualitative data; only parts of the latter are reported in this article. The Chinese version of the SCID has been satisfactorily used among Chinese subjects in Taiwan, China, and the United States. A specially designed supplement allowed the identification of weakness of nerves, neurasthenia, and chronic fatigue syndrome, respectively (13). The 1988 Centers for Disease Control (CDC) criteria for chronic fatigue syndrome were used (14).

One of us (H.Y.), a psychiatrist who was rigorously trained (by S.L.) in the use of the Explanatory Model Interview Catalogue and the SCID, videotaped and conducted all interviews. Based on 20 randomly selected cases, the interrater reliability (weighted kappa) of SCID diagnoses (S.L. versus H.Y.) was 0.83. Each interview lasted about 3 hours.

Statistical analysis was performed with SPSS. For categorical variables, chi-square tests were used to test for significant relationships between patients in different groups. Fisher's exact tests were used if the expected frequencies were small. Significant differences for continuous variables, such as Hamilton depression scale scores in different groups, were determined by Student's t test if the data were normally distributed. Nonparametric means were compared by using the Mann-Whitney test. The level of statistical significance was set at 0.05. All tests were two-tailed.

TABLE 1. DSM-III-R Diagnoses in 100 Primary Care Patients With Chronic Fatigue

DSM-III-R Diagnosis	Number of Patients With Current Diagnosis	Number of Patients With Past Diagnosis
Major depression	10	39
Dysthymia[a]	4	
Alcohol abuse	0	4
Panic disorder without agoraphobia	2	2
Panic disorder with agoraphobia	1	1
Agoraphobia without panic attack	1	1
Social phobia	1	1
Generalized anxiety disorder[a]	9	
Hypochondriasis[a]	3	
Somatoform pain disorder[a]	47	
Undifferentiated somatoform disorder[a]	35	
Primary insomnia[b]	9	0
Total number of diagnoses	122	48

[a] Only current diagnosis was given by the SCID.
[b] Not included in the SCID but is a diagnosable category in DSM-III-R.

RESULTS

From May 1993 to April 1994, 211 patients were referred for study. After complete description of the study to the subjects, written informed consent was obtained. We excluded 111 patients because 1) their fatigue had lasted less than half of the time during the previous 6 months (N=51), 2) organic causes were found (N=14), 3) there was concurrent antidepressant treatment by psychiatrists (N=5), 4) pregnancy (N=1), or 5) they did not give consent (N=40).

Demographic Data and DSM-III-R Diagnoses

The 100 patients included in the study (25 men and 75 women) were all Chinese residents of Hong Kong. Their mean age was 40.8 years (SD=8.8, range=18–63). Seventy-nine percent were married, 10% single, 6% widowed, and 5% divorced. The five general categories of occupation were housewife (31%), laborer (27%), clerical (20%), professional (19%), and student (3%). Their mean number of years of education was 7.9 (SD=3.7, range=1–17). Most patients were from the lower social class. Monthly family income in Hong Kong dollars ($1.00 in U.S. currency=$7.80 in Hong Kong currency) was as follows: $5,000–$10,000 (38%), $10,000–$20,000 (41%), $20,000–$30,000 (11%), greater than $30,000 (10%).

Patients had a mean of 1.22 current diagnoses (table 1). The most common diagnoses were somatoform pain disorder and undifferentiated somatoform disorder. Ten patients had major depression. The other current diagnoses included generalized anxiety disorder, dysthymia, panic disorder, hypochondriasis, social phobia, and agoraphobia. Nine patients could not be diagnosed as having undifferentiated somatoform disorder because their somatic symptoms were secondary to insomnia. They could be diagnosed only as having primary insomnia according to DSM-III-R. If comor-

TABLE 2. Number of 100 Primary Care Patients With Chronic Fatigue Diagnosed as Having Weakness of Nerves, Neurasthenia, or Chronic Fatigue Syndrome

	Number of Patients With Diagnosis	
Diagnosis	Total Group	Patients Without Depressive and Anxiety Disorders
Weakness of nerves	81	57
Neurasthenia	44	30
Chronic fatigue syndrome	4	3

bidity was not counted, the current diagnoses were major depression (N=10), dysthymia (N=4), panic disorder (N=2), agoraphobia (N=1), generalized anxiety disorder (N=9), hypochondriasis (N=2), somatoform pain disorder (N=33), undifferentiated somatoform disorder (N=30), and primary insomnia (N=9).

After somatoform pain disorder, undifferentiated somatoform disorder, and primary insomnia were excluded, the lifetime prevalence of depressive and anxiety disorders was 54%, with major depression being the most frequent (40%).

Weakness of Nerves, Neurasthenia, and Chronic Fatigue Syndrome

Fifty-seven patients met the criteria for weakness of nerves, and 30 patients met the criteria for neurasthenia (table 2). These numbers rose to 81 and 44 if exclusion criteria for depressive and anxiety disorders were not applied. As for chronic fatigue syndrome, 55 patients did not fulfill the core symptom criteria, which require that fatigue reduced daily activity by over 50% and did not resolve with bedrest. Forty-one patients did not have physical signs. Only four patients, because of the presence of mild fever, sore throat, or painful lymph nodes, fulfilled the CDC symptom criteria. After one patient with current major depression was excluded, three satisfied the complete CDC criteria. Their mean Hamilton anxiety scale (12.3) and Hamilton depression scale (7.3) scores were low.

The mean Hamilton depression scale score for all of the patients was 9.8 (SD=5.9, range=2–37) (possible range=0–96). The mean score for the 10 patients with current major depression was 22.7 (SD=6.9, range=15–37). The mean Hamilton anxiety scale score for all of the patients was 12.7 (SD=4.6, range=3–28) (possible range=0–56). The most frequently reported Hamilton depression scale items were general somatic symptoms, anxiety, and insomnia, and the most commonly reported Hamilton anxiety scale items were tension, insomnia, and autonomic symptoms. The mean SCL-90-R score (82.8, SD=53.9, range=13–233) (full range=0–360) of the 100 patients was significantly higher than that of a local community sample of 1,471 subjects without mental disorders (59.9, SD=52.9) (t=4.17, df=1569, p<0.0001) (unpublished paper by Lee and Leung). All subscale scores of the 100 patients were also significantly higher than those of community subjects (p<0.0001 after Bonferroni correction). Som-

atization was positively correlated with depression (r=0.69), anxiety (r=0.75), hostility (r=0.63), and phobia (r=0.55) (N=100, p<0.001).

Headache (21%), insomnia (20%), worries (20%), and other pains (12%) were the most common unprompted complaints. Only five patients spontaneously complained of fatigue. The other unprompted complaints included irritability (3%), indigestion (3%), unhappiness (2%), dizziness (2%), fright (1%), flu (1%), and hypertension (1%).

In descending order, the most troubling complaints were pains (20%), insomnia (20%), headache (16%), worries (13%), fatigue (11%), unhappiness (5%), somatic discomfort (4%), dizziness (3%), irritability (3%), loss of drive (2%), weakness (1%), poor memory (1%), and suspicion of ill health (1%).

Thirty-one patients were unable to name their illness. Twenty spontaneously called it weakness of nerves. Other names reflected the diversity of patients' illness experience, including nervousness (10%), headache/pain/migraine (8%), rheumatism (5%), fatigue/fatigue illness (5%), insomnia (5%), urban illness (3%), occupational illness (3%), unchangeable illness (2%), unhappiness (1%), stress (1%), hotness (1%), kidney illness (1%), aging (1%), fright (1%), longing for son (1%), and weakness (1%). When patients were specifically asked whether they had weakness of nerves, 72% answered in the affirmative. Nobody had heard of chronic fatigue syndrome before.

According to the etiological categories in the Explanatory Model Interview Catalogue, over half of the patients identified psychosocial factors as the main cause of their problems. The more common causes were mind problem/worry (18%), marital problem (9%), problems at work (9%), physical problem (8%), stress/loss (8%), weakness (7%), overwork (4%), personality (4%), and injury/surgery (4%). The rest included other physical or constitutional causes. Only one patient referred to immune dysfunction, and only two patients referred to infection.

Differences Between Subgroups

Twenty-eight patients with current depressive and anxiety disorders were merged as one group. The other 72 patients were classified as another group. These two groups exhibited no significant difference in sociodemographic characteristics. The group with current depressive and anxiety disorders scored significantly higher on the Hamilton depression scale (mean=15.86, SD=7.33, versus mean=7.42, SD=2.76) (t=5.94, df=30, p<0.0001), Hamilton anxiety scale (mean=17.21, SD=4.79, versus mean=10.89, SD=3.09) (t=7.80, df=98, p<0.0001), SCL-90-R (mean=120.5, SD=57.6, versus mean=68.2, SD=44.8) (t=4.83, df=98, p<0.001), and all SCL-90-R subscales than the other group. Fatigue had a similar duration in the two groups (mean=8.0 years, SD=6.3, versus mean=7.9 years, SD=6.3) but was significantly more likely to reduce daily activities by 50% or more in the group with current depressive

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and anxiety disorders (64.3% versus 37.5%) (χ^2=5.84, df=1, p<0.05). There was no significant difference in the two groups' illness experience in regard to un-prompted complaints, most troublesome complaint, or attributional style.

Patients' fatigue had a mean duration of 7.9 years (SD=6.2, median=6, range=0.5–30). Forty-five patients reported that their fatigue was severe enough to reduce their average daily activity by 50% or more. More of these patients with severe fatigue than patients with milder fatigue received current diagnoses of depressive and anxiety disorders (N=18 [40.0%] versus N=10 [18.2%]), and fewer received current diagnoses of somatoform pain disorder/undifferentiated somatoform disorder (N=27 [60.0%] versus N=45 [81.8%]) (χ^2=5.84, df=1, p<0.05). The scores of the more severely fatigued patients on the Hamilton depression scale (mean=11.2, SD=6.5, versus mean=8.7, SD=5.2) (t=−2.15, df=98, p<0.05) and Hamilton anxiety scale (mean=13.9, SD=4.5, versus mean=11.6, SD=4.5) (t=−2.52, df=98, p<0.05) were higher than those of the less fatigued patients, but the difference was not of clinical significance.

DISCUSSION

This preliminary study has obvious limitations. First, because it was a primary care rather than a community study, our findings are biased by factors pertaining to access to care. The fact that we studied a university-affiliated family medicine clinic may also limit the generalizability of our findings. Second, since it was difficult to obtain a large random sample of patients with fatigue as the chief complaint, we used a conveniently recruited study group who had fatigue as one of the main complaints. Therefore, our subjects might not be representative of all primary care patients with fatigue, especially those from other cultures. Third, 30 of the 40 referred patients who did not give consent and so did not participate in the study were men, so that male-dominant disorders such as substance use were underrepresented. Fourth, since no reliable fatigue questionnaire was available to us, detailed quantification of fatigue for statistical analysis was not possible. Finally, the inclusion of a comparison group of patients without a chief complaint of fatigue would have yielded additional findings on the connection between fatigue and different forms of psychopathology.

The lifetime prevalence of depressive and anxiety disorders among these primary care patients (54%) was comparable to that of Western primary care patients (1, 15). This contrasts with community studies using structured diagnostic schedules, which generally show that depression is less common in Chinese than Western populations (16). Being clinician-administered, the SCID could lead to a more accurate assessment of psychiatric morbidity. The lower prevalence of current psychiatric morbidity (28%) than found in Western studies (1, 15) might arise from the fact that

we excluded patients already in active psychiatric treatment for depression.

A large percentage of our patients without depressive and anxiety disorders could be diagnosed with the overlapping categories of somatoform pain disorder, undifferentiated somatoform disorder, weakness of nerves, and neurasthenia (table 2). These distressed and/or dysfunctional patients constituted the dominant form of psychiatric morbidity detected in the present study. They did not have substantial symptoms of depressive or anxiety disorders, but it would be inaccurate to say that they concealed or were unable to express emotions. In fact, most of them talked about psychological distress and identified psychosocial problems as the main cause of their illness. Therefore, they did not fit into the usual concept of somatization, which includes an insistence on somatic symptoms and a failure to acknowledge psychogenesis (ICD-10).

Our findings suggest that the flexible symptom configuration of weakness of nerves may be a more valid representation of our patients' mixed somatodysphoric distress than neurasthenia, somatoform pain disorder, or undifferentiated somatoform disorder. We found somatoform pain disorder and undifferentiated somatoform disorder to be problematic categories for several reasons. First, it is often difficult to distinguish between them because patients' somatic distress may be mixed and/or changeable. Second, the categories enact a radical form of mind-body dichotomy that may reflect the segmentalization of medical services rather than patients' conjoined illness experience (6, 15). Third, they sound experience-distancing and are difficult to translate into Chinese terms that are meaningful for patient education. To a lesser extent, the ICD-10 configuration of neurasthenia, created perhaps under the influence of Beard's description of neurasthenia (3) as well as recent interest in chronic fatigue syndrome, does not capture the experience of some of our patients, among whom fatigue was not necessarily the core of several interfused main symptoms.

Western studies have found widely varying rates of chronic fatigue syndrome (1, 2). Our rate of 3% appears low and could arise from our reliance on physician identification and the more restrictive criteria used. Case review of our three patients indicated that they were not aware of the term "chronic fatigue syndrome" and that they did not exhibit the kind of vehement insistence on fatigue and organic causation that has been reported among Western chronic fatigue syndrome patients in clinical settings. This suggests that sociocultural factors shape the presentation of this new illness (4).

Fatigue was an unprompted complaint in only five patients. Western researchers have also found that fatigue is rarely a presenting complaint in primary care settings (15) but have not offered any contextual explanation. When questioned, our patients admitted that chronic fatigue was one of their problems but did not think that physicians would take it seriously. One common reason given was that fatigue was expected in

a fast-paced society such as Hong Kong. Other patients mentioned that the physicians might be more tired with their clinical work than themselves. As one patient said, "Tired? Everybody feels tired. I have got used to it anyway, and nobody seems to notice it. I simply continue with my work, and would not feel sick because of tiredness. If I say I am sick, everybody in Hong Kong is sick too!" Another patient said, "I often feel tired. But I do not think that fatigue is a disease." Also, patients did not think that fatigue is medically treatable, and so sought treatment for pains and insomnia instead. "What the doctor can do is to ask you to have a rest," as some of them said.

A recent community epidemiologic survey demonstrated that "pure" ICD-10 neurasthenia had a 12-month prevalence rate of 3.66% among Chinese Americans. This rate was even higher than the rate of depressive or anxiety disorders (17). Likewise, subthreshold anxiety-depression with a symptom profile remarkably similar to that of weakness of nerves has been shown to be the most common form of primary care psychiatric morbidity in the United States (18). No matter how such somatodysphoric disorders are labeled in different societies, they should receive proper attention during public health campaigns. Additionally, the need to identify cost-effective treatment for this huge population of patients cannot be overemphasized.

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