Screening for Psychosocial Problems in Primary Care

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Evaluating and understanding the physical, emotional, and social condition of a patient is an important component of primary care. Time constraints, however, often make it difficult for the physician to explore these areas in detail with every patient. One approach that can be helpful is the use of a simple questionnaire that can be completed by the patient in advance of seeing the physician. The use of one questionnaire, the Multifactor Health Inventory (MHI), in filling the need for such an instrument is detailed. The MHI helps the physician screen for psychophysiologic, psychiatric, attitudinal, and substance abuse problems. It also provides direction for productive follow-up interviewing. Research has shown that many patients with psychosocial problems are not identified by the physician. A questionnaire can help increase physician awareness of these patients and their problems.

The family physician encounters patients with a broad spectrum of problems. A significant proportion of the patients have symptoms that are related to stress or emotional difficulties. Katon and colleagues[1] suggest that up to 50 percent of patient visits to primary care physicians are because of psychosocial problems. Other estimates of psychopathology in the primary care population have ranged from 12 percent (for depression alone)[2] to 84 percent (for patients with "psychological distress").[3]

With the usual time constraints that the physician experiences in daily practice, he or she may have difficulty in exploring fully the psychological and behavioral issues of his or her patients. Some research has indicated that one half of the patients have emotional problems that go undetected by the primary care physician.[2,4] Even under ideal circumstances, for example, when the physician is specifically looking for such problems, a large percentage of emotional problems may not be identified.[5]

The study by Hoeper et al[6] appears at first glance to find no benefit from the use of a screening test. Their methodology, however, required all physicians (experimental and control) to make a judgment about the patient's mental health status regardless of presenting complaints. All patients in the study filled out a symptom questionnaire. The authors reported that the screening process probably prompted patients to report more symptoms to the physician, since an increase in detection of cases of mental illness was found in both groups of physicians. The rate of identification of mental disorders increased "threefold"[6] by the same physicians when they specifically addressed the issue of their patients' mental status. The authors concluded that "the screened patient may be made more aware of psychiatric symptoms and more likely to present these complaints to the physician. The physician also becomes more aware and increases his identification of mental illness."[6]

Thus it can be postulated that a brief, easily administered questionnaire that explores somatic, psychological, and behavioral issues can be quite helpful to the physician.[4–8] The use of one such screening instrument is presented in this report.

THE MULTIFACTOR HEALTH INVENTORY

The Multifactor Health Inventory (MHI)[9] is a questionnaire presented in checklist format. It requires only about ten minutes for the patient to complete. The questionnaire requires that the patient rate himself or herself on 111 items. Ninety-nine of the items relate to symptoms and problems. Twelve of the items deal with attitudes. The items have been grouped into scales that summarize the

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TABLE 1. A SAMPLE OF ITEMS FROM THE MULTIFACTOR HEALTH INVENTORY

Item	Rating*				
Shortness of breath	0	1	2	3	4
Forgetful	0	1	2	3	4
Unable to perform sexually	0	1	2	3	4
Feel unable to relax	0	1	2	3	4
Clench my jaw	0	1	2	3	4
Indigestion	0	1	2	3	4
Feel helpless	0	1	2	3	4
Trouble staying asleep	0	1	2	3	4
Feel pressure in my head	0	1	2	3	4
I need pills to sleep	0	1	2	3	4
I hate to wait for anyone	0	1	2	3	4

** Ratings: 0—not at all; 1—a little; 2—moderately; 3—quite a bit; 4—extremely*

patient's responses. In addition, there are several scales that describe the patient's stress response pattern.

The primary purpose of the MHI is to explore quickly a range of physical symptoms and to screen for possible psychological and behavioral problems. The psychological problem areas assessed include anxiety, depression, hostility, psychosis, obsessive thinking, paranoid thought, impulsivity, and impaired self-esteem. Items are also included to screen for problems with alcohol and drug usage.

An additional feature of the questionnaire is the exploration of patient attitudes. Included are items that relate to the type A personality pattern[10] and items that assess the degree to which the patient feels a sense of self-control and responsibility for his or her health care. Each of these dimensions has relevance to the physician's understanding the individuality of the patient. Some patients would like to turn their health maintenance entirely over to the physician, while others accept the importance of their own behavior in managing their health care. The questionnaire can alert the physician to a need to discuss the role of attitudes and lifestyles as they affect the patient's health.

The MHI is suitable for use in the waiting area or the examination room. The form is completed while the patient is waiting to be seen. When the patient is seen by the physician, the MHI becomes a part of the history-taking process. The physician inquires about any of the symptoms or problems indicated by the patient. In the process, the physician gains a better understanding of the patient's situation. A few of the items found in the MHI are listed in Table 1.

In scanning the patient's answers, those items that are ranked highest will be of particular interest to the physician. They deserve close inquiry to assess fully their significance and meaning to the patient.

The MHI profile can easily be scored by support staff for the physician's use. Forty-six scales can be scored on the MHI. The scale names (listed in Table 2) are, for the most part, self-descriptive. The type A trait scale relates

TABLE 2. HIGHEST SCORING PATIENT GROUPS ON THE MULTIFACTOR HEALTH INVENTORY SYMPTOM SCALES

Symptom Scale	Patient Groups: Highest Group Mean Score	Patient Groups: Second Highest Mean Score
Thermal*	2.33 Raynaud's disease*	1.62 Psychotic disorder
Anxious*	3.08 Phobic anxiety	2.71 Major depression
Muscle tension*	2.54 Major depression	2.40 Fibrocytis
Cardiac*	3.53 Heart palpitation*	1.33 Phobic anxiety
Respiratory*	2.70 Hyperventilation*	1.72 Phobic anxiety
Faintness	2.00 Phobic anxiety	1.79 Psychotic disorder
Restlessness	2.83 Major depression	1.90 Phobic anxiety
Clenching/spasm*	2.17 Temporal mandibular joint syndrome*	1.62 Postcardiac surgery
Fatigue/malaise	2.58 Major depression	2.37 Dysthymic disorder
Sleep disturbance*	3.67 Sleep disorder*	2.57 Neurological disorder
Self-conscious	2.31 Psychotic disorder	2.30 Fibrocytis
Dermatologic	1.50 Psychotic disorder	1.15 Drug/alcohol inmates
Headache, tension*	3.29 Tension headache*	2.56 Mixed headache
Headache, migraine*	2.33 Migraine headache*	1.80 Tension headache
Headache, cluster	1.56 Mixed headache	1.09 Tension headache
Gastric*	1.78 Gastrointestinal disorder*	1.37 Dysthymic disorder
Elimination	1.25 Psychotic disorder	1.24 Neurological disorder
Pain*	2.55 Back pain*	2.43 Neurological disorder
Neurological*	.95 Neurological disorder*	.62 Back and leg pain
Coordination*	1.62 Neurological disorder*	1.50 Psychotic disorder
Sensory*	.62 Fibrocytis	.58 Alcohol inmates

to the personality dimension described by Friedman and Rosenman,[10] which identifies individuals thought to be prone to heart disease. The external orientation scale identifies an outlook that external events largely govern what happens in one's life. The rejection of the health control scale suggests whether the patient accepts some personal responsibility for maintaining his or her own health. Patients scoring high on this scale tend to expect the physician to take full responsibility for making them well.

The first three stress pattern scales (Table 3) are considered to reflect symptom development on the basis of (1) autonomic stress arousal, (2) learning through operant conditioning, and (3) learning through classical (Pavlovian) conditioning. The other four stress pattern scales help to identify the systems that may be most prominently involved in the patient's condition.

RELIABILITY AND VALIDITY

The stability (or reliability) of the Multifactor Health Inventory item pool was assessed in a group of subjects who completed the inventory on two occasions. Twenty-two students who were taking an introductory psychology course in a community college completed the MHI twice. The first and second administrations were separated by three days. The subjects ranged in age from 17 to 50 years, with the mean age being 23 years. Seven of the students were male, 15 were female.

In this sample, 82.3 percent of the ratings were unchanged on the five-point rating scale. An additional 14.8 percent of the item responses that were changed between test administrations were changed by only one rating point. In total, 97.1 percent of the items were rated identically or within one point of the previous rating.

A weighted-accuracy score was calculated by summing the weighted scores and dividing by the maximum possible score. The accuracy score in the college sample was 94.6 percent.

To assess the sensitivity of the MHI, post-treatment scores were compared with pretreatment scores in 20 patients. The sample consisted of 15 women and five men who successfully completed biofeedback therapy or psychotherapy. The age range in the group was 22 to 68 years, and the mean age was 39 years. The disorders represented in the group included anxiety, tension headache, insomnia, agoraphobia, gastrointestinal distress, chronic back pain, hyperhidrosis, stuttering, and neck tension. Treatment duration ranged from four to 20 sessions.

The post-treatment test group mean scores were lower than the pretreatment group mean scores on all 36 symptom scales (chi-square = 36, $P < .001$). The average decrease in score across the 36 scales was 0.70 points, suggesting that the test is sensitive to change in symptom state.

An empirical study was conducted to examine the validity of the Multifactor Health Inventory. The majority of the patients studied had been referred for psychotherapy or biofeedback treatment of emotional or physical prob-

TABLE 2. HIGHEST SCORING PATIENT GROUPS ON THE MULTIFACTOR HEALTH INVENTORY SYMPTOM SCALES (CONTINUED)

Symptom Scale	Patient Groups: Highest Group Mean Score	Patient Groups: Second Highest Mean Score
Memory	1.70 Dysthymic disorder	1.54 Back pain
Sex performance*	2.70 Sex disorder*	2.14 Neurological disorder
Obsessive worry*	3.08 Phobic anxiety	2.89 Obsessive personality*
Phobic anxiety*	3.20 Phobic anxiety*	1.75 Psychotic disorder
Suspicious*	1.29 Psychotic disorder*	.92 Major depression
Psychotic disorder*	1.67 Psychotic disorder*	.62 Major depression
Inadequacy	2.53 Dysthymic disorder	2.17 Psychotic disorder
Somatic depression*	1.92 Major depression*	1.73 Dysthymic disorder
Dysphoria*	2.87 Dysthymic disorder*	2.46 Major depression
Despondency*	2.12 Major depression*	1.67 Dysthymic disorder
Hypomanic	1.40 Dysthymic disorder	1.29 Psychotic disorder
Hostility	1.53 Dysthymic disorder	1.15 Drug/alcohol inmates
Sex dysfunction*	2.10 Sex disorder*	1.81 Major depression
Drug dependence*	.78 Sleep disorder	.54 Drug/alcohol inmates*
Alcohol dependence*	2.36 Alcohol inpatients*	2.20 Drug/alcohol inmates
Type A trait*	2.33 Postcardiac surgery*	1.87 Dysthymic disorder
External orientation	1.25 Major depression	1.23 Dysthymic disorder
Rejection of health control	2.27 Fibrocytis	2.25 Alcohol inmates

* *Denotes congruence between scale and patient diagnostic grouping*

TABLE 3. MULTIFACTOR HEALTH INVENTORY STRESS SYMPTOM PATTERN AND CLINICAL SAMPLE COMPARISON

Stress Symptoms Scale	Highest Group Mean Score	Second Highest Mean Score
Stress arousal	1.91 Phobic anxiety	1.67 Major depression
Operant symptoms	1.98 Major depression	1.86 Neurological disorder
Classical symptoms	1.53 Migraine headache	1.48 Tension headache
Sympathetic	1.59 Phobic anxiety	1.47 Psychotic disorder
Parasympathetic	1.84 Major depression	1.31 Gastrointestinal disorder
Musculoskeletal	1.80 Tension headache	1.66 Fibrocytis
Anxiety symptoms	2.98 Phobic anxiety	2.34 Major depression

lems. Additional subjects were obtained from other settings. Some were patients in a psychiatric ward of a general medical hospital. Others were from an inpatient alcohol and drug treatment center. Some of the subjects assessed were inmates of a state prison. The subjects were grouped according to the diagnosis or primary problem reported by the agency or referring physician. The average number of subjects in each group was 12.

The study compared all MHI scale scores across 22 identified diagnostic groups. The mean scores of the groups were tabulated for each of the 39 principal scales, a procedure that produced a matrix of 858 score comparisons. The two highest scoring patient groups for each scale were identified, and the degree of congruence between patient diagnosis and the logically appropriate scale was examined. Good congruence would suggest that the scale was indeed valid for its intended purpose.

In the sample of 261 subjects, 118 were male and 143 were female. The age range for the group was 16 to 78 years, and the mean age was 38 years. The diagnostic categories were as follows: neurological, back pain, back and leg pain, extremity pain, phobic anxiety, gastrointestinal disorders, sleep disorders, major depression, dysthymic disorders, sexual disorders, temporal mandibular joint syndrome, hypertension, postcardiac surgery, fibrocytis, generalized anxiety, tension headaches, migraine headaches, mixed headaches, psychotic disorders, alcoholic inpatients, alcoholic inmates, and drug-abusing or alcoholic inmates.

Four additional patient samples of fewer than five subjects each were restricted to a single-scale comparison. The scale chosen for each was the scale presumed to be most relevant to that diagnostic group. The purpose of allowing only one scale to be chosen for examination was to minimize the possibility of introducing spurious results into the validity analysis. The four samples and selected scale comparisons were as follows: heart palpitation group, cardiac scale; hyperventilation group, respiratory scale; obsessive personality group, obsessive worry scale; and Raynaud's disease group, thermal scale.

The Multifactor Health Inventory scales and the two highest scoring diagnostic groups for each scale are listed in Table 2. The scales for which a logical comparison group existed are identified by an asterisk. In addition, when the most relevant diagnostic group appears in the listing, it also is identified by an asterisk.

For the 25 "targeted" symptom scales there were 20 on which the appropriate patient group had the highest mean score, a significant finding, as only one or two such "hits" would be expected to occur on a chance basis. Some of the nontargeted relationships appear quite logical also, such as the phobic patients scoring high on faintness and the dysthymic and psychotic patients scoring high on the inadequacy scale. The hypothesized relationship between the type A trait scale and the postcardiac surgery group was also obtained.

To gain some perspective on the validity of the external orientation and the lack of health control scales, another brief study was conducted. Twenty patients who failed to return for therapy following their initial evaluation session were compared with 20 patients who had successfully completed therapy. The two groups did not differ significantly in mean age. Both groups presented with a variety of diagnoses (headaches, temporal mandibular joint syndrome, etc).

On the external orientation scale the two groups did differ significantly ($P < .05$) on chi-square analysis. A comparable analysis with the rejection of health control scale was not quite statistically significant. When the scores of the two scales were summed, a hit rate of 75 percent was achieved. The chi-square value was significant at the .01 level of confidence. (The combined raw score cutoff was seven raw score points.)

In Table 3 the scores for the highest scoring patient groups on the stress symptom pattern scales are displayed. No specific relationships were hypothesized.

The results appear consistent with the item content of the scales. The range and intensity of the symptoms of the phobic patients and the major depressive disorder patients are evident.

CASE ILLUSTRATIONS

The MHI profile patterns of two family practice patients are illustrated in Table 4. The first patient was a middle-

TABLE 4. MULTIFACTOR HEALTH INVENTORY PROFILES FOR TWO PATIENTS

Symptom Scale	Distress Level				
	Nil	Mild	Moderate	Marked	Severe
Thermal		0X			
Anxious	0		X		
Muscle tension	0	X			
Cardiac	0	X			
Respiratory	0		X		
Faintness		0X			
Restless	0			X	
Clenching		0			X
Fatigue	0	X			
Sleep disturbance	0	X			
Self-conscious	0	X			
Dermatologic	X	0			
Headache (tension)	0X				
Headache (migraine)	0X				
Headache (other)	X	0			
Gastric	0			X	
Elimination	X	0			
Pain	0	X			
Neurological	0	X			
Coordination	0		X		
Sensory	0	X			
Memory	0		X		
Sex performance	0X				
Obsessive worry	0		X		
Phobic	0			X	
Suspicious	0			X	
Psychotic	0X				
Inadequacy	0	X			
Somatic depression	0	X			
Dysphoria	0	X			
Despondency	0	X			
Hypomanic	0X				
Hostility	0		X		
Sex dysfunction	0X				
Drug dependence	0X				
Alcohol dependence	0	X			
Stress Pattern					
Stress arousal	0	X			
Operant conditioning	0	X			
Classical conditioning	0		X		
Sympathetic nervous system	0	X			
Parasympathetic nervous system	0	X			
Musculoskeletal	0		X		
Anxiety	0			X	
Attitudes	**Low**	**Average**		**High**	**Very High**
Type A trait		0		X	
External orientation		0		X	
Rejection of health control		0		X	

0—patient 1
X—patient 2

aged woman with complaints of facial pain. She was diagnosed as having acute sinusitis. Her MHI profile indicated minimal difficulties. On the individual test items she reported feeling hot and flushed, and she also indicated a feeling of light-headedness. No emotional difficulties were indicated in her answers. She did report some jaw clenching and indicated mild difficulty in the dermatologic area. She had a prior history of neurodermatitis.

The second patient was a 20-year-old man who had presenting complaints of abdominal pain. This presenting problem is rather common, but the patient displayed numerous other concerns on the MHI. His profile revealed a high degree of anxiousness and jaw clenching. The patient also reported significant gastrointestinal symptomatology. His restlessness and respiratory complaints seemed to be a part of his anxiousness, which was clearly evident in his score on the stress pattern anxiety scale.

Some disturbance in the patient's thinking was indi-

cated by his symptoms of phobic concern, obsessive worry, suspiciousness, and memory difficulties. The patient was also expressing some moderate feelings of hostility. His attitude scale scores indicated a rather competitive type of personality and a tendency to feel some lack of control over his situation. He seemed likely to blame others for his problems. He also tended to ascribe primary responsibility for improving his health to the physician. Finally, a problem with alcohol use was suggested by his score on the MHI alcohol dependence scale.

As the physician reviewed the patient's individual answers with him, he learned that the patient had a past history of substance abuse and that he had numerous social stresses impinging on his life. Peptic ulcer disease was also diagnosed later.

DISCUSSION

The cases presented illustrate the results of using the MHI with two quite different patients. Fortunately, most patients do not show the symptom extremes of the second patient. The utility of the MHI in the daily practice of the primary care physician seems best portrayed in the words of a family physician who has been using the MHI.

> The questionnaire is useful as an adjunct to the usual history taking process. It allows for the evaluation of problems the patient may have of a sensitive nature that he or she may be initially reluctant to verbalize. Also, we as physicians, especially if pressed for time, may ask only about physical complaints and not inquire about equally important symptoms with a psychological component. The questionnaire is helpful as a method of rapidly screening for these symptoms and enabling a more thorough review of systems. It also serves to enhance the patients' sense that they are receiving complete attention to their health needs.

The physician's comments are entirely consistent with research findings. The usefulness of a screening device is seen in the literature findings of physicians often not identifying patients with psychosocial problems.[1,4,5] Since psychosocial problems seem to account for more patient visits than any other single problem[11] and lead to a higher utilization of physician services,[12] recognizing and addressing the issue are important. Early detection and treatment yield a benefit to the patient in a shorter duration of the psychological illness.[5] Patients who are treated for their emotional problems do better than those who are untreated and save health care dollars in the decreased use of inpatient and outpatient services.[5,13]

The use of a brief screening instrument is generally accepted without particular difficulty by patients.[5,14] As suggested above, the questionnaire may lead to greater patient satisfaction. Patients expect their physician to be thorough, responsive, and understanding.[12,14] The questionnaire may help the physician in meeting those expectations.

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