

SYMPTOMS OF NEUROTIC ILLNESS IN GENERAL HOSPITAL PATIENTS

USE OF THE CORNELL MEDICAL INDEX

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Emotional disturbances are commonly associated with physical illness, and yet our methods for recognizing and assessing such disturbances often appear to be inadequate. The Cornell Medical Index, a self-administered health questionnaire, provides one way of measuring the degree of neuroticism in patients. The questionnaire was completed by 234 medical and surgical patients of widely varying ages in the general wards of a public hospital. Approximately one-fifth of all male patients and one-half of the female patients were found to suffer from neurotic illness manifested by multiple psychological and physical symptoms affecting most bodily systems. Many of these emotional disturbances had not been recognized by the usual methods of history-taking.

In a busy general hospital the emphasis in patient care is usually placed upon making a diagnosis of some specific disease and then instigating treatment, so that the patient can be discharged as soon as possible. This approach may be satisfactory by itself, except in regard to those patients with major social or economic difficulties which compound their illness, for whom the professional social worker can offer much in the way of additional understanding and assistance.

However, there are some patients (and their numbers are uncertain) who present to a general hospital with multiple symptoms and signs, many of which may be suggestive of specific diseases. Such patients may be examined by several different "specialists" in turn, each treating one or more of the many symptoms. It may not be realized that there is a connection between these symptoms—a connection involving primarily a psychological disturbance for which the treatment of associated physical symptoms may have little effect. The problem that such patients present has been studied by Balint and his colleagues at the Tavistock Clinic in London (Balint, 1964), but has received less attention than it deserves.

The neurotic patient is a nuisance rather than a challenge to conventional hospital medicine. Nevertheless, few doctors would deny that in some cases emotional disturbances are important in initiating attacks of bronchial asthma and

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ulcerative colitis, or that emotional sequelæ are often the most disabling aspects of myocardial infarction. Yet the methods for assessing and dealing with these psychological factors in general medicine are very poor. One aid to a better understanding of the over-all nature of a patient's illness might be an inventory of physical and psychological symptoms, and the Cornell Medical Index (CMI) was designed in the U.S.A. for this purpose (Brodman *et alii*, 1949, 1956). It was not intended to be a substitute for thorough history-taking by the doctor, but it enables standardized preliminary information to be made available with a minimum expenditure of the doctor's time, so that he may then more readily understand the patient's total medical problem, including the "functional" and psychiatric aspects.

The CMI is a self-administered *questionnaire* comprising 195 questions, which are answered "yes" or "no". The questions include many which would be asked as a matter of routine in the usual medical history-taking, and many others which would not normally be asked; indeed, they would not usually be considered relevant to the problem of diagnosis and treatment of the patient's presenting illness in a general hospital. There are few patients who feel very threatened by the content of the questions, or have difficulty in answering them in about 20 minutes.

The most frequent use of the CMI has been as an epidemiological tool, particularly as an indicator of neurotic emotional disturbances (Brodman *et alii*, 1956; Leigh *et alii*, 1956; Lawton *et alii*, 1959; Brown *et alii*, 1962; Culpan *et alii*, 1960; Abramson *et alii*, 1965). Use of the CMI among patients in a general hospital in Australia has not been reported, although McDonald (1967) used Sections M to R as a measure of "neuroticism" among elderly patients from general practice, and Davies *et alii* (1968) used the whole CMI in a study of Australian medical students.

This paper describes the responses to the CMI by 234 male and female medical and surgical patients of widely differing ages in the general wards of Alfred Hospital, Melbourne. The completion of the CMI *questionnaire* was part of a larger investigation of the relationships between sleep habits and symptoms in the same patients (Johns *et alii*, 1970; Goodyear *et alii*, 1971). The emphasis here is placed less upon the value of the CMI for eliciting additional information about the patient's physical diseases, and more upon its value in providing a measure of over-all

illness and psychological disturbances, evidence for which was found in a high proportion of the patients.

Although it is not discussed in detail in this paper, an analysis has also been made of changes in responses to the CMI with respect to age, of differences between the responses of men and women, and of the identification of those symptoms which were associated statistically with the patient's psychological disturbances (Johns *et alii*, 1971a).

METHODS

Questionnaire

The 195 questions of the CMI are grouped into 18 sections, with between six and 23 questions in each. The questions refer to a wide variety of physical symptoms, past medical and family history, general health and habits, as well as moods and feelings. For example, Section A refers to symptoms of eye and ear disease, and Section C to cardiovascular diseases. The 51 questions in Sections M to R refer only to psychological health, although the answers to another 70 or 80 questions from Sections A to L, ostensibly dealing with physical symptoms and diseases, have been shown to be related also to psychological characteristics of the patients (Hamilton *et alii*, 1962; Johns *et alii*, 1971a). The questionnaire takes two forms, one each for men and women, but the same questions appear in each, apart from six dealing with genito-urinary symptoms.

Several different methods for scoring the CMI have been advocated (Brodman *et alii*, 1956; Abramson, 1966), but the method used here (and that most commonly used) is to add up the number of "yes" answers for the whole questionnaire ("total score") or the number of such answers in Sections M to R only ("M-R score"). The number of "yes" responses, regardless of their type, has been shown to distinguish patients who are considered neurotic by commonly-accepted criteria (Lawton, 1959; Culpan *et alii*, 1962; Abramson *et alii*, 1965). The cut-off score for the whole questionnaire is 30, and for the M-R score it is 10, above which points the majority of patients will have significant neurotic emotional disorders.

Selection of Patients Studied

The selection of patients for inclusion in this investigation has been described previously (Johns *et alii*, 1970, 1971a), but, briefly, there were 100 male and 134 female patients between the ages of 15 and 79 years. There were approximately equal numbers in each decade of ages, and equal numbers of medical and surgical patients, who at the time were in general wards of the Alfred Hospital. The patients' diagnoses were not taken into account in selection, but they varied widely in a way which would be expected in any general hospital. However, patients who had been admitted to hospital primarily because of gynaecological or psychiatric conditions were not included. The CMI and another questionnaire inquiring about sleep habits were handed out to any patient in the wards who was able to fill in the forms after a brief explanation about their purpose. Because Alfred Hospital is a public hospital, its patients tend to come from low socio-economic levels of the community.

Differences between the scores for men and women were assessed statistically by χ^2 tests, with significance being accepted at the 0.05 probability level.

RESULTS

The frequency distributions of total CMI scores for male and female patients are shown separately in Figure 1, from which it is clear that women generally scored higher than men ($P < 0.001$). Thirty-six per cent of men and 65% of women had 30 or more "yes" answers for the

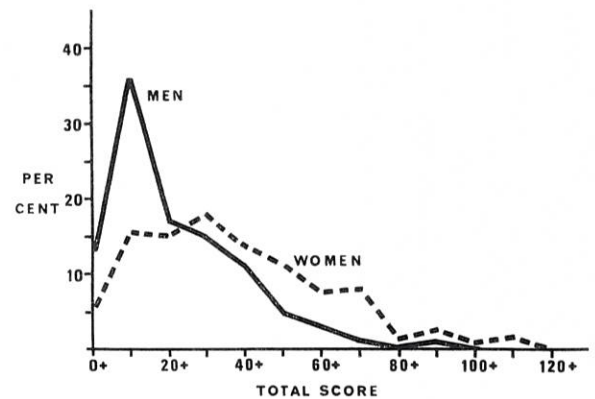


FIGURE 1: Frequency distributions of total scores on the CMI for men and women.

whole questionnaire. The distributions of M-R scores, dealing only with questions related to mood and feelings, are shown for each sex in Figure 2. Once again, women had higher scores than men ($P < 0.001$). Twenty per cent of men and 51% of women had M-R scores of 10 or more.

There is evidence, therefore, that a considerable proportion of all medical and surgical patients in general

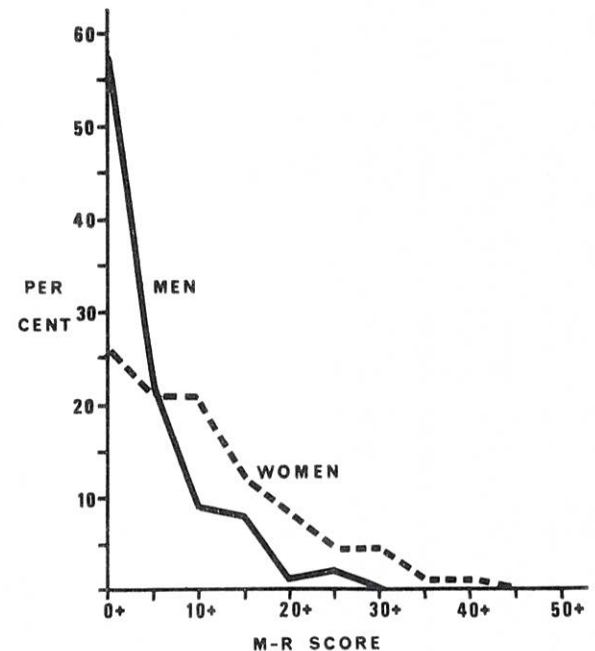


FIGURE 2: Frequency distributions of M-R scores on the CMI for men and women.

wards of Alfred Hospital have psychological disturbances. In a few cases, patients answered "yes" to more than 100 of a possible 195 questions. The type of neurotic illness from which they most frequently suffered was not clear

from such data, but an analysis of the responses to individual questions throws some light on the problem. For example, 10% of men and 22% of women reported that they usually felt unhappy and depressed (Question 158). Similarly, 5% of men and 17% of women said they often wished they were dead and away from it all (Question 162), indicating that depressive illness was common. Anxiety neurosis must also have been common, because 20% and 29% of men and women, respectively, reported that worrying continually got them down (Question 163), and similar numbers said that frightening thoughts kept coming back to mind (Question 193).

Of the 144 questions in Sections A to L, dealing only with "physical" illness, there was a statistical association between the presence of neurotic illness and "yes" answers to 71 of such questions for men, and 84 for women. These "neurotic" symptoms were reported in every section of the *questionnaire*, but less commonly so in Sections A and K. One of the commonest symptoms of all was difficulty in falling asleep and staying asleep (Question 139). The importance of sleep disturbance was confirmed in a detailed survey of sleep habits and the use of hypnotic drugs by these patients. While a high proportion of patients took hypnotic drugs "frequently" or "occasionally" for insomnia at home (Johns *et alii*, 1971*b*), their more general neurotic illness was not recorded in the majority of the patients' medical records, and was apparently not being treated.

DISCUSSION

On the basis of their responses to the CMI, for which high scores have been found to be related to neurotic illness, it must be inferred that of the patients in the present investigation, and presumably also in other general hospitals, approximately one-fifth of all men and one-half of all women had significant emotional disturbances. This emphasizes the value of the CMI over the conventional medical history in providing information about general health and emotional disturbances (Brodman *et alii*, 1949, 1952).

The higher scores for women than for men as reported here have been found by others in almost every population studied (Abramson, 1966). Even though the CMI probably overestimates the degree of emotional disturbance in women when a cut-off total score of 30 is used, there seems to be little doubt that the women in this investigation did have more neurotic illness than the men. This fact, and the great diversity of the symptoms which tend to be associated with emotional disturbances, should be kept in mind when patients' physical as well as psychological disorders are being evaluated. Some of these emotional disturbances may be part of the reaction to physical illness rather than vice versa, but this does not reduce the likely importance of recognizing and dealing with the emotional disturbance.

In this survey, the patients had higher total CMI scores than medical and surgical out-patients in Great Britain (Culpan *et alii*, 1960), and similar differences between in-patients and out-patients have been reported by others (Matarazzo *et alii*, 1961). This may reflect long-term differences between the two types of patients, or different emotional reactions to the situations in which the patients are seen. Age has little effect on total scores for the CMI, even though the pattern of neurotic and other symptoms reflected in the scores for some sections of the

CMI does change with age (Johns *et alii*, 1971*a*). McDonald (1967) found that the CMI was able to measure "neuroticism" in elderly people, and that, for this purpose, it was superior to the Maudsley Personality Inventory. There may be problems in using a *questionnaire* such as the CMI in one country and culture when it was designed and standardized in another (Abramson *et alii*, 1965; Kalimo *et alii*, 1970), but these problems are probably minimal in countries like Australia and the U.S.A.

How are we to interpret the widespread tendency for symptom-formation in emotional disturbances? Clearly, much more experimental work is required on the physiological mechanisms underlying this phenomenon. However, even without a full understanding of these mechanisms, our over-all approach to patients and our zeal for diagnosing physical diseases may be modified if we realize how commonly physical symptoms are related to psychological disturbances. These disturbances are not restricted to patients in psychiatric wards; they affect patients admitted for surgical care as commonly as those in medical wards, even though surgeons diagnose neurotic illness less often in their patients than physicians do (Brodman *et alii*, 1952).

There seems to be a need for reorientation in our thinking about the nature of illness, with less emphasis on the diagnosis of diseases and more emphasis on the whole patient and how he is functioning at all levels, from the social and psychological to the biochemical (Balint, 1964). A case could be made, therefore, for more widespread, if not routine, use of an aid such as the CMI. Some of the patients thereby recognized as having neurotic illness may benefit from specific treatment for depression or anxiety, and most would benefit from additional time spent in listening to their problems. Others, too, may need the help of a psychiatrist. However, the psychiatrist cannot be expected to, nor should he, deal with all emotional disorders in patients, unless our medical care is to reach that point in specialization where all the doctors understand some aspect of the patient's illness but no one understands the patient. This understanding is a very important function of the general practitioner, and also the function of all hospital staff in dealing with patients.

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