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The Classification of Psychiatric Morbidity in Attenders at a Dermatology Clinic

S. C. WESSELY and G. H. LEWIS

Of a random sample of new attenders at a dermatology out-patient clinic, 40% were classified as suffering from a psychiatric disorder. There was no correlation between psychiatric morbidity and the severity or site of skin disease. Self-report measures of the behavioural impact of skin disease and attitudes to appearance were related to psychological morbidity. Except in subjects without visible skin pathology (5%) there was no evidence that psychiatric illness was an aetiological factor in the development of skin disease. Self-report measures were used to distinguish between those patients in whom psychiatric morbidity was closely related to skin disease (75%), and those in whom it may be coincidental (20%). Psychological care for the former group is most appropriately provided by physicians, who should be encouraged to improve their detection and management of psychiatric morbidity.

Since the work of Shepherd *et al* (1966) there has been increasing awareness of psychiatric disorder in general medical and general practice settings. Subsequent work (e.g. Goldberg & Huxley, 1980; Mayou & Hawton, 1986) has shown this to be common, disabling, often undetected, and to influence outcome (Querido, 1959; Hawton, 1981). Furthermore, accurate identification reduces psychological distress (Johnstone & Goldberg, 1976), and may influence both compliance and satisfaction with treatment. However, although there is evidence of a relationship between physical and psychiatric disorder, its nature has remained elusive because of problems of symptom overlap and case identification.

This study describes a preliminary attempt to classify psychiatric morbidity in a medical setting according to possible causes of the disorder. A dermatology out-patient clinic was chosen for two reasons. First, the symptoms of most skin diseases do not overlap with the somatic disturbances associated with psychiatric illnesses. Second, since skin disease is visible it is easy for the trained observer to distinguish between those with physical pathology and those without.

Most previous psychiatric studies of dermatology patients have been anecdotal (see Koblenzer, 1983; Musaph, 1976, for reviews). Older literature, and some not so old, has contended that many skin diseases have a significant psychosomatic aetiology (e.g. Alexander & French, 1948; Figueria & Faria, 1987; Resch *et al*, 1987; Van der Schaar & Couperus, 1986), and has emphasised the psychodynamic or symbolic significance of skin disease. This approach assumes that psychiatric morbidity is a cause of many common dermatoses. However, this model may

be accurate only in those presenting to a dermatologist with psychiatric disorders mimicking skin disease (Sheppard *et al*, 1986). A variety of labels have been ascribed to such patients, including delusional hypochondriasis, dermatitis artefacta, dysmorphophobia and dermatological non-disease (Wessely, 1989). Little is known about their characteristics or prevalence, although there is preliminary evidence suggesting that high levels of psychopathology occur in many of these patients (Hardy & Cotterill, 1982; Owens & Millard, 1987; Wessely, 1989).

The alternative view, that skin diseases are a cause of psychiatric morbidity, has received little attention. The dermatological literature contains the occasional account of the social and emotional problems associated with certain skin diseases, such as psoriasis (Jobling, 1976) or acne (Kenyon, 1966). Although Kenyon (1962) screened 100 out-patients with a personality inventory, the first systematic study of psychiatric disorder in a skin clinic was by Hughes *et al* (1983). Both more extensive lesions and those on exposed parts of the body were associated with increased psychiatric morbidity, in keeping with a brief abstract (Shuster *et al*, 1975) relating the severity and site of acne with a decline in self-image and self-esteem.

Personal factors affecting vulnerability to the effects of skin disease have not been studied. For example, a cognitive theory of minor psychiatric disorder (e.g. Beck, 1976) would predict that those who develop mental disorder as a result of skin disease would be more likely to have perfectionist attitudes to their appearance. Similarly, no study has systematically assessed the effect of skin disease on a person's life. It is postulated that the greater

the personal changes resulting from skin disease, regardless of objective severity, the greater the psychiatric morbidity.

The current study aims to classify psychiatric morbidity in the dermatology clinic, using standardised measures of psychiatric morbidity, skin pathology and the effect of skin disease. The specific hypothesis to be tested is that three groups of patients can be identified: those with skin disease resulting from psychiatric disorder, those with psychiatric disorder resulting from skin disease, and those in whom skin disease and psychiatric disorder are coincidental. It also examines the hypothesis that both personal attitudes to appearance and the effect of skin disease on a subject's life are related to psychiatric illness. Finally, it determines how good dermatologists are at detecting psychological distress.

Method

The sample was taken from new attenders at the Dermatology Out-patient Clinic of King's College Hospital, London. On each day selected, a random sample of all new patients aged over 18 were invited to take part in the study. The following assessments were performed.

- (a) General Health Questionnaire (GHQ, 12-item; Goldberg, 1972). Those scoring 2 or more were defined as cases.
- (b) Clinical Interview Schedule (CIS; Goldberg *et al*, 1970). The total weighted score was calculated and those who scored 13 or above were defined as cases.
- (c) Attitudes to appearance (ATT). This was a new five-point scale, using semantic differentials to measure attitudes to appearance, modelled on the dysfunctional attitudes scales of Beck (1976). Patients were asked to agree or disagree on a five-point scale for each of the following questions:
 - (i) If my appearance is not perfect, I feel self-conscious in public
 - (ii) Physical appearance is only one small part of why people are attractive
 - (iii) I feel inferior if my physical appearance is not perfect
 - (iv) Other people will still like me, however I look
 - (v) I can only go out in public if I look my best.

The items making up the scale were administered by an interactive computer program. Agreement with items 1, 3 and 5 and disagreement with items 2 and 4 were given positive scores. An overall score was calculated by adding the scores for each section. Those with more perfectionist attitudes scored more.

- (d) Impact of skin disease (IMPACT). These questions, also administered by computer, asked about the effect of skin disease on the following areas of the subject's life: care over appearance, use of cosmetics, use of mirrors, self-avoidance of people, avoidance by other people, embarrassment about appearance, awareness of smell and development of

sexual problems. Subjects were asked to rate changes occurring since the start of their skin problem. The scale was scored so that any change in behaviour since the development of the disease, whether an increase or a decrease, was given a positive value.

- (e) Dermatology assessment. A standardised form was completed by the dermatologist, who recorded skin diagnosis, indicated the extent and location of visible disease and rated the patient on a five-point scale of emotional distress, identical to the scale completed at the conclusion of the CIS, the overall severity rating (OSR).

The participants were also asked to complete the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983) and a computerised assessment for psychiatric disorder (Lewis *et al*, 1988). The results of these will be presented elsewhere.

Results

Characteristics of the sample

The sample consisted of 173 subjects. The average age was 42 years (range 18–85; s.d. = 18 years) and 58% were women. Of 13 patients who did not complete any assessment, one refused, and the others left before they could be contacted. Information was therefore collected on 92% of the sample.

The rest of the sample can be thought of as comprising three groups. Because of the limited availability of computers, only the first group of 89 completed all the assessments. The second group of 22 subjects completed only a GHQ while the third, 49 subjects, completed the CIS but not the computerised assessments. The third group included 14 subjects who were illiterate or partially sighted and who therefore could not complete the GHQ. Of the total sample, 80% were interviewed using the CIS.

The only statistically significant difference between the four groups was in terms of age, since those in the third, CIS-only, group, were older patients because partial sight was more common in the elderly. This group also showed a slightly longer duration of skin disease before presentation, probably also because of age. There was no difference between any of the groups in GHQ or CIS scores, in measures of dermatological morbidity or in the male/female distribution. Although complete data, including the assessments of ATT and IMPACT, were obtained on a smaller proportion of subjects, this was a representative group in terms of psychiatric morbidity.

Prevalence of psychiatric morbidity

We found an overall prevalence of psychiatric morbidity of 40.2% (51/133; 95% confidence interval (CI) 31.7–48.7%) by the CIS. Defining cases by questionnaire (GHQ) led to a prevalence of 42.7% (95% CI 38.6–46.8%). These figures are similar to those obtained for other medical out-patients (Goldberg, 1986; Mayou & Hawton, 1986).

At the end of the CIS the psychiatrist who administered the interview made an overall rating (OSR), and on this

basis 14 subjects (9% of the total, 95% CI 4.2%–13.9%) were thought to require psychiatric treatment as outpatients, and only two required 'substantial' psychiatric care. The women had non-significantly higher scores on the CIS (male mean = 12.1; female mean = 13.4, $t = 0.67$; d.f. = 87, $P < 0.1$) and a slightly higher proportion (43% v. 36%) were classified as cases.

The majority were cases of minor affective disorder. Of the two cases of severe disorder, one patient received the diagnosis of delusional parasitosis and the second was a transvestite with a depressive illness and alcohol dependence.

Diagnostic category of skin disease and psychiatric disorder

The diagnoses made by the dermatologist were grouped into 11 categories (warts, seborrhoeic warts, naevi, psoriasis, eczema, acne, other single lesions, other widespread skin diseases, other diagnoses, alopecia, no visible lesion). A one-way analysis of variance indicated that there was no significant difference between the CIS scores ($F = 1.74$, $P < 0.1$) in the various categories.

There were eight subjects (5%; 95% CI 1.6%–8.4%) with no visible dermatological condition, and these were classified as having 'dermatological non-disease'. Of these, 62% (95% CI 45%–79%) were classified as cases by the CIS.

Attitudes to appearance

There was a symmetrical distribution of responses in the sample, with a mean of 1.4 (s.d. = 0.89). Cronbach's alpha, a measure of internal consistency (Cronbach, 1951), was 0.80. The midpoint of the five-point scale, indicating neither agreement nor disagreement, was 2.5. Only 10% of the sample scored more than 2.5, indicating overall agreement with the perfectionist attitudes; the majority were in disagreement. The women had slightly more perfectionist attitudes (male mean = 1.1, s.d. = 0.742, $n = 38$; female mean = 1.5, s.d. = 0.955, $n = 51$; $t = 1.89$; d.f. = 87; $P < 0.05$).

TABLE I
Correlations between important variables

	CIS	ATT	IMPACT
Attitudes to appearance	0.42** (0.27**)		
Impact	0.63** (-0.27**)	-0.46** (-0.28**)	
Proportion of disease on exposed areas	0.04 (-0.01)	-0.11 (-0.07)	0.29** (0.19*)
Area of skin involved: %	-0.01 (0.05)	0.00 (-0.02)	0.01 (0.10)
Duration of skin condition	0.03 (0.04)	-0.09 (-0.09)	0.23* (0.15)

* $P < 0.05$, ** $P < 0.01$.

Kendall's tau is given in parenthesis.

This measure (ATT) was correlated with the CIS (Table I), independently of all other variables. This was more pronounced in the high-impact group (see below), suggesting that the attitudes measure was not just a reflection of psychiatric disorder. Furthermore, attitudes to appearance were unrelated to any characteristics of skin disease.

Impact of skin disease

There was a wide range of responses (from 0 to 15), with a marked skew to the right. Just over half (44/84) scored less than 2, indicating that the skin disease had virtually no impact. An arbitrary cut-off of less than 2 was therefore used to define those with low impact. This score (IMPACT) was correlated with CIS and with ATT (Table I).

Of the low-impact group, 20% were classified as cases, compared with 59.5% of the group with high impact (Table II). The high-impact group had higher CIS scores ($t_{87} = 62.1$, $P < 0.0001$) and lower ATT scores ($t_{87} = 16.8$, $P < 0.0001$). The correlation between ATT and CIS was greater in the group scoring higher for IMPACT (difference between the slopes $t_{84} = 5.45$, $P < 0.002$; Table II). The variance of ATT was slightly larger in the high-impact group (range 8–25; s.d. = 4.8) than in the lower group (range 8–25; s.d. = 3.9). The difference between the slopes is unlikely to result from this modest change in variance.

Women had higher scores than men for IMPACT (male mean = 2.2, s.d. = 3.01; female mean = 3.9, s.d. = 4.21; $t_{87} = 9.6$, $P < 0.01$).

Effect of duration, location and area of skin disease

There was no correlation between the total area of skin involved and CIS, ATT or IMPACT (Table I). The proportion of skin disease on exposed areas (face, hands, scalp and arms) was then calculated, and the sample was

TABLE II
The impact of skin disease

	Low impact	High impact
Proportion of cases of psychiatric disorder	20% (7.6 to 32.4%)	60% (44.6 to 74.3%)
Correlation between ATT and CIS	0.15	0.40
Slope of regression line, CIS v. ATT	0.34 (-0.23 to 0.90)	1.13 (0.51 to 1.74)
Detection by dermatologists		
Correlation between dermatologist rating and CIS	0.0	0.32
Slope of regression line, dermatologist rating v. CIS	-0.02 (-2.94 to 2.90%)	4.50 (0.30 to 8.76%)

95% CI in parenthesis.

divided into three groups: unexposed only (41%), mixed (20%) and exposed areas only (39%). Skin disease on exposed areas was associated with higher IMPACT scores, but not with CIS or ATT (Table I).

When subjects with single lesions were compared with subjects with all other diagnoses and those without visible lesions, there was no effect on CIS ($F=1.83$, $P<0.17$) but there was an effect on IMPACT ($F=6.93$, $P<0.002$), those with single lesions reporting lower impact.

Data on duration of skin disease before presentation to the clinic were sorted into five equal-sized groups. They were weakly related to IMPACT but not to CIS or ATT (Table I).

These results show a pattern, since none of the indices used to indicate extent, duration and location of skin disease was related to the measures of mental illness (similar results were generated if the dependent variable was the GHQ score), nor were any related to attitudes to appearance. However, the proportion affected or exposed and the duration of skin disease were related to the reported impact of the skin condition. These results were confirmed by Kendall's tau, a rank correlation method (Table I).

Further analysis

In order to explain the contribution of the different variables to psychiatric morbidity a multiple regression analysis was performed. With CIS as the dependent variable, a linear model including attitudes and impact was not significantly different from a model including all the variables of both psychopathology and skin disease. The regression coefficients of the complete model indicated that there were significant independent contributions of IMPACT ($t=5.05$, $P<0.0001$) and ATT ($t=2.79$, $P<0.01$), but there was no significant effect of sex of subject ($t=1.79$, $P<0.1$). No interaction terms were significant. The trend for higher rates of psychiatric distress in women may be explained by the male/female differences in ATT.

These results confirm that the effects of impact and attitude were independent of each other. None of the factors relating directly to skin disease, including diagnosis, was associated with psychological distress. The effect of duration of illness and area exposed was therefore explained by the impact score.

The relationship between skin disease and psychiatric disorder

The impact scale is a composite measure reflecting both the psychiatric disorder and the behavioural change resulting from the skin disease. It does not reflect any psychological construct, unlike the attitudes assessment, but was designed simply to record behavioural change. It is also a self-report measure of change occurring after the onset of skin disease. For that reason it may also serve to discriminate those in whom psychiatric disorder was related to skin disease, from those in whom it was coincidental. Those subjects who recorded low impact may thus be thought of as a group where any psychiatric morbidity was

coincidental with the existence of skin disease. Validity is indicated by the different pattern of psychiatric morbidity, CIS and ATT correlations found between high- and low-impact groups (Table II). However, one cannot exclude the possibility that patients wrongly attribute a change in the use of cosmetics, willingness to go outside, etc., to their skin disease rather than to other potential causes of psychiatric disorder.

The impact scale has therefore been used as part of a classification of the observed psychiatric disorder:

- (a) Dermatological disease that has resulted in psychiatric distress. These patients report that their life has changed since the onset of skin disease, perhaps because of disfigurement, social embarrassment etc., but was also influenced by pre-existing attitudes. They are classified as psychiatric cases, but may also be in the high-impact group. In this study the association between psychiatric 'caseness' and high impact was found in 30% of the sample, and in 70% of the psychiatric cases.
- (b) Dermatological disease with coincidental psychiatric illness. These patients present with standard dermatological disorders, and are classified as psychiatric cases, but show low-impact scores, and may not show an unusual constellation of attitudes. This is reflected in the smaller slope of the regression line between ATT and IMPACT. This group constituted 10% of the sample, and 25% of the psychiatric cases.
- (c) Psychiatric illness causing or mimicking skin disease. The skin complaint, either real or imaginary, is the consequence of a psychiatric disorder. Such disorders constituted only 5% of the sample, of whom just over half had psychiatric symptoms. However, the CIS measures manifest psychiatric distress. It does not record either unusual psychiatric symptoms, or a pathological absence of symptoms (Lloyd, 1983), both of which occur in this category.

Detection of psychiatric disorder by dermatologists

The correlation between the CIS and the dermatologists' ratings was 0.36, but between the CIS and the psychiatrists' rating (OSR) it was 0.89. The sensitivity of the dermatologists compared with the OSR was 65%, the specificity was 49% and kappa was 0.24 (95% CI: 0.06–0.42). The dermatologists tended to underestimate prevalence; the test bias was 0.82. If the criterion was those cases requiring psychiatric intervention ($OSR \geq 3$), the dermatologists' sensitivity remained poor (5/13: 38.5%), although both cases of severe disorder ($OSR=4$) were also rated maximally.

The dermatologists appeared to be better at detecting psychiatric disorder in the patients who scored high on the impact scale. The regression slope in the high-impact group was steeper (Table II) than in the low-impact group, although this was not quite significant at the 5% level ($t_{78}=1.74$, $0.1>P<0.05$). Numbers were too small to permit calculation of sensitivity and sensitivity according to impact group.

Discussion

The results did not confirm the finding of Hughes *et al* (1983) that widespread lesions and disease affecting exposed parts, where one might suppose any psychological effect to be maximal, were associated with increased psychiatric morbidity. However, the results indicated that both these measures, in addition to duration of skin disease, were related to the impact score. The impact that results from skin disease appears to be both an intervening variable between skin pathology and emotional distress, and perhaps also the result of that distress.

The impact scale is, in part, a more sensitive indicator of psychiatric distress resulting from skin disease. Support for our finding comes from a preliminary account of the effects of acne and hirsutism on pre-menopausal women. Of those affected, 70% avoided social occasions as a direct result of their hirsutism, and these were the most likely to show significant levels of psychiatric distress (Barth *et al*, 1987).

Attitudes to appearance and psychiatric disorder

Unfortunately, the design of the study cannot exclude the possibility that the perfectionist attitudes detected result from the skin disease, and that they were not pre-morbid. However, if this was the case, one would expect some correlation between abnormal attitudes and measures of the length, site and severity of skin disease. None was found. Instead, it is striking that attitudes to appearance appeared more closely related to psychiatric disorder than did aspects of skin disease. This is consistent with cognitive theories that argue that the interpretation of an event and its meaning to the individual are important determinants of psychiatric disorder (Beck, 1976). A dermatologist has written that the "magnitude of the effect (disfigurement) will be related to the subject's self-image and how he relates to others. Any blemish, no matter how small, may be the focus of severe emotional problems in a given patient" (Eller, 1974).

The role of skin diagnosis

We found no difference in the pattern of psychiatric morbidity for the various common dermatoses. This does not lend support to arguments for a psychosomatic aetiology of any specific dermatoses, and instead suggests that any interaction with psychological factors is of a general nature.

Kenyon (1962) found that those with viral warts "stand out as being highly neurotic and extraverted"; in modern parlance, the "worried well". We did not find a higher level of distress in those with viral warts or naevi, in spite of the fact that many had presented after a publicity campaign concerning the risks of malignant melanoma; indeed, those with solitary lesions reported less impact on their lives rather than more.

In contrast, five of the eight patients without visible dermatological pathology were suffering from psychiatric illness. Although the prevalence of such disorders is low, comprising only 4.4% of this sample, they are not as rare as is suggested by reports based on cases referred by dermatologists to psychiatrists (Wessely, 1989), and are a significant cause of morbidity. It has been suggested that some of these conditions are 'depressive equivalents', such as glossodynia (burning tongue) (Koblenzer, 1983; Coles, 1966). However, we have shown that the majority of depressive illness encountered in the dermatological clinic presents in the conventional way.

Detection of emotional disorders by physicians

The detection of emotional disorders by physicians, as judged by entries in case notes, is generally poor (Mayou & Hawton, 1986). Two studies that have asked physicians to complete a specific scale rather than rely on perusal of case notes are more comparable with the current study, and have found that only 28% (Wilkinson *et al*, 1987) or 42% (Feldman *et al*, 1987) of psychiatric morbidity was detected. Even allowing for the fact that CIS classification is not error free, our results, although improved, confirm that physicians are missing much psychiatric pathology. The difference in detection for cases with low and high impact suggests that dermatologists were more likely to recognise psychological symptoms in those whose distress was related to skin pathology.

Does this matter? Our results suggest that 75% of the cases of psychiatric disorder in a dermatology clinic may be caused by or be closely related to skin disease. Indeed, it is possible that many patients are being referred to dermatologists as a result of that emotional distress rather than because of any feature of the skin disease. Such emotional disorder may require treatment in its own right, or may influence other decisions about treatment. We believe it is both unnecessary and inappropriate to refer all such patients to psychiatrists, and argue that our results suggest that physicians should be encouraged to

become better skilled in the detection and management of these patients.

Implications

This paper attempts a classification of psychiatric disorder in attenders at a skin clinic. The principles behind the analysis may be valid in other medical settings with a similar high prevalence of psychiatric disorder, but where the separation of physical and psychological contributions to morbidity is more difficult. Future work is needed to determine whether each group has a different clinical course and response to treatment.

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