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CLINICAL REPORT

Increased Psychiatric Morbidity in Female Outpatients with Skin Lesions on Visible Parts of the Body

ANGELO PICARDI[1], DAMIANO ABENI[1], CRISTINA RENZI[2], MARIO BRAGA[2], PIETRO PUDDU[3] and PAOLO PASQUINI[1]

[1]*Clinical Epidemiology Unit,* [2]*Health Care Quality Research Unit and* [3]*Dermatoimmunology Department, Dermatological Institute IDI-IRCCS, Rome, Italy*

Psychiatric disorders are frequent among patients with skin diseases. We aimed at identifying factors associated with psychiatric morbidity in dermatological outpatients. All adults attending the outpatient clinics of a dermatological hospital on predetermined days were given the 12-item General Health Questionnaire. The dermatologists indicated the diagnosis and location of skin lesions and rated the disease severity. A total of 1389 patients were asked to take part in the study. Of the 722 who accepted, 389 had a complete set of data and were included in the analysis. To verify the representativeness of our sample, we used the administrative registries to compare participants with the total population of patients who attended the clinics during the same period, and we examined the distribution of missing data. There was a tendency towards a younger age in the sample studied, but no evidence of substantial selection bias. The prevalence of psychiatric morbidity was 20.6%. We found higher probability of psychiatric disorders in women, controlling for age, clinical severity and localization of lesions. In women, but not in men, the prevalence of psychiatric morbidity was higher in patients with lesions on the face or hands. Given that the identification and appropriate management of psychiatric morbidity are important, it seems that the dermatologist should be particularly alert to the possibility of a concurrent psychiatric disorder in women with lesions on the face or hands.
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Angelo Picardi, Clinical Epidemiology Unit, Dermatological Institute IDI-IRCCS, Via dei Monti di Creta, 104, IT-00167 Rome, Italy. E-mail: a.picardi@idi.it

The presence of a psychiatric disorder is fairly frequent among patients with skin diseases. Epidemiological studies have reported prevalence estimates of psychiatric morbidity in dermatological outpatients ranging from 25% to 43% (1–4). Recently, attention has been drawn to the necessity of recognizing this issue and to take appropriate measures (5).

Estimating the magnitude of the problem is important, but even more important would be to identify factors associated with a higher risk of psychiatric morbidity. Although no factor can be expected to be constantly and invariably associated with the presence of a psychiatric disorder, there may be some factors that could alert the clinician to a higher risk of psychiatric morbidity in a given patient. Knowledge of such factors, and especially of those that can readily be seen by the dermatologist during a routine clinical examination, might facilitate the identification of patients with psychiatric disorders. A few studies have reported that easily detectable factors, such as female gender (4), presence of extensive lesions on exposed parts of the body (1), widowhood (4), and diagnosis of eczema (1), psoriasis (1), pruritus (4), urticaria (4), acne (1, 4) and alopecia (1, 4, 6, 7), are associated with increased prevalence of psychiatric morbidity. However, these findings need further confirmation, since not all these studies were performed on large samples and used multivariate statistical techniques.

The present study was performed on a large sample of dermatological outpatients with a wide variety of skin diseases, and multivariate statistics were used to identify which variables of easy clinical detection are associated with the presence of psychiatric disorders. The study is part of a larger research project on satisfaction with care, quality of life and psychological well-being of dermatological patients.

SUBJECTS AND METHODS

The study was carried out during the period January–March 2000 at the outpatient clinics of the Istituto Dermopatico dell'Immacolata (IDI-IRCCS), a large dermatological institute located in Rome. This institution has the entire population of Rome and province as its main catchment population (approximately 3,800,000 people, of which 3,200,000 are aged 18 or above). In addition, a number of patients are referred to IDI-IRCCS from other regions, mainly from central and southern Italy. In more than 80% of cases, the referral is made by the patient's general practitioner.

The study protocol was approved by the institutional committee for ethics. All patients of Italian nationality aged 18 years or older who were present in waiting rooms of the dermatological outpatient clinics between 8.00 a.m. and 10.00 a.m. were contacted by three research assistants who explained the study and asked them to participate. All patients who accepted were invited to sign an informed consent form, to complete the research questionnaire before being visited, and to return it to the dermatologist during the visit. Throughout the morning, the research assistants remained in the waiting rooms to provide further information and assistance in answering the questionnaire, if this was needed.

The questionnaire included various instruments, among which was a small section on sociodemographic variables, and the Italian version of the 12-item General Health Questionnaire (GHQ-12). The GHQ-12 is a self-administered questionnaire designed to detect current non-psychotic psychiatric disorders in general practice settings and in the community. The Italian version of the questionnaire has been shown to be valid and reliable (8–10).

The dermatologists were asked to indicate the diagnosis and the location of skin lesions. They were also requested to rate the severity of the disease on a five-point score, answering the following question: "In your experience, among all patients you have seen with this condition, how severe is this patient's condition?" The possible responses were "very mild" (1), "mild" (2), "moderate" (3), "severe" (4) and "most severe" (5). Questionnaires were then collected by the research assistants at the end of the morning.

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Data were entered in an electronic database. GHQ-12 scores were computed by collapsing adjacent responses to obtain a dichotomous scoring (0-0-1-1). Frequency distributions, cross-tabulations, stratified analyses and multiple logistic regression analyses were performed with the statistical package SPSS, version 8.0 for Windows (11). Confidence intervals for prevalence estimates were computed with the Epi-Info software (12).

RESULTS

A total of 1389 patients were asked to take part in the study, and 722 accepted participation. The administrative registries were used to compare participants with the total population of patients attending the outpatient clinics during the same period. The proportion of residents in the province of Rome and the male/female ratio were similar in the two groups. The only difference we found was a tendency toward a younger age in participants.

The dermatologists specified the diagnosis for 625 participants, rated the severity of skin condition in 593 cases, and registered the location of skin lesions in 420 cases. The vast majority of patients completed the GHQ-12, and only 47 subjects did not answer all items. Patients who had not been rated for clinical severity did not differ from the other patients with regard to gender, age, educational level, marital status or mean GHQ-12 score. Also, patients for whom the location of skin lesions had not been registered were not significantly different from other patients with regard to gender, age, educational level, marital status, clinical severity or mean GHQ-12 score. A comparison of subjects who completed the GHQ-12 and subjects who returned it blank or incomplete showed no significant differences regarding gender, marital status and severity of the skin condition. However, respondents were younger and tended to be more educated.

For the analysis, we decided to retain only subjects with a complete set of data. The analysis was therefore carried out on a total of 389 patients (54% of all patients initially enrolled in the study), whose sociodemographic and clinical characteristics are summarized in Table I.

The recommended threshold score for case identification with the GHQ-12 is usually 3 or more (8, 9). However, given the lack of a second-phase confirmatory assessment with a structured clinical interview, we decided to adopt a more stringent criterion for psychiatric case identification. We therefore selected 5 or more as the cut-off threshold. The results of an Italian study, performed in a general practice setting, suggest that this cut-off threshold increases positive predictive value as much as possible, while still retaining an acceptable level of sensitivity (10). A total of 135 patients scored above the selected threshold on the GHQ-12, yielding a prevalence estimate of psychiatric morbidity of 20.6%, with a 95% confidence interval (CI) of 16.7%–25.0%. The prevalence of psychiatric morbidity among patients with a skin disease affecting at least five individuals in our sample is reported in Table II. Substantial differences in the prevalence of psychiatric morbidity were observed among the various skin conditions, with high prevalence rates (>20%) in patients with acne, psoriasis, vitiligo and other changes in pigmentation, pruritus and various forms of dermatitis. However, the large majority of diagnostic groups in our sample consisted of only a few patients, a situation which limits the precision of these prevalence estimates and does not allow us to make meaningful comparisons between groups.

Table I. *Sociodemographic and clinical characteristics of the patients*

	n	%
Age range		
<30	168	43.2
30–39	103	26.5
40–49	41	10.5
50–59	31	8.0
≥60	46	11.8
Sex		
Male	152	39.1
Female	237	60.9
Marital status		
Unmarried	219	56.3
Married	134	34.4
Separated or divorced	17	4.4
Widower or widow	8	2.1
Missing information	11	2.8
Education		
0–5 years	14	3.6
8 years	55	14.1
High school	207	53.2
University	105	27.0
Missing information	8	2.1
Diagnosis		
Acne	73	18.8
Alopecia androgenetica	9	2.3
Alopecia areata	9	2.3
Alopecia, unspecified	5	1.3
Balanitis	2	0.5
Keratosis	11	2.8
Various forms of dermatitis	111	28.5
Changes in pigmentation	5	1.3
Bacterial infections	7	1.8
Warts and other viral infections	19	4.9
Lichen	3	0.8
Mycosis	16	4.1
Benign skin neoplasms	9	2.3
Naevi	27	6.9
Nail disorders	4	1.0
Urticaria	6	1.5
Pruritus	5	1.3
Psoriasis	20	5.1
Skin tumours	3	0.8
Vitiligo	3	0.8
Miscellaneous	42	10.8

Data on variables other than diagnosis possibly associated with psychiatric morbidity were examined by univariate analysis. The prevalence of psychiatric disorders was found to be much higher among women (24.5%, with a 95% CI of 19.2%–30.5%) than among men (14.5%, with a 95% CI of 9.5%–21.3%) ($\chi^2 = 5.07$, df = 1, $p = 0.02$). Psychiatric morbidity was also found to be higher in patients with lesions localized on the face or hands (22.9%, with a 95% CI of 17.6%–29.2%), as compared to patients without lesions on these parts of the body (17.7%, with a 95% CI of 12.5%–24.4%). This difference between patients with lesions on exposed parts of the body and patients without such lesions appears substantial, despite not reaching statistical significance in univariate analysis. The dermatologist's rating of the severity of skin condition was dichotomized, with scores of 1 (very mild) and 2 (mild) being coded as 'mild' and scores of 3 (moderate), 4 (severe) and 5 (most severe) being coded as 'moderate to severe'. Although the difference between the two groups failed to reach statistical

Table II. *Prevalence of psychiatric morbidity among diagnostic categories*

Diagnostic category	Psychiatric cases as identified by the GHQ-12 (%)
Benign skin neoplasms	0
Naevi	18.5
Keratosis	0
Warts and other viral infections	15.8
Bacterial infections	14.3
Fungal infections	6.3
Changes in pigmentation including vitiligo	37.5
Psoriasis	25
Acne	21.9
Alopecia	17.4
Urticaria	16.7
Various forms of dermatitis	24.3
Pruritus	20

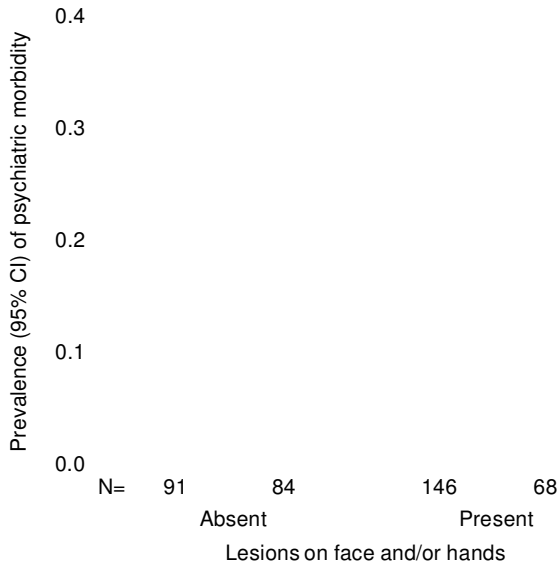

Fig. 1. Prevalence (and 95% confidence interval) of psychiatric morbidity, by gender and presence/absence of skin lesions on face and/or hands. □ = females; △ = males.

significance, a higher prevalence of psychiatric morbidity with increasing clinical severity was noted: the prevalence of psychiatric morbidity was 18.0% (95% CI 12.7%–24.8%) in the first group of patients, and 22.6% (95% CI 17.3%–28.8%) in the second group. No substantial effect of age, marital status or educational level on the prevalence of psychiatric morbidity was observed.

Subsequently, in order to examine in more depth the relationship between psychiatric morbidity and the variables that emerged in univariate analysis as possibly associated with its presence, controlling also for age, we performed a multiple logistic regression analysis. The detection of a psychiatric disorder by the GHQ-12 was defined as the dependent variable. Age, gender, clinical severity and localization of lesions on the face or hands were entered in the model as independent variables. Only being female was found to be significantly ($p = 0.02$, Wald test) associated with psychiatric morbidity, with an odds ratio of 1.94 (95% CI 1.11–3.38).

Prompted by this finding, we examined, separately in men and women, the effect of clinical severity and of localization of the lesions. The effect of clinical severity on the prevalence of psychiatric morbidity was similar in both genders. With greater clinical severity, the prevalence of psychiatric disorders increased from 10.2% to 17.2% in men and from 22.1% to 26.6% in women. Notably, the effect of localization of lesions on exposed parts of the body was much greater in female patients than in male patients (Fig. 1). In men, the prevalence of psychiatric disorders was even less in patients with lesions localized on the face or hands (11.8%) compared to patients with lesions on other parts of the body (16.7%), whereas in women the presence of skin lesions localized on the face or hands implied a very large increase in the prevalence of psychiatric disorders (from 18.7% to 28.1%).

The interaction between gender and localization of skin lesions was tested by adding it to the logistic model described above, with a borderline significant result ($p = 0.10$). A further analysis was performed to control for a possible confounding effect of diagnosis. In three diagnostic groups, namely acne, alopecia and naevi, the percentage of female patients (82%, 30% and 78%, respectively) was substantially different from that expected given the gender distribution of the whole sample. We therefore repeated the analysis after excluding patients with acne, alopecia and naevi, in order to examine whether differences in diagnosis between men and women might have accounted for the different influence of the localization of lesions on psychiatric morbidity. The results suggest that a confounding effect of diagnosis is unlikely, since in the remaining 266 patients the prevalence of psychiatric disorders was still smaller in men with lesions localized on the face or hands (9.1%) than in men with lesions on other parts of the body (17.8%), whereas in women the presence of skin lesions localized on the face or the hands still implied a high increase in the prevalence of psychiatric disorders (from 16.9% to 33.3%).

DISCUSSION

This study confirmed that psychiatric disorders are frequent among dermatological outpatients (1–4, 13, 14). Of our subjects, 20.6% were identified as having significant psychiatric morbidity, an estimate that appears reliable since the sample was fairly large and included a wide variety of skin diseases. This prevalence estimate is about twofold compared to one-month or point prevalence estimates of psychiatric disorders in Western countries (15, 16), a difference that can be explained only in small part by the higher female/male ratio in our sample with respect to community samples.

Of course, the majority of patients identified as "psychiatric cases" by the GHQ-12 are not grossly ill in terms of psychopathology. Conceivably, most of them suffer from a depressive disorder or an anxiety disorder, while some would not receive a formal psychiatric diagnosis despite experiencing substantial psychological distress.

The administration of a structured psychiatric interview would have enabled us to confirm the presence of a psychiatric disorder and to make a detailed psychiatric diagnosis in each subject. Unfortunately, the administration of such an interview in patients scoring high on the GHQ-12 was not feasible because of the very busy clinical routine of the clinics. In any

case, the high cut-off threshold selected for the GHQ-12 should have yielded a conservative estimate of the prevalence of psychiatric morbidity. Also, in another study of dermatological patients there was only a modest difference between the GHQ and a structured psychiatric interview with regard to their ability to detect psychiatric cases and to distinguish cases from non-cases (17).

Admittedly, psychiatric morbidity might be over-estimated in patients actively seeking care. Not all subjects were new to the outpatient clinic, and it is well known that chronic patients are more prone to depression. However, the patients we studied are representative of the situation that dermatologists actually face in their everyday practice. This issue has to be recognized if we are to improve skin disease management (5) and, ultimately, health outcome.

The cross-sectional design of our study does not allow causal inferences to be drawn. However, it is adequate for detecting associations, and we have identified some easily noticeable variables associated with an increased frequency of psychiatric disorders in dermatological outpatients.

The main finding is the association between psychiatric morbidity and the presence of lesions on the face or hands in female patients. Other investigators reported an association between psychiatric morbidity and the presence of lesions on exposed body parts (1). Regrettably, in our previous study of psychiatric disorders among dermatological outpatients (4) we did not collect information about the localization of skin lesions. The increased psychological vulnerability of female patients might be related to a higher impact on self-esteem of changes in body image among women compared to men. This interpretation is corroborated by recent studies pointing out that women are more invested in appearance (18) and less satisfied with their body image (19–21) compared to men.

Our finding of increased prevalence of psychiatric disorders in patients with acne, psoriasis and vitiligo is consistent with previous studies (1, 4, 22–24). However, the small proportion of many skin diseases in our sample probably reduces the detection of associations between specific diagnoses and psychiatric morbidity. Other studies have shown that psychiatric disorders are also frequent among patients with alopecia (1, 4, 6, 25), and among subjects coming for a dermatological visit in the absence of objective clinical signs of skin disease (2, 4).

The finding of a higher prevalence of psychiatric disorders in women than in men is consistent with previous findings (4) and also with the common notion that in the general population depressive disorders and anxiety disorders are more frequent in women than in men (26).

In conclusion, this study has drawn further attention to the common presence of psychiatric disorders in dermatological outpatient settings. Such disorders are not always detected (2); they are the cause of substantial suffering; and they might influence the course of the skin disease and the outcome of treatment. Their identification and appropriate management is therefore particularly important. Dermatologists should be alert to the possibility of a concurrent psychiatric disorder in female patients with lesions on the face or the hands.

A questionnaire of easy administration and scoring, such as the GHQ-12, might help increase identification of psychiatric disorders. Alternatively, dermatologists can be put on short training programmes aimed at increasing their skills in detecting psychiatric disorders and choosing the appropriate course of action.

While some patients with a psychiatric condition can be successfully treated by the dermatologist, for others the referral to a mental health professional is preferable. In this regard, given that the referral to a liaison psychiatrist seems to be beneficial in many patients (27), it is advisable that dermatological institutions identify pathways of care and referral to a consultant psychiatrist or clinical psychologist (5).

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