Association of Dissatisfaction With Care and Psychiatric Morbidity With Poor Treatment Compliance

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Objectives: To examine factors associated with compliance with dermatologic treatment.

Design: Longitudinal study. Quality of life and psychological well-being were measured before the dermatologic visit with a self-completed questionnaire. Telephone interviews were performed 3 days and 4 weeks after the visit to evaluate patient satisfaction and medication adherence, respectively.

Setting: Outpatient clinics of a large dermatologic hospital in Rome, Italy.

Patients: A total of 1389 outpatients were contacted and 722 (52%) agreed to participate. Among them, 424 responded to the inclusion criteria and were enrolled in the study. Of these, 396 (93%) completed the telephone interviews.

Main Outcome Measure: Self-reported compliance with dermatologic treatment.

Results: The dermatologists' prescriptions were not exactly followed by 44% of patients. In multiple logistic regression analysis, treatment adherence was strongly associated with complete satisfaction. Poor quality of life on the emotions scale (indicating mainly high levels of shame and embarrassment) was also associated with medication adherence. On the contrary, a strong negative association was observed between psychiatric morbidity and compliance.

Conclusions: This is the first longitudinal study on dermatologic patients showing that dissatisfaction with care and psychiatric morbidity are significantly and independently associated with poor medication adherence. To improve medication adherence, particular attention should be dedicated to the physician's interpersonal skills, which emerged as a major component of patient satisfaction. Moreover, our results highlight the need for a timely identification and appropriate management of psychiatric disorders in everyday dermatologic practice.

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Understanding and enhancing patient compliance with physician-prescribed treatments are relevant aspects of medical care. In fact, poor compliance with medications may lead not only to negative health outcomes for the patient but also to wasting of economic resources. Previous studies have shown that 30% to 70% of patients affected by a long-standing diagnosis of a chronic disease have poor medication adherence. Richards and colleagues have reported that among patients with a chronic skin disease, such as psoriasis, 39% had not complied with treatment regimens prescribed by the dermatologist.

Numerous factors have been suggested to be associated with compliance, for example, the patient-physician relationship, satisfaction with various aspects of care, and medication adverse effects. In dermatology, most surveys on medication adherence are cross-sectional and address single diseases, such as psoriasis and acne. Moreover, these surveys mainly describe compliance in relation to type of treatment (topical or systemic) or report compliance with specific treatments. Some studies on dermatologic patients have examined the importance of the patient-physician relationship in improving medication adherence.

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Medication adherence might be related not only to the clinical severity of the disease and quality of life but also to the psychological or psychiatric well-being of the patient. Including measures of psychological or psychiatric well-being appears particularly important among individuals with skin diseases, because high prevalence of psychiatric disorders have been reported.
PARTICIPANTS, MATERIALS, AND METHODS

STUDY DESIGN

The study is based on a sample of outpatients seeking dermatologic care at the Istituto Dermopatico dell’Immoculata (IDI) of Rome, Italy. The IDI is the largest dermatologic treatment and research facility in Italy, with approximately 160,000 dermatologic outpatient visits during 1999.

From January 18, 2000, to March 6, 2000, all patients in the waiting rooms of the dermatologic outpatient clinics between 8 and 10 AM were given a letter explaining the study and a questionnaire collecting information on sociodemographic characteristics, the patient’s quality of life, and potential minor psychiatric problems. Patients willing to participate were invited to sign the informed consent form, complete the questionnaire before being visited, and return the questionnaire to their dermatologist during the visit. The dermatologists were asked to record diagnoses and location of skin lesions. They were also requested to score the severity of the disease on a 5-point scale, answering the following question: “In your experience, among all patients you have seen with this condition, how severe is this patient’s condition?”

Inclusion criteria for participating in the subsequent steps of the study were as follows: (1) written informed consent, (2) age of 18 years or older, (3) Italian nationality (foreign patients were excluded because of potential language problems), and (4) no visits made to IDI during the previous year. The last criterion aims at avoiding selection bias, because patients returning to IDI after a relatively short time probably represent a “more satisfied with care” subgroup.

Participants were contacted by telephone within 3 days from the visit to collect information on satisfaction with care. The 10- to 15-minute telephone interviews have been performed using the Computer Aided Telephone Interview system. Telephone interviews have been preferred to other methods of data collection because of their ability to obtain a sufficiently high response rate.

Four weeks after the visit, a second telephone interview was performed on the same sample. This interview collected information on self-reported compliance.

Absolute confidentiality has been guaranteed for all participants, and the study protocol had been approved by the institutional ethical committee.

ASSESSMENT TOOLS

The self-completed questionnaires used to assess patients’ health-related quality of life and to detect psychiatric disorders were the Italian versions of the Skindex-29 and the 12-item General Health Questionnaire (GHQ-12). The Skindex-29 has been shown to be a valid tool for measuring health-related quality of life of dermatologic patients. The Italian version of the Skindex-29 has been developed by one of us (D.A.) following the guidelines for the cross-cultural adaptation of health-related quality-of-life measures and has been used in a previous study; higher scores indicate a poorer quality of life. Quality of life is measured on 3 scales: the emotions, symptoms, and social functioning scales.

The GHQ-12 has been translated into Italian and is considered a valid and reliable instrument for detecting current, nonpsychotic psychiatric disorders in both general practice settings and the community.

The patient satisfaction questionnaire has been designed using as reference some questionnaires already validated in the United States and Great Britain. However, we have modified the questions to make them more specific for patients attending a dermatologic outpatient clinic in Italy. Patients were invited to choose their answer on a 5-point scale, ranging from totally positive to totally negative opinions. For example, “What is your opinion on the doctor’s answers to your questions?” Possible answers were excellent, very good, good, fair, and poor. The questionnaire used neutral wording questions and response formats to minimize acquiescence response bias and unreliability in satisfaction measures.

Dermatologists have been asked for comments and suggestions on the preliminary version of the questionnaire, and a pilot study has been conducted on a sample of 70 dermatologic outpatients. The final version of the questionnaire includes 27 questions on perceived quality of care, with items on access to care (eg, office hours), infrastructures, assistance and information given by administrative staff, waiting times, physicians’ interpersonal attitude, and overall satisfaction with care.

The questionnaire collecting information on patient self-reported compliance with medication was specifically designed for the present study. It includes 15 questions concerning type of prescribed treatment (medical or surgical treatment or cryotherapy; the medical treatments include pills, creams, shampoos, etc); time of treatment commencement; if never started treatment, reasons for not having started; patient’s estimate of overall compliance (“How would you describe your behavior regarding the medical treatment prescribed by the dermatologist at IDI?”) Answers could be chosen on a 5-point scale, ranging from totally satisfied to totally dissatisfied.

RESULTS

A total of 1389 people were contacted, and 722 patients (52%) agreed to participate. Of these, 215 did not meet the inclusion criteria, mainly because they had recently sought care at IDI. The other 83 patients were excluded...
ranging from totally positive to totally negative opinions: “I have exactly followed the dermatologist’s prescriptions,” “I have almost exactly followed the dermatologist’s prescriptions,” etc.). Moreover, 5 questions examined in depth different aspects of medication (timing of medication, doses, etc.). Comparing patients’ answers to these questions with answers on overall compliance shows internal consistency of self-reported compliance with prescribed treatment (data not shown).

Previous studies have suggested that there is not a perfect measure of compliance, and comparing patient-reported adherence with electronic monitoring records in patients with hypertension has shown that patient reports are qualitatively informative and may be useful in interpreting the reasons for lack of physiologic response. Self-reported compliance of patients affected by chronic non-dermatologic diseases had higher sensitivity and specificity when compared with other measures of compliance. In dermatology, 2 previous studies on patients with psoriasis have used self-reported compliance.

VARIABLE DEFINITIONS AND STATISTICAL ANALYSIS

Self-reported overall compliance with medical therapy was considered as the outcome variable. Patients prescribed a medical therapy who reported that they had followed exactly the dermatologist’s prescription were classified as compliant with medication. Patients prescribed a medical therapy but who never started the therapy or patients who started the therapy but reported to have not followed exactly the dermatologist’s prescription were classified as poorly compliant. Analyses are limited to compliance with medical therapy.

We have opted for a strict definition of adherence to reduce the overestimation of compliance. In fact, previous studies have shown that patient reports usually overestimate compliance, whereas nonadherence is generally accurately reported by patients.

Patient satisfaction with care, sociodemographic data (current age, sex, and educational level), dermatologist-rated severity of disease, health-related quality of life, and psychiatric morbidity were considered as independent variables. The GHQ-12 scores were computed in the conventional way with the binary scoring method, that is, collapsing adjacent responses to obtain a dichotomous score (0-0-1-1). Individuals with a score of 5 or higher have been considered to have significant psychiatric morbidity. This threshold has been used in previous studies and has been shown to increase positive predictive value as much as possible, leaving sensitivity at an acceptable level. A score of 5 or higher is obtained if at least 5 of the following problems have been experienced by the respondent during the last weeks: lost sleep, felt under strain, could not concentrate, felt not to play a useful part, could not face problems, could not make decisions, could not overcome difficulties, did not enjoy everyday activities, felt unhappy and depressed, lost confidence, or felt worthless. The Skindex-29 was scored as previously described. The Skindex-29 has 3 quality-of-life scales: the emotions, symptoms, and social functioning scales. Each scale has been divided into tertiles. For each of the 3 scales, the lower, intermediate, and upper tertiles have been defined respectively as good, fair, and poor quality of life.

Concerning disease severity, we have transformed the 5-point scale into 3 categories: mild (including the very low and low severity cases), moderate, and severe (including the severe and very severe cases).

The 13 variables concerning patient satisfaction with specific aspects of care (office hours, access procedures, communication skills of physician) have been examined by means of principal component analysis with promax rotation to identify items relating to similar aspects of care. The Eigenvalue limit for the principal component analysis was set at 1. For each factor extracted, we then calculated scores by scoring questions from 1 to 5, with 5 always representing maximum satisfaction. The factor scores were standardized and transformed into 3 binary variables, thus classifying participants for each factor into 2 groups, those with scores above the mean and those with scores below or equal to the mean.

Multiple logistic regression has been used to evaluate the association between self-reported compliance with medical therapy and overall satisfaction with care and patient characteristics (sex, age, education, disease severity, health-related quality of life, and presence of psychiatric disorders). Overall satisfaction with care was evaluated asking patients the following question: “Overall, what is your opinion on the quality of care received at IDI?” Patients have been classified as completely satisfied if they reported having received “excellent” or “very good” care at IDI, whereas those reporting “good,” “average,” or “bad” care have been classified as not completely satisfied. A similar definition has been used in previous studies.

Sample size calculations showed that if the proportion of treatment adherence was 60% among satisfied patients and 40% among dissatisfied patients, we would have needed 330 patients (66 dissatisfied and 264 satisfied patients) to have 80% power to detect a risk ratio of 1.50 at the .05 level of significance.

Statistical analysis was performed using the computer package Stata Statistical Software, release 6.0 (Stata Corp, College Station, Tex).

because the dermatologist had not reported diagnosis, location, or severity of the skin disease. Thus, 424 patients were eligible for the telephone interviews. Among them, 396 (93%) completed both telephone interviews, with each interview taking approximately 10 to 15 minutes to complete.

Of the 396 participants, 158 (40%) were men and 238 (60%) were women. The mean age was 37 years (SD, ±15 years; range, 18-80 years). To verify the representativeness of our study sample, we have compared it to the total population of patients attending the dermatologic outpatient clinics at IDI from January 18, 2000, to March 6, 2000, who met the inclusion criteria of our study. The administrative registries were used for this purpose. The mean age of the patients attending IDI was 43 years (SD, ±17 years), with 42% of patients being men and 58% women.

The most frequent diagnoses in our sample were dermatitis (25%), acne (11%), and nevi (10%). The dermatologist-rated severity of the skin disease was mild for 48% of patients, moderate for 39%, and severe for 9%. Information on disease severity was not available for 4% of patients.

Psychiatric disorders were detected in 21% of the sample (95% confidence interval, 17.1%-25.3%).
Satisfaction with time spent in the physician's office waiting for the physician to arrive.

Sixty percent of the participants rated the care received at IDI as excellent or very good, 36% as good, and 4% as average or bad. Patients having rated care received at IDI as average or bad were similar to the fully satisfied patients concerning age, sex, disease severity, and psychiatric morbidity.

Patients' opinions on specific aspects of care have been examined by means of factor analysis, and 3 factors have emerged with Eigenvalues greater than unity. The first factor relates to the physician's interpersonal skills and includes the patient's opinion on quality of physician listening, thoroughness of the visit, and quality of explanations given about the skin problem and the therapy. The second factor regards access to care and includes patient's opinions on convenience of office hours, access modalities, infrastructures, and helpfulness of administrative staff. The third factor includes items concerning the time spent at IDI (time physician spent with patient, and time patient spent in the waiting room and in the physician's office waiting for the physician to arrive). Details on patient satisfaction are reported elsewhere.

A treatment (either surgical or medical or both) was prescribed to 351 patients (89%), and the distribution of type of prescribed treatment is as follows: surgical, 38 (10%); medical, 300 (76%); surgical and medical, 13 (3%); and none, 45 (11%). Among the 313 patients who were prescribed a medical therapy, 94% started the treatment. Overall, 139 patients (44%) who were prescribed a medical therapy were poorly compliant, whereas 174 (56%) were compliant (ie, followed exactly the dermatologist's advice).

Compliance with medical treatment varied only slightly according to dermatologic diagnosis. In particular, the proportion of compliant patients was 49% in dermatitis, 60% in acne, and 50% in psoriasis.

Table 1 shows self-reported compliance with medical therapy and patient overall satisfaction with care and patient characteristics.

In multiple logistic regression analysis (Table 2), treatment adherence was strongly associated with complete satisfaction. Poor quality of life on the emotions scale and age of 60 years or older were also associated with medication adherence, although the latter association fell slightly short of statistical significance. On the contrary, a strong negative association was observed between compliance and psychiatric morbidity.
Poor compliance with medical therapy was relatively frequent in our sample of dermatologic patients, since 44% of patients did not adhere fully to the dermatologist's prescription. These results are in agreement with previous surveys, reporting 39% of poor compliance among patients with psoriasis and adherence rates of 50% among patients affected by a variety of other medical conditions. The domains of patient satisfaction identified in our study by means of factor analysis (ie, satisfaction with physician’s interpersonal skills and with access to care) are in line with those reported in previous studies on patients affected by nondermatologic diseases.

In our study, medication adherence was strongly associated with overall satisfaction with care. Poor quality of life on the emotions scale was also associated with medication adherence. In addition, a borderline significant association was observed between compliance and older age. On the contrary, psychiatric morbidity was negatively associated with compliance with dermatologic treatment.

Previous studies on nondermatologic patients reported an association between patient satisfaction and compliance with treatment. Some authors have highlighted the importance of patient-physician communication for effective treatment of specific dermatologic diseases, such as psoriasis and acne. Our study is the first longitudinal study, to our knowledge, on dermatologic patients showing that patient satisfaction has a significant and independent effect on medication adherence. Moreover, factor analysis showed that satisfaction with a physician’s interpersonal skills is a major component of overall satisfaction.

Qualitative data collected in our study on patients’ explanations for not having followed the dermatologist’s prescriptions showed that there were 2 main categories of reasons for poor compliance: problems in the patient-physician relationship (ie, patients were not sufficiently convinced about the appropriateness, usefulness, or effectiveness of treatment) or problems related to the treatment itself (ie, patients believed that the treatment was excessively complicated or long or had caused adverse effects).

Some authors have formulated specific recommendations for dermatologists aimed at improving the patient-physician communication. However, clinical trials would be necessary to examine in greater detail what kind of information provided by the dermatologist (eg, on treatment safety, potential adverse effects) might be most effective in increasing compliance with medication or whether other approaches (eg, simplified dosing, topical or systemic treatments, automated reminders) could have a greater impact on compliance. In fact, many different interventions to improve medication adherence have been studied, but mainly among patients affected by nondermatologic disorders, such as psychiatric disorders, hypertension, and asthma. Moreover, only very few of these studies are rigorous trials, and, until now, very little evidence has been produced on methods that can be implemented in usual clinical settings to effectively improve compliance and treatment outcomes. Recently, increasing attention is being devoted to issues of patient involvement in treatment decisions, because it has been recognized that an individual’s opinions, expectations, and values cannot be neglected in patient-centered health care. In dermatologic care, some authors have highlighted that patient involvement in treatment planning should also include a continuous assessment of patients’ quality of life, a measure that we have found to be associated with treatment adherence. In particular, high levels of shame and embarrassment, as measured by the Skindex-29 emotions scale, were found to be associated with increased compliance, probably mediated by high motivation for treatment.

It should be emphasized that psychiatric morbidity was the strongest predictor of poor compliance in our sample. This finding has particular relevance if one considers that psychiatric morbidity is frequent among dermatologic outpatients, with epidemiologic studies reporting a prevalence ranging from 25.2% to 42.7%. In this sample, 21% of patients were identified by the GHQ-12 as having significant psychiatric morbidity. Such prevalence estimates are 2 to 3 times higher than 1-month or point prevalence estimates of psychiatric disorders in the general population of Western countries and are comparable to prevalence estimates observed in Italian general practice settings. Given that the GHQ-12 is mainly aimed at detecting nonpsychotic disorders, it is reasonable to assume that most patients identified as “psychiatric cases” by the GHQ-12 have a depressive disorder or an anxiety disorder, and some would not receive any formal psychiatric diagnosis despite experiencing substantial psychological distress. The strong association found in our study between psychiatric morbidity and noncompliance with dermatologic treatment highlights the need for a timely identification and appropriate management of anxiety disorders and depressive disorders in everyday dermatologic practice. It is important for dermatologists to be aware of this issue.

Finally, some potential limitations of our study should be discussed. Our prevalence estimates of overall satisfaction, psychiatric morbidity, and compliance with treatment could have been influenced by the fairly high nonparticipation rate. However, we have compared the demographic characteristics of our study sample with those of all patients attending the dermatologic clinics at IDI, and we have found that responders are similar to the total population of IDI patients. Moreover, it is somewhat reassuring that our results are in agreement with previous studies. It should also be noted that other factors, not included in this study, might affect compliance with treatment. In particular, further studies would be necessary to evaluate the effect of a patient’s ability to pay for medications on treatment adherence.

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REFERENCES