Diagnosis and pharmacological treatment of depressive disorders in a general hospital

Diagnóstico e tratamento dos transtornos depressivos em hospital geral

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Abstract

Objective: To determine the point prevalence of depressive disorders in medical inpatients, to identify related sociodemographic and medical factors and to evaluate the psychotropic treatment given. Method: A cross-sectional study identifying the prevalence of depressive disorders and related factors combined with a prospective longitudinal study evaluating the psychopharmacological treatment were conducted. Medical inpatients, aged 18 years or older, presenting suitability to be interviewed and giving written informed consent were selected. The sample was composed of 125 subjects. The following instruments were used: a sociodemographic questionnaire; the Mini International Neuropsychiatric Interview; and the Beck Depression Inventory. Data related to medical, personal and family histories of psychiatric disorders and psychotropic use were collected by interview and from patient charts. The study took place at the Hospital Santa Isabel, in Blumenau, located in the state of Santa Catarina, Brazil, from January to July of 2002. Results: The prevalence of depressive disorders was 26%. The factors that correlated with depressive disorders were being female, having an income lower than 3 times the minimum wage, having a personal history of depressive disorders, using psychotropic drugs, scoring higher than 13 on the Beck Depression Inventory and having been referred for a psychiatric consultation (p < 0.05). Only 43.8% of the individuals with depressive disorders received antidepressants. Most of the depressed patients were being treated with benzodiazepines (62.5%). The most frequently prescribed drugs were diazepam and fluoxetine. Conclusions: Approximately one-quarter of the medical inpatients had depressive disorders. However, antidepressants were prescribed for less than half of them. Women with a history of depression, using benzodiazepines and having a low income presented significantly higher rates of depressive disorders. Physicians should suspect depression in patients presenting such characteristics.

Keywords: Depressive disorder; Hospitals, general; Length of stay; Prevalence; Psychotropic drugs

Resumo

Objetivo: Identificar a prevalência de transtornos depressivos em pacientes internados em enfermarias clínicas de um hospital geral, avaliar o tratamento psicofarmacológico recebido e detectar fatores sociodemográficos e clínicos associados. Método: Realizou-se um estudo observacional transversal identificando a prevalência de transtornos depressivos e fatores associados juntamente com estudo longitudinal prospectivo avaliando o tratamento psicofarmacológico recebido durante a internação. Foram selecionados pacientes com mais de 18 anos, que apresentavam condições para a entrevista e que consentiram. A amostra foi composta por 125 pessoas. Aplicaram-se os seguintes instrumentos: questionário com variáveis sociodemográficas; coleta de informações sobre história médica, psiquiátrica e familiar; questionário sobre uso de psicofármacos; Mini International Neuropsychiatric Interview; e Inventário Beck de Depressão. O estudo realizou-se no Hospital Santa Isabel, Blumenau-SC, de janeiro a julho de 2002. Resultados: A prevalência de transtornos depressivos foi de 26%. Somente 43,8% dos indivíduos com transtornos depressivos receberam antidepressivos. A maioria dos deprimidos utilizou benzodiazepínicos (62,5%). Dentre os psicofármacos, destacaram-se o diazepam e a fluoxetina. Fatores associados foram: sexo feminino, renda menor que três salários mínimos, história prévia de depressão, uso de psicofármacos, Inventário Beck de Depressão maior que 13 e pedido de interconsulta psiquiátrica (p < 0,05). Conclusões: Cerca de ¼ dos pacientes internados em enfermaria clínicas de um hospital geral apresentaram diagnóstico de transtornos depressivos. Entretanto, menos da metade recebeu tratamento com antidepressivo. As mulheres com história prévia de depressão, baixa renda e em uso de benzodiazepínicos tiveram taxas significativamente maiores de transtornos depressivos. Os médicos deveriam suspeitar de transtornos depressivos em pacientes com essas características.

Descritores: Transtorno depressivo; Hospital geral; Tempo de internação; Prevalência; Psicotrópicos

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Introduction

Depressive disorders are highly prevalent and result in significant functional loss.[1] It is estimated that, by 2020, unipolar depression will be the second leading cause of years lost to incapacitation worldwide.[2] Despite its significance, unipolar depression is still identified and treated in an inappropriate and insufficient way.[1,3-4] In a general hospital, the problem is even more serious since depressed patients with physical illness present lower adherence rates[5] and worse prognoses.[6-8] In such patients, depression often goes undiagnosed.[9]

Depression is the most common mental disease in individuals hospitalized with physical illness.[10] It has been shown that, based on the Revised Clinical Interview Schedule (CIS-R), the incidence of depressive symptoms in hospitalized patients is 28.2%.[11] The same authors, using another methodological resource, found that 31% of patients on hospitalization wards present significant mood alteration.[12] In Rio de Janeiro, the prevalence of depressive syndromes was found to be 32.3% among patients on clinical wards, and the symptoms with greater discriminatory power were lack of interest in people, pessimism, irritability and loss of libido.[13] In a sample of clinical and surgical patients, using the Beck Depression Inventory (BDI), it was found that 30.5% of the patients presented depressive symptoms.[14] Studies conducted in other countries, such as Spain,[15] have shown similar rates. However, in a study conducted in Canada, the rate of major depressive disorder was found to be only 9.7%.[9] Despite these high rates, psychiatric consultations are recommended for only approximately 13% of hospitalized patients,[15-16] and such consultations are typically solicited for patients with behavior alterations due to organic mental disorders or alcoholism.[17] Otherwise, patients presenting delirium[18-19] are misdiagnosed with depressive disorder, which results in a worsening of their condition due to the damage caused by the prescription of medications (benzodiazepines and tricyclic inhibitors).

In general, the diagnosis of these disorders is not an easy task. The definition of terms, their psychopathological characteristics and the dichotomies of the classifications are complicating aspects.[20-23] Factors related to the patients themselves, the doctors and the health system contribute to its underdiagnosis. In addition to the diversity and intensity of symptoms, factors such as comorbidity with other clinical conditions,[24] stigma, limited access to professionals, inadequate professional formation and lack of time for treatment, as well as lack of physician familiarity with the patient, interfere in the making of an accurate diagnosis.[25] In primary-care clinics, the initial diagnosis is inaccurate in 25-30% of cases.[26]

Antidepressant medication is used for medical and psychiatric conditions.[27] Psychotropic drugs have long been underutilized in the treatment of depression.[28] In a recent study, of the 51.6% individuals who received treatment, only 41.9% received treatment that was appropriate.[1] Such a context is alarming, since, untreated, this disorder can result in a series of psychosocial difficulties.[29] However, when such patients do receive drug treatment, work absenteeism decreases.[30] It has been reported that the patients in primary-care clinics receive low doses of antidepressants for an insufficient period of time,[26] resulting in higher rates of noncompliance.[31] Nevertheless, in the last decade in the United States, there was an increase in the size of the population receiving psychopharmacological treatment and a decrease in the frequency of doctor visits, as well as a drop in the use of psychotherapy. Antidepressants are the most frequently prescribed medication, followed by benzodiazepines.[32]

In general hospitals, antidepressants are prescribed for depression, pain and other conditions.[33] In addition, a study carried out in Spain revealed that psychotropic drugs, prescribed by nonpsychiatrists, had been used in the period prior to hospitalization in more than half of all cases.[15] In depression, such drugs are used at low dosages, without a defined time frame for their use or a plan for their discontinuation.[33] It is of note that, in a study conducted in Rio de Janeiro, 60% of the patients with moderate to severe depressive syndrome were treated with benzodiazepines alone.[13] Among elderly patients with depressive disorder hospitalized in the United States, a small percentage received antidepressants, and those who were treated frequently received low doses of tricyclic inhibitors.[16] This conduct is alarming, since these medications present side effects that can be dangerous for elderly individuals presenting physical illness.[34]

Depressive disorders in patients with physical illness have recently been studied on a global scale. However, there have been few studies on the psychopharmacological treatment of this population in Brazil. In conclusion, depressive disorders in general hospitals are frequent,[11,14-15,35] are underdiagnosed[9] and are inappropriately treated.[13,16,33] In addition, individuals without depression may be misdiagnosed with this disease.[18-19] Hospitalization is a unparalleled moment of opportunity for the detection of depression and initiation of treatment in these patients since it is unlikely that it will be appropriately treated after discharge from the hospital.[16]

The objective of this study was to determine the frequency and characteristics of depressive disorders among inpatients with depressive disorders in a general hospital, evaluating the psychopharmacological treatment prescribed and assessing referrals for psychiatric consultation.

Method

1. Design

A cross-sectional observational study was carried out to determine the prevalence of depressive disorders and to identify related sociodemographic factors. Concurrently, a prospective longitudinal study was conducted in order to evaluate the psychopharmacological treatment received, as well as the referrals for psychiatric consultation.

2. Locale

The research was carried out at the Hospital Santa Isabel, in the city of Blumenau, in the state of Santa Catarina, Brazil. The city is located in the Itajaí Valley region. The hospital serves the entire region and is characterized by offering tertiary care of high complexity. There are 250 beds, and the facility accepts patients with private health care plans and patients covered by the national *Sistema Único de Saúde* (Unified Health Care System), as well as patients willing to pay with personal funds. The clinical staff covers 35 medical specialties, and the medical school offers undergraduate and graduate medicine programs.

3. Sample

All the patients admitted to the clinical wards and 18 years of age or older were eligible for the study. Every two days, three patients were selected at random (total selected, n = 266), and those who accepted gave written informed consent. A total of 141 patients were excluded. Patients not accepted for

enrollment in study included those awaiting surgery, those whose medical condition precluded their participation in the interview, those with cognitive deficit (delirium, dementia or mental retardation) and those who declined to participate. The sample was obtained taking into consideration the prevalence of depressive symptoms in general hospitals found in the literature (30%). The sample margin of error was 4%, with a 95% interval of confidence.

4. Procedures

The evaluation was carried out within the first 72 hours after admission by a psychiatrist (MAC) with experience in psychiatric consultation. Data regarding medical, psychiatric and family history were collected, and the following instruments were applied: a sociodemographic variables questionnaire; a questionnaire on the use of psychotropic drugs; a semi-structured standardized interview with the Mini-International Neuropsychiatric Interview (MINI) Plus[36-37] and the BDI.[38-40]

Patient charts were evaluated immediately after discharge in order to investigate the use of psychotropic drugs during hospitalization, referral for psychiatric consultation, leght of stay and financial costs.

5. Instruments

Data from patient charts were used to fill out the sociodemographic variables questionnaire. Additional data were requested from the patients. Data regarding personal and family psychiatric history was collected by inquiring of the patients whether they or someone in their family had ever presented an emotional or psychiatric "nervous disease", used "tranquilizers", taken medication "for the nerves" or been hospitalized for psychiatric reasons. If an affirmative response was given, the patient would be asked to describe the symptomatology, as well as to answer any other necessary questions, as in any other similar study.[16]

The MINI is a brief standardized diagnostic interview that explores the main psychiatric diagnoses of the DSM-IV[23] and of the CID-10.[41] Its reliability and validity can be compared to that of the Structured Clinical Interview for DSM-III-R - Patient Version (SCID-P) and to that of the Composite International Diagnostic Interview (CIDI), and the MINI has the advantage of requiring less time for its administration.[37] Patients were diagnosed with depressive disorder when the MINI-Plus met the criteria for a major depressive episode, a major depressive episode due to general medical condition, a substance-induced major depressive episode, a major episode of melancholic depression, dysthymic disorder, mixed anxiety and depressive disorder, or bipolar disorder (depressive pole). It should be noted that the patients with bipolar disorder who presented depressive episode at the moment of the evaluation were diagnosed with depressive disorder. Pharmacological treatment was considered potentially correct when any patient with depressive disorder received some type of antidepressant in the hospital environment.

The BDI is a self-evaluation instrument, containing 21 groups of four phrases each that investigate the intensity of symptoms.[38] The BDI was used to determine the intensity of depressive symptoms and not to make the diagnosis.[39-40]

6. Ethical aspects

The patients gave informed written consent in the presence of witnesses. The project was approved by the Research Ethics Committee of the Universidade Federal de Santa Catarina. Doctors whose patients were diagnosed with mental disorders were informed of that fact. The researcher volunteered to assist in the treatment if solicited by the assistant doctors or patients.

7. Statistical analysis

Values obtained for continuous variables are expressed as mean and standard deviation (SD), whereas those for categorical variables are expressed as frequency (absolute and relative). In the univariate analysis, comparisons of the distributions of the qualitative variables between the groups with and without depressive disorder were made using the Pearson chi-square test. The level of significance adopted was 0.05, and the programs used for the calculation of results were Epidata 2.0 and Epi Info 6.04.

For the multivariate analysis, logistic regression was used to investigate the role of the different exposure factors associated with occurrence of the outcome of interest (depressive disorder), as well as to control potential confounding factors. In this phase of analysis, the SPSS 10.0 program was used. As an initial step, each exposure was examined in a bivariate model to determine its effect on the outcome of interest. Factors that revealed a statistically significant correlation with the outcome of interest ($p < 0.05$) were then selected for inclusion in the model. As a final step, the exposure factors selected were included in a model designed to define the magnitude of the independent effect that each of the exposure variables has on the outcome. The crude and adjusted odds ratios for the occurrence of the outcome of interest are presented with their respective confidence intervals. The same procedures were adopted for the outcome "use of antidepressants".

Results

In the study sample (n = 125), adult females predominated (55%). Most subjects were married (67%), were of the white race (81%), had had only one to four years of schooling (42%) and had an income below the minimum wage (35%). The means ± SDs for age and years of schooling in the sample were 52.42 ± 16.09 years and 6.18 ± 4.54 years, respectively. The mean ± SD of the BDI scores was 16.51 ± 11.82.

Regarding the history of the use of psychotropic drugs, 59 (47.2%) reported never having used any of these medications. However, 40 (32%) of the patients had previously used this type of medication and another 26 (20.8%) were using it at the moment of the interview. Of the patients who had taken psychotropic drugs, 45 (36%) used benzodiazepines, 18 (14%) used antidepressants, 1 (1%) used antipsychotics and 9 (7%) were unable to specify the type medication used.

Based on the results of the MINI-Plus evaluation, 56 patients (45%) were classified as having some type of mental disorder, and the incidence of patients with depressive disorders was 32 (26%). The subtypes of these depressions, according to the MINI-Plus, can be seen in Table 1. The means ± SDs of

Table 1 – Frequency of depressive disorder according to the Mini-International Neuropsychiatric Interview Plus

Disorder	Frequency (n)	Percentage (%)
Major depressive disorder	22	18
Dysthymic disorder	9	7
Mixed anxiety and depressive disorder	5	4
Bipolar disorder, current depressive episode*	5	4
Major depressive disorder due to general medical condition	3	2
Total	32	26

Patients with bipolar disorder and presenting a depressive episode were included in this group

age, income and years of schooling of the patients with depressive disorder were 52.69 ± 13.55 years, 303.75 ± 379.13 Brazilian reals and 4.44 ± 2.98 years, respectively.

Regarding the treatment, 66 (53%) received psychotropic drugs during their hospital stay, 26 (21%) receiving antidepressants and 61 (49%) receiving benzodiazepines. In addition, 3 (2.4%) were taking an antipsychotic and 2 (2%) were taking lithium. Diazepam and fluoxetine were the most frequently prescribed psychotropic drugs.

Of the patients evaluated, a total of 12 (10%) were referred for psychiatric consultations. In the group of patients with depressive disorder (n = 32), 10 patients (31.3%) were referred for psychiatric consultations. The mean ± SD of the cost of hospitalization was 362.69 ± 387.46 Brazilian reals, and the mean ± SD of hospital stay was 5.4 ± 3.17 days. There was no statistically significant difference when these variables were compared with those for the patients without depressive disorder.

Among the 32 patients with depressive disorder, 22 (68.8%) received some type of psychotropic drugs during hospitalization. Fourteen (43.8%) had used antidepressants, 20 (62.5%) had used benzodiazepines, and 1 (3.1%), had used lithium. The medications most frequently prescribed for the depressed patients were diazepam and fluoxetine. The types of psychotropic drugs used by the patients with depressive disorder, their incidence and dosage can be found in Table 2.

Table 2 – Frequency and dosage of psychotropic drugs prescribed for patients with depressive disorders (n = 32)

Medication	Frequency (n)	Percentage (%)*	Mean dose (mg)	Standard deviation (±)
Diazepam	10	45.5	11.57	3.98
Fluoxetine	7	31.8	20.66	5.93
Clonazepam	7	31.8	1.5	1.04
Sertraline	3	13.6	37	14.43
Bromazepam	2	9.1	5.3	2.91
Midazolam	2	9.1	13.13	3.75
Amitriptyline	1	4.5	31.25	12.5
Nortriptyline	1	4.5	10	-
Imipramine	1	4.5	50	35.35
Bupropion	1	4.5	200	-
Lorazepam	1	4.5	2	-
Alprazolam	1	4.5	0.75	0.35
Flunitrazepam	1	4.5	1	-
Lithium	1	4.5	600	-

*Total frequency is exceeded because the individuals could be using more than one medication.

In the univariate analysis, comparing patients with and without depressive disorder, we found that depressive disorder correlated significantly with the variables being female, having an income lower than three times the minimum wage, having a history of depression, using psychotropic drugs, using antidepressants during hospitalization, scoring higher than 13 on the BDI, and being referred for psychiatric consultation (Table 3).

In the logistic regression of variables found to be significant In the univariate analysis, after controlling for confounding factors, we found that "having a history of depression" was the only one that remained statistically significant, with an odds ratio of 4.31 and a confidence interval of 1.44-12.87 (p < 0.008) (Table 4).

In the multivariate analysis used to assess the use of antidepressants in the hospital environment, none of the characteristics presented a statistically significant correlation.

Table 3 – Comparison between patients with and without depressive disorders by sociodemographic and clinical characteristics (n = 125)

Variable	With DD n (%)	Without DD n (%)	p values*
Gender			0.028†
Female	23 (33.3%)	46 (66.7%)	
Male	9 (16.1%)	47 (83.9%)	
Schooling			0.168
Under 5 years-old	22 (30.1%)	51 (69.9%)	
Over 5 years-old	10 (19.2%)	42 (80.8%)	
Marital status			0.514
Married	23 (27.4%)	61 (72.6%)	
Not-married	9 (22%)	32 (78%)	
Income			0.031†
Less than 3 minimum wages	30 (29.7%)	71 (70.3%)	
More than 3 minimum wages	2 (8.3%)	22 (91.7%)	
Personal history of DD			< 0.001†
Yes	11 (57.9%)	8 (42.1%)	
No	21 (19.8%)	85 (80.2%)	
Family history of DD			0.075
Yes	7 (43.8)	9 (56.3%)	
No	25 (22.9%)	84 (77.1%)	
Use of psychotropic drugs			0.036†
Yes	22 (33.3%)	44 (66.7%)	
No	10 (16.9%)	49 (83.1%)	
Use of antidepressants			< 0.001†
Yes	14 (53.8%)	12 (46.2%)	
No	18 (18.2%)	81 (81.8%)	
BDI			0.016†
Over 13	8 (24.2%)	25 (75.8%)	
Up to 13	4 (6.7%)	56 (93.3%)	
Referral for a psychiatric consultation			0.001†
Yes	10 (83.3%)	2 (16.7%)	
No	22 (19.5%)	91 (80.5%)	

DD = Depressive disorder; BDI = Beck Depression Inventory
*chi-square test
†Statistically significant difference (p < 0.05)

Table 4 – Multivariate Analysis* of the sociodemographic and clinical data that were associated with depressive disorders in the univariate analysis

Variable	Odds Ratio	95% CI†	Value of p
Female	1.66	(0.64-4.31)	0.297
Income of less than 3x the minimum wage	3.24	(0.65-16.09)	0.149
Personal history of DD	4.31	(1.44-12.87)	0.008†
Family history of DD	2.01	(0.57-7.07)	0.276

*Logistic regression
95% CI = 95% confidence interval
†Statistically significant difference (p < 0.05)

Discussion

The prevalence of depressive disorder was high (26%). However, less than half of the patients diagnosed with depressive disorder received potentially correct treatment (43.8%). Among the patients diagnosed with depressive disorder, most were treated with benzodiazepines. The most frequently prescribed psychotropic drugs were fluoxetine and diazepam. In the univariate analysis, some characteristics were found to be significantly more frequent among the patients diagnosed with depressive disorder: being female; having an income lower than three times the minimum wage; having a history of depressive syndrome, using psychotropic drugs; and scoring

higher than 13 on the BDI. When evaluated as a whole, using logistic regression to identify the variables most closely correlating with depressive disorders, the variable "having a history of depression" was the only one that remained statistically significant. Although the attending physicians had been informed of the diagnosis, only one-third of the patients diagnosed with depressive disorder were referred for psychiatric consultation.

Other studies involving Brazilian subjects have reported the prevalence of depression among inpatients to be similar to that found in our study.[11,14,35] In a study conducted in Canada, a lower prevalence was found, although that was likely due to the fact that the authors used more specific criteria for the diagnosis of major depressive disorder.[9]

Various factors found to correlated depression in the univariate analysis have also been identified by other authors. Among such factors are low income,[42-43] being female,[13,35,42-43] having a history of depressive syndrome,[13,35,44] and using psychotropic drugs.[13,15] After the multivariate analysis, only a history of depression remained statistically significant. This finding demonstrates the importance of this correlation and is likely due to the fact that depressive disorders are chronic diseases, and that various individuals present residual depressive symptoms that fluctuate over time, propitiating the appearance of new episodes, mainly in moments of greater stress.[45]

Although the multivariate analysis revealed no elements associated with the use of antidepressants, the results showed a tendency toward correlation with this outcome for the variables: being female; having an income lower than three times the minimum wage; having had less than five years of schooling; and having a history of depressive syndrome. It is possible that this result is a consequence of the small sample size, and that the inclusion of more subjects would have revealed correlations for some of the variables.

Physicians of inpatients who are female, who have a personal or family history of depressive syndrome or who use psychotropic drugs should consider a diagnosis of depression and question their patients about depressive symptoms. This would facilitate the identification of this syndrome in this environment. Due to the magnitude of the correlation of the variable "having a history of depression" with the presence of depression during hospitalization, this question could be part of the routine anamnesis in medicine in general, as are questions about alcohol and smoking.

In a study involving hospitalized elderly patients with depression, 40.5% received some type of antidepressant during their stay in the hospital,[16] a rate slightly lower than that found in the present study. In another study similar to ours,[15] the most frequently prescribed psychotropic drugs were chlordiazepoxide and fluoxetine. In the present study, the mean dose of fluoxetine was at the therapeutic level (20.66 mg). The other antidepressants prescribed were initially given in low doses. Although these data appear in other studies,[16,33] we cannot know whether the doses of these medications would have been increased in the follow-up visit. However, for the treatment of depression, the patients would require higher doses. It is of note that, in general hospitals, the antidepressant dosages used are lower than those prescribed for physically healthy patients, depending on the potential side effects related to a particular physical illness, the age of the patient, comorbidities and the use of other drugs that interact with antidepressants. The last two items are especially common in this population. It should also be remembered that there are no innocuous antidepressant medications, and that, although the new antidepressants have a more favorable profile for clinical patients, many have significant medical interactions or side effects that make it imperative to analyze their risks and benefits before treatment is initiated. However, fine-tuning the treatment regimen is fundamental to the remission of the episode since the persistence of symptoms represents a problem in the long term.[3] The identification and proper management of depressive disorders is extremely important, and hospitalization is an ideal moment for that since there is less possibility of patients receiving treatment out of the hospital.[16] Treatment is crucial due to the repercussions of depression in terms of morbidity and mortality.[6,8]

Despite the high prevalence of mental disorders and the common use of psychotropic drugs, only 12 (10%) patients were referred for psychiatric consultation. Psychiatric consultation was recommended for 10 (31.3%) of the depressed patients. These numbers are higher than those reported in other studies.[15-16] However, it is crucial to point out that all of the doctors of patients diagnosed with psychiatric disorders were informed, and this fact might have increased the number of referrals. Nevertheless, we noticed that very few patients received a prescription for antidepressants or a referral for psychiatric consultation. This demonstrates that training no longer suffices as a means of increasing detection of depression, and that approaches involving questions of management are also important. This problem was also evidenced by the fact that benzodiazepines were prescribed for a large percentage of patients, including those with depression. It is supposed that the professionals recognize the pain of the patients and use anxiolytic drugs because they feel more comfortable prescribing this sort of medication. Since anxiolytics are not innocuous,[27] this conduct can result in complications. If prescribed in isolation, such medications can provoke a worsening of depressive symptoms. However, to think that simply getting the opinion of various doctors will result in improved treatment would probably be overly optimistic. The ideal might be not only to obtain more referrals for psychiatric consultation but to offer the doctors a model of professional improvement centered around ongoing treatment, teaching and research.

There are limitations of the present study that should be mentioned. First, the environment in which the research was carried out is characterized as a tertiary-care teaching hospital in a medium-sized city. Therefore, our results cannot be extrapolated to other hospitals in the country, especially not to public hospitals. However, various studies conducted in other locales have reported similar rates. The results, therefore, can serve as parameters for future investigations. Second, a high proportion of patients were excluded. This might have skewed the prevalence data, since severely depressed individuals could have been unwilling to participate in an interview. If this were the case, the prevalence might have been even higher. Third, the prevalence of depressive disorder was determined at the time of admission. This might set our subjects apart from the patients who developed depressive episodes during the hospitalization period. The use of medications, the clinical complications and the suffering that accompanies illness could be triggers of depression but were not investigated in this cross-sectional study. However, some authors have shown[35,46] that the majority of patients in general hospitals and suffering from depression have a history of depression and have been previously hospitalized with depressive symptoms. Fourth, it is impossible

to establish an appropriate standardized dose of antidepressants for clinical patients due to the high comorbidity and heterogeneity of this group. In addition, patient charts do not always include the reason for the prescription of antidepressants. Therefore, when antidepressants were prescribed for depressed patients, we chose to categorize that as a potentially correct treatment. Consequently, our data do not allow us to state that this was the intention of the attending physicians since there is the possibility that these medications had been prescribed for pain, insomnia or other condition.

Conclusions

The prevalence of depressive disorders in a general hospital was found to be 26%. The characteristic most closely correlated with depressive disorders was having a history of depression. Of the patients diagnosed with depressive disorder, only 43.8% received potentially correct treatment. Most of them (62.5%) were medicated with benzodiazepines. Diazepam and fluoxetine were the most frequently prescribed psychotropic drugs.

The number of referrals for psychiatric consultation was low. In addition, despite the fact that the attending physicians were informed that their patients had been diagnosed with these disorders, treatment was inadequate. These findings indicate that teaching programs and research are not sufficient to increase the rate at which depression is detected in this context. It is fundamental to improve the quality of the treatment received by depressed patients.[3] It is also necessary to conduct further studies and promote ongoing education in order to aid attending physicians in their management of this patient population. Therefore, psychiatric consultation, not only in general hospitals but also in primary-care facilities and outpatient clinics, could be an important instrument for improving the quality of medical treatment. Future studies could determine whether, in this context, psychiatric consultation would result in a better evolution and quality of life of patients with depression who seek treatment for general physical ailments.

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