

Bipolar disorder in the elderly: clinical and socio-demographic characteristics

Transtorno afetivo bipolar em idosos: características clínicas e sociodemográficas

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ABSTRACT

Aims: To describe the clinical, psychiatric and socio-demographic characteristics of elderly patients with bipolar disorder.

Methods: Patients with bipolar disorder aged 60 or more were selected, and their socio-demographic and clinical characteristics were obtained from the medical charts and from interviews with each patient and with at least one close relative.

Results: A sample of 135 individuals was enrolled in the study. Elderly bipolar patients in the sample had higher rate of hypothyroidism, cancer and diabetes mellitus when compared to published data about the general elderly population. Presence of psychotic symptoms was associated with lower levels of educational attainment, earlier age of disease onset, more manic episodes and more frequent psychiatric hospitalizations. The mean age of onset was higher when compared to other studies, and the nature of the first affective episode indicates more episodes from the same polarity.

Conclusions: The present study, performed in elderly patients with bipolar disorder, confirmed important clinical findings of investigations conducted in adult patients with such disorder, and brings the novelty of consolidating these findings by studying a sample of elderly patients with a long time of recorded disorder progression.

KEY WORDS: BIPOLAR DISORDER; AGED; AGEING; DIAGNOSIS, DUAL (PSYCHIATRY); COMORBIDITY; POPULATION CHARACTERISTICS; SOCIAL CLASS.

RESUMO

Objetivos: descrever as características clínicas, psiquiátricas e sociodemográficas de pacientes idosos com transtorno afetivo bipolar.

Métodos: foram selecionados pacientes com transtorno bipolar, com idade maior ou igual a 60 anos. Suas características clínicas e sociodemográficas foram obtidas por meio de consulta aos prontuários médicos, bem como através de entrevista com cada paciente e pelo menos com um familiar próximo.

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Resultados: uma amostra de 135 indivíduos foi incluída no estudo. Os pacientes com transtorno afetivo bipolar da presente amostra apresentaram taxas mais elevadas de hipotireoidismo, câncer e diabetes melito, quando comparados com dados publicados sobre a população de idosos em geral. A presença de sintomas psicóticos foi associada a níveis menores de escolaridade, idade mais precoce de início do transtorno, mais episódios de mania e maior frequência de internações psiquiátricas. A idade média de início do transtorno bipolar foi maior quando comparada a outros estudos, e a natureza do primeiro episódio afetivo indicou a maior frequência de episódios da mesma polaridade.

Conclusões: o presente estudo, conduzido em pacientes idosos com transtorno afetivo bipolar, confirmou achados clínicos importantes de investigações realizadas em pacientes adultos, acrescentando o fato inédito de consolidar esses achados através da investigação em uma população de pacientes idosos com longo tempo de evolução de seu quadro clínico.

DESCRIPTORIOS: TRANSTORNO BIPOLAR; IDOSO; ENVELHECIMENTO; DIAGNÓSTICO DUPLO (PSIQUIATRIA); COMORBIDADE; POPULATION CHARACTERISTICS; CLASSE SOCIAL.

INTRODUCTION

Bipolar disorder (BPD) is a recurrent psychiatric disorder that reaches its peak of prevalence in young adults, and decreases in the senior population, where prevalence is about 0.1%¹. In spite of the lower prevalence in epidemiological studies, BPD represents 5 to 19% of all the affective disorders in older-than-60 individuals,² and in psycho-geriatric wards BPD is responsible for up to 20% of admissions, accounting for significant morbidity-mortality rates.³

The course and clinical features of BPD have been documented in investigations with large number of young and middle-aged BPD subjects. However, only a few studies have specifically studied elderly patients.⁴ Investigations specific to elderly BPD subjects yield more comprehensive clinical data on this group, which is needed for optimum clinical treatment.

In the most recent and comprehensive BPD review in the elderly, the authors commented about the lack of clinical information on BPD when compared with unipolar depressive disorder in individuals older than 60 years of age.⁵ Furthermore, the studies tended to include a small number of subjects (average of 54.8 subjects) who were usually exclusively recruited from a single psychiatric center, and details on the clinical course associated with a worse prognosis of the disease have not been described in detail.⁵

Other relevant clinical data, as the number of years since BPD onset, lifetime number of affective episodes, psychiatric hospitalizations, suicidal attempts, family psychiatric history and clinical co-morbidities, have also been scarcely reported in the literature on elderly populations.

A larger body of knowledge of the effects of aging on the course and prognosis of BPD is of fundamental importance for several reasons. Firstly, to improve decision-making tools for mental health and other medical professionals making therapeutic choices, and secondly, for the relatives and caretakers have better guidance on the management of elderly people with BPD.

The purpose of the present study was to describe the psychiatric, clinical and socio-demographic characteristics in a large population sample of senior citizens with diagnosis of BPD.

METHODS

The sample was composed of subjects with BPD who were older than 60 years of age, who already had undergone at least one outpatient evaluation at the Institute of Psychiatry of the University of São Paulo Medical School or at the Unit for Seniors (UNID) of the Santa Casa School of Medical Sciences in the time period from 1996 to 2004. All selected subjects carried a final diagnosis of BPD according to the International Classification of Diseases (CID-10)⁶ (codes F-31.0 - F-31.9). The study was approved by the Ethics Committee of the institutions, and all patients signed an informed consent.

Clinical-demographic data were retrospectively collected by means of medical case note review. All the subjects and at least one close relative were interviewed by the same psychiatrist to confirm and complete the data obtained from medical records.

Socio-demographic data included age, gender, marital status, socioeconomic class, education and ethnicity. The psychiatric history included

age at onset and polarity of the first affective episode, presence of psychotic symptoms, disease duration, number of affective episodes, psychiatric hospitalizations, presence and number of suicidal attempts and length of current remission. Psychiatric history in first and second degree relatives and the individual's clinical history were also investigated. Patients using alcohol and other drugs were identified.

The Young Mania Rating Scale - YMRS,⁷ and the Montgomery-Asperg Depression Rating Scale - MADRS⁸ were employed to identify euthymic subjects (score less than 7) at the time of the study.

Statistical analysis was performed with the statistical software SPSS 10.0 (SPSS Inc., Chicago, USA). The chi-square test or exact test of Fisher was used to determine the homogeneity of the groups. Student's t-test was used to compare groups. Mann-Whitney's non-parametric test was used for two independent samples when the data did not present normal distribution. Kruskal-Wallis non-parametric test was used for several independent samples. Spearman's coefficient was used to determine the correlation between two variables. A p value of 0.05 was considered statistically significant.

RESULTS

A total of 302 medical charts were selected from both medical institutions. One-hundred and sixty-seven subjects were excluded (76 subjects were not found, 52 subjects were incorrectly diagnosed, 17 were deceased, nine subjects refused to participate in the study and 13 subjects were hospitalized at the time of recruitment). A final population of 135 elderly subjects was enrolled in the study.

The age range of subjects was 60 to 85 years (mean=68.7 years; SD=5.5 years). Females represented two thirds of the sample (n=89, 65.9%). Other socio-demographic features are depicted in Table 1.

Ninety eight subjects (72.6%) presented with at least one co-morbid medical disorder. The most frequent co-morbid medical disorders were elevated blood pressure, hypothyroidism and diabetes mellitus (Table 2). Thirty five individuals (25.9%) smoked, 17 subjects (12.6%) were using alcohol and two (1.5%) used other drugs (cannabis and cocaine). Eighty one percent of the subjects possessed first and second degree relatives with a history of a mental disorder. The most frequent diagnoses were BPD and unipolar depression (Table 3).

TABLE 1 - Sociodemographic characteristics of elderly patients with bipolar disorder.

	N	%
Marital status (n=135)		
Married/with mistress	58	43.0
Widowed	44	32.6
Separated	21	15.5
Single	12	8.9
Educational background (n=130)		
No education	10	7.7
1 to 4 years	51	39.2
5 to 8 years	28	21.5
9 to 11 years	18	13.9
12 years or more	23	17.7
Ethnicity (n=135)		
Caucasian	106	78.5
Mulatto	17	12.6
Black	8	5.9
Asian-Brazilian	4	3.0
Socioeconomic (n=128)		
Class A1	3	2.3
Class A2	7	5.5
Class B1	18	14.1
Class B2	24	18.8
Class C	51	39.8
Class D	24	18.8
Class E	1	0.8

TABLE 2 - Clinical history of elderly patients with bipolar disorder (n=135).

Clinical history	N	%
Elevated blood pressure	54	40.0
Hypothyroidism	47	34.8
Diabetes mellitus	28	20.7
Acute heart attack	9	6.7
Head trauma	8	5.9
Cancer	6	4.4
Stroke	5	3.7
Epilepsy	4	3.0

TABLE 3 - Family history of psychiatric disorders in first and second degree relatives of elderly patients with bipolar disorder (n=135)

	N	%
Bipolar disorder	43	31.9
Depressive disorder	43	31.9
Mental disorder due to the use of alcohol	40	29.6
Attempted suicide/Committed suicide	21	15.6
Schizophrenia	8	5.9
Mental disorder due to the use of drugs	6	4.4
Anxiety disorder	2	1.5

The application of the YMRS⁷ and the MADRS⁸ revealed 111 euthymic subjects (82.2%). Eighteen patients (13.3%) were depressed and six subjects (4.4%) were manic.

Age of onset of BPD varied from 10 to 73 years (40.1 as average, SD=14.3 years) (Figure 1). The average time of progress of BPD was 28.9 years (SD=14.9 years). Twelve subjects (8.9%) had an early onset of BPD with age equal or below 20 years of age whereas 15 subjects had a late onset of BPD at an age equal or greater than 60 years of age (11.1%). The subjects with an early disease onset did not present any statistically significant difference in the socio-demographic or clinical features when compared to subjects without an early disease onset. On the other hand, subjects with a late disease onset presented a higher rate of episodes per year (mean=1.28) when compared to the remainder of the sample (mean=0.79; $p=0.04$). Other socio-demographic and clinical features were similar among the groups.

It was possible to determine the category of the first affective episode in 123 subjects. A depressive episode was the inaugural episode in 84 subjects (68.3%) whereas 39 subjects (31.7%) presented a manic episode. Depression was the first affective episode in 62.5% of the females and 79.1% of the males ($p=0.06$). Subjects who had onset of BPD with a manic episode presented a higher rate of manic episodes and a higher number of psychiatric hospitalizations during lifetime whereas the subjects who had the onset of BPD with a depressive episode presented a higher rate of depressive episodes.

The average number of affective episodes during lifetime was 21.4 (SD=19.4), with no significant gender difference ($p=0.75$). Twenty-six (19.3%) subjects presented a mixed episode according to the medical charts. The average number of affective episodes per year was 0.9 (SD=0.7 episodes/year). Other clinical features of BPD are depicted in Table 4.

One hundred and two patients (75.5%) presented a history of hospitalization in a psychiatric ward. These subjects had an earlier average age of disease onset ($p=0.03$), a greater number of manic episodes ($p=0.01$), a higher rate of suicidal attempts ($p=0.03$), more ECT treatment sessions ($p<0.04$) and a higher rate of psychotic symptoms ($p=0.003$) when compared with the subjects showing no history of psychiatric hospitalizations. Psychotic symptoms were present in 88 subjects (65.2%). Fifty-nine of these subjects (66.3%) presented psychotic symptoms only at

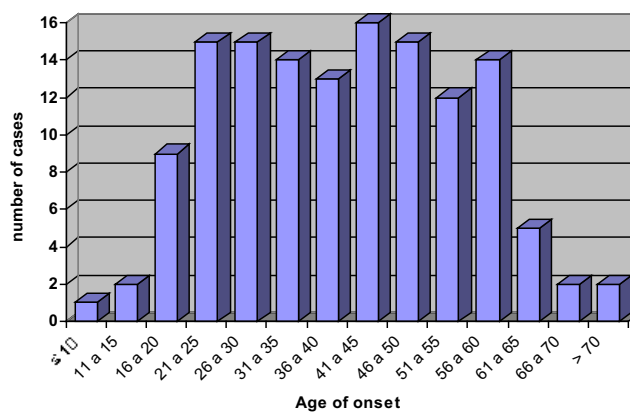


Figure 1 – Distribution per age at onset of bipolar disorder in elderly patients.

TABLE 4 – Clinical characteristics of elderly patients with bipolar disorder (n = 135).

	N	%
Number of affective episodes		
Up to 4	18	13.3
5-14	41	30.4
15-39	40	29.6
More than 40	22	16.3
Unknown	14	10.4
Presence of psychotic symptoms		
Yes	88	65.2
No	47	34.8
Suicidal attempt		
Yes	54	40
No	81	60
Treatment with ECT		
Yes	30	22.2
No	105	77.8

manic phases, 17 subjects (19.1%) presented only at depressive episodes and 12 subjects (13.5%) presented psychotic symptoms during both manic and depressive phases. Subjects with history of psychotic symptoms presented a lower level of educational attainment ($p=0.03$), an earlier age of disease onset ($p<0.01$) and a higher frequency of manic episodes ($p=0.03$).

Forty percent (n=54) of the BPD subjects had made at least one suicide attempt. These subjects presented a higher rate of hospitalizations than the subjects showing no history of attempted suicide ($p=0.02$). History of attempted suicidal did not significantly correlate either with the number of lifetime depressive episodes ($p=0.16$) or with a family history of attempted suicide ($p=0.21$). Euthymic subjects (n=111) displayed a 22.6 months average time interval from the last affective episode (SD=31.6 months).

DISCUSSION

In the present study we examined the psychiatric, clinical and socio-demographic characteristics in a large population sample of the elderly citizens with a diagnosis of BPD.

Previous published clinical investigations of BPD in the elderly employ various methods for clinical and socio-demographic data collection. These methods included medical case note review, use of questionnaires and interviews with the patients.^{4,9}

The majority of epidemiological studies published to date showed no gender differences in the prevalence rate of BPD. However, the present investigation, as well as most of the non-epidemiological studies performed with BPD subjects, consistently has shown a higher prevalence rate of the disorder in females.¹⁰ The increased prevalence rate in females may be explained by the fact that females seek medical help more readily and earlier than males, and also that females have more BPD type II disorder.¹⁰ Therefore, for future studies it would be interesting to differentiate the cases of BPD into types I and II in order to elucidate this issue.

It is also well known that there is a strong comorbidity between BPD and substance misuse, especially alcohol, which are more frequent in males.¹¹ This possibly accounts for the fact that males with a history of substance abuse may be misdiagnosed because substance abuse could conceal BPD.¹²

Three main clinical conditions recorded in this elderly BPD population, namely hypothyroidism, diabetes mellitus and cancer, were found to be more common than in the general population when compared with data from the epidemiological survey of the clinical status of elderly people from the general population.¹³

It is well known that the chronic use of lithium is associated with higher risk of hypothyroidism. Nearly 10% of the adult BPD subjects, mostly in females, are diagnosed with hypothyroidism.¹⁴

The prevalence rate of diabetes mellitus (DM) found in this population sample was almost the double of the expected in elderly people from the general population¹³. Analyses of adult subjects with BPD also showed a higher prevalence rate of DM when compared to the general population. In 1980, Lilliker¹⁵ recorded a prevalence of DM of 10% in 203 BPD patients and in 1999 Cassidy et al.¹⁶ recorded a prevalence of 9.9% in 345 subjects, whereas the expected prevalence of DM in healthy

adults were of 2% and 3.4%, respectively. This association was also found in investigations with subjects with depression¹⁸ and schizophrenia.¹⁹ The causal factor between BPD and DM may be related to hypophysis-adrenal axis control of cortisol secretion and glucose metabolism. Elevated cortisol has also been recorded in depressive, manic and mixed phases of BPD.²⁰ Additionally, investigations with young healthy controls demonstrate that the sleep deprivation produces a robust deregulation of the hypophysis-adrenal axis causing an elevation of the cortisol levels, reduction of growth hormone and leptin plasma concentrations.²¹ Moreover, changes in sleep related to ageing and secondary to affective disorders, with a reduction of total sleep time usually encountered in these subjects, play a role in determining further changes in the hypophysis-adrenal axis system.²² Psychopharmacological agents used in the treatment of BPD can also increase directly or indirectly the risk of DM in BPD. Changes in the metabolism of glucose were recorded after administration of lithium,²³ and atypical antipsychotics like clozapine, risperidone, and olanzapine are also associated to glucose intolerance.²⁴ Other metabolic effects of the antipsychotics can increase the risk of developing DM, as the weight gain.²⁵

Cancer was also found to be more common in the present sample when compared to data from epidemiological survey with elderly people from the general population. Recent study found an enhanced cancer risk among inpatients with BPD.²⁶ Patients with BPD, a severe mental illness, may present more frequently an unhealthy life style, showing an inadequate diet and being more prone to smoking, which are putative risk factors for cancer.

The mean age of disease onset in the elderly patients with BPD from this investigation (40 years) is higher than in other studies, although these studies include a very small number of elderly patients.²⁷ However, age of onset recorded here is in accordance with other investigations that have larger number of elderly BPD patients. Almeida and Fenner²⁷ recorded an average age of disease onset of 34 years, with a progressive increase of this age, from 39.3 years in 1980 to 43.2 years in 1998. In studies comprising only geriatric BPD subjects, the average age of disease onset is even higher, as recorded by Snowdon⁹ (46.5 years), by Shulman and Post²⁸ (48.9 years), by Wylie et al.²⁹ (49 years), and by Stone³⁰ (57 years).

There are at least four possible explanations for the later age of disease onset found in the present study: 1) most of the individuals showed to have long clinical history of BPD. Determination of precise chronological data regarding the clear onset of disease may be spurious. 2) Mortality rate among the BPD subjects is about 2 to 2.5 times greater than in the general population.³¹ Subjects with an earlier disease onset present a worse clinical prognosis of BPD because of its clinical comorbidities, more frequently recurring episodes and complex treatment.³² These individuals have the highest mortality rates and therefore they would be less likely to survive. 3) Growth in life expectancy in the general population yielded in the last decades allowed the emergence of late-onset BPD cases, as well as an increase in the prevalence rate of the disease in the general population. 4) Follow-up for a long period of time of subjects who were initially diagnosed as unipolar opens up the opportunity to see a number of them to develop a subsequent manic episode.

Subjects with a late disorder onset (>60 years) presented more affective episodes per year as opposed to other studies, corroborating thus the hypothesis put forward by some authors that there is an increase of the frequency of the affective episodes in the elderly patients when compared to younger ones.³³

The type of the first affective episode, either depressive or manic, predicts further episodes of the same polarity, as demonstrated in the study of Perugi et al.³⁴ Other investigations showed the same association with depressive episodes only.⁴ The premise that males would have higher likelihood to begin BPD with manic phase and females with depression phase did not seem to be legitimate in the present study. The first most frequent episode was the depressive episode, especially in males (84.4% of the subjects).

Studies comparing clinical differences between males and females with BPD suggest that females have a higher likelihood to present a mixed episode at onset, at a later age, and a higher number of depressive episodes than the male counterparts.^{35,36} The latter two findings were not found in this present investigation. Moreover, it was demonstrated that females display manic episodes more frequently than males and equal frequency of depressive episodes with no statistically significant age difference at onset of BPD between genders. However, none of the previous investigations was carried out exclusively with senior BPD individuals, and the

possible change in the course of the evolution of BPD with age could be responsible for these differences.

Long term follow-up data shows that the rate of affective episodes per year observed in several studies varied from 0.54 to 0.66,³⁷ which is smaller than the rate of 0.9 episodes/year found in this population. Considering that the population in the present study was constituted by elderly individuals with several decades of BPD history – in some instances up to 60 years of follow-up – it reinforces the hypothesis that aging accounts for the episodes to be more frequent and longer in duration³².

Psychotic symptoms were observed in 65% of the present sample, which is in accordance with that found in other studies.^{4,33} Psychotic symptoms became manifest mainly during the manic phase. The four-year long prospective investigation performed by Tohen et al.,³⁸ following 75 subjects showing a manic episode as the very first episode, conveys that the presence of psychotic symptoms accounts for an overall poorer psychiatric prognosis.

Electroconvulsotherapy (ECT) was more frequently employed in this study as opposed to studies with adult BPD subjects³⁹. Several factors may account for this particular finding. Firstly, a longer BPD history of follow-up time is likely to give the opportunity of a wider variety of therapeutic options. Moreover, advanced age is associated with a more favorable response to ECT and its indication in this population continues being made on a therapeutic-response basis.³⁹ Secondly, elderly subjects usually show less tolerance to the medication-induced side effects as well as a decrease in the effectiveness of the medications. Moreover, the association with higher incidence rate of clinical diseases in that age range makes the ECT a viable and relatively safe treatment alternative.⁴⁰

The authors are well aware of the limitations that this patient population presents with locomotion, clinical co-morbidities and high mortality rates. Thus, this study sample may not actually represent the senior BPD population found in the community.

There are only a few investigations in the literature exclusively evaluating elderly BPD subjects and to our knowledge this is the first study that approached in a detailed way the clinical and socio-demographic features of the BPD population. Although comparisons of data between investigations that use different data

collection methods may show inconsistent results, this investigation was able not only to confirm some important features found in investigations with BPD adults, but also to aggregate new relevant data due to a longer time of recorded disorder progression. The retrospective nature of this investigation may have produced less reliable and clear information on the clinical features of BPD in the elderly population. Further investigations with a larger number of senior BPD subjects, performed in a prospective design, and using the same data collection methods as employed in the present study are warranted to confirm these findings.

ACKNOWLEDGMENTS

To FAPESP, for the support in the accomplishment of this study (process number 02/04847-3), and to Dr. Paula Nunes for the help in the collection of information.

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