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Original Article

# Who are the children and adolescent patients of a national referral service of eating disorders in Brazil? A cross-sectional study of a clinical sample

## Quem são os jovens pacientes de um serviço de referência nacional em transtornos alimentares no Brasil? Estudo transversal de uma amostra clínica

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**Abstract**

**Objectives:** To investigate the sociodemographic and clinical profile of patients receiving treatment at a specialized service for children and adolescents with eating disorders (ED) in São Paulo, Brazil, and to compare data with the relevant literature.
**Methods:** This cross-sectional study assessed male and female patients with ED up to 18 years of age. All data were collected upon admission.
**Results:** A total of 100 subjects were assessed. Mean age was 15.41±0.18 years, and mean age at ED onset was 13.5±0.19 years. Mean disease duration was 21.06 ±1.67 months. Of the total sample, 82% of the patients were female, 84% were Caucasian, 64% came from A and B economic tiers. Moreover, in 60% ED started at 14 years of age or less, and 74% had psychiatric comorbidities. Anorexia nervosa was the most prevalent diagnosis (43%). Hospitalized patients had lower body mass index, longer ED duration, and more severe scores on the Children's Global Assessment Scale than outpatients ($p < 0.05$).
**Conclusions:** Our young Brazilian patients with ED present epidemiological and symptomatic characteristics very similar to those found in the scientific literature, including a high prevalence of psychiatric comorbidities. The higher frequency of full syndrome ED, the predominance of cases with an early onset, the delay in beginning specialized treatment, and the more severe state of inpatients provide grounds for concern because these factors differ from what has been reported in reference studies and indicate greater ED severity.
**Keywords:** Anorexia nervosa, bulimia nervosa, eating disorders, children, adolescents.

**Resumo**

**Objetivos:** Investigar o perfil sociodemográfico e clínico de pacientes de um serviço especializado no tratamento de crianças e adolescentes com transtornos alimentares (TA) em São Paulo, Brasil, e comparar os dados com a literatura científica relevante.
**Métodos:** Este estudo transversal avaliou pacientes com diagnóstico de TA de ambos os sexos, com idade até 18 anos. Os dados foram coletados na admissão dos pacientes ao serviço.
**Resultados:** A amostra foi composta por 100 sujeitos. A idade média foi de 15,41±0,18 anos, e a média de idade ao início dos TA foi de 13,5±0,19 anos. O tempo médio de duração da doença foi de 21,06±1,67 meses. Da amostra total, 82% dos pacientes eram meninas, 84% eram brancos, 64% provinham das classes econômicas A e B. Além disso, 60% iniciaram a patologia com 14 anos ou menos e 74% tinham comorbidades psiquiátricas. A forma total da anorexia nervosa foi o diagnóstico mais prevalente (43%). Os pacientes hospitalizados tiveram menor índice de massa corporal, mais tempo de TA e escores mais graves na Escala de Avaliação Global de Crianças quando comparados com pacientes do ambulatório ($p < 0,05$).
**Conclusões:** Os pacientes brasileiros jovens com TA avaliados no presente estudo apresentaram características epidemiológicas e sintomatológicas muito semelhantes aos dados da literatura científica, inclusive com relação à alta prevalência de comorbidades psiquiátricas. A maior frequência das síndromes totais dos TA, o predomínio de quadros de início precoce, o longo tempo decorrido até iniciar tratamento especializado e a maior gravidade dos pacientes hospitalizados observados nesta amostra chamam atenção por diferirem do que tem sido relatado em estudos semelhantes e também por indicarem uma maior gravidade do TA.
**Descritores:** Anorexia nervosa, bulimia nervosa, transtornos alimentares, crianças, adolescentes.

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## Introduction

Anorexia nervosa (AN) is currently the third most common chronic disease among female adolescents.[1] It is the disorder with the highest crude mortality rate among all psychiatric disorders (5.6% in 10 years), which is 6 to 12.82 times higher than the expected rate for similar healthy populations.[2-4] More than half of the deaths occur due to medical complications of eating disorders (ED).[5] Bulimia nervosa (BN) seems to have a more favorable prognosis, but with a relapse rate of 30 to 50%.[2,6] A complicating factor in adolescence is that diagnostic criteria are originally designed for adults; as a result, 50 to 70% of the adolescent patients are diagnosed with atypical or partial presentations of ED, delaying diagnosis and appropriate treatment.[2,7] Young subjects with ED may present serious biological, psychological, and social outcomes, with a great impact on their development.[4]

ED are prevalent in both developed and developing countries.[2,8] Notwithstanding, the sociodemographic and clinical characteristics of these young patients are better known in developed countries,[9-12] and there are few studies with large samples including only children or adolescents, as is the case of the present study.[2] In Brazil, the characteristics of this population are not completely known, and there are still few specialized childhood and adolescence ED services.[13,14]

The alarming number of patients awaiting treatment and the long time on waiting lists (on average, 22 months for a referral service in Brazil[13]) leads to a severe, chaotic situation. Longer periods of ED symptoms seem to be associated with an unfavorable prognosis, with a direct influence on treatment compliance and possibly on morbidity and mortality rates.[15] Knowledge of the sociodemographic and clinical profile of the young Brazilian population with ED may help plan more effective therapeutic strategies and optimize treatment. It may also help create qualified services for these patients, within our country and culture, contributing to maximize the currently scarce allocation of resources.

The objective of this study was to assess the sociodemographic profile and clinical characteristics of children and adolescents seen at a multidisciplinary service specialized in the treatment of children and adolescents with ED in São Paulo, Brazil,[14] and to compare data with the reference scientific literature.

## Methods

### Setting

The study was performed at the Outpatient and Inpatient Eating Disorders Program (PROTAD) at Institute of Psychiatry, Universidade de São Paulo (USP), São Paulo, Brazil.

### Ethical issues

The study was approved by the Research Ethics Committee of Hospital das Clínicas da Universidade de São Paulo (protocol no. 0800/08). All patients and their legal guardians signed a free and informed consent form prior to their inclusion in the study.

### Sampling

The sample comprised 106 male and female children and adolescents aged up to 18 years and diagnosed with ED (full and partial syndromes) according to criteria from the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision (DSM-IV-TR),[16] with or without psychiatric comorbidities, referred for outpatient or inpatient multidisciplinary or family-based treatment at PROTAD from November 2001 to December 2009. Patients with mental retardation or invasive developmental disorders, pregnant girls, and those without a legal representative were excluded from the study. Eleven patients were admitted at PROTAD for an observational study of family-based treatment, a method developed and described elsewhere[17]; for these patients, inclusion criteria were being female, having a diagnosis of full or partial AN syndrome, and having both parents present during follow-up.

### Study design and data collection

This was a cross-sectional study with assessments performed at the beginning of the treatment program at PROTAD.

The following instruments were used: Development and Well-Being Assessment (DAWBA), Brazilian Version[18]; Social-Economic Questionnaire (SEQ); Brazil Economic Classification Criterion, 2000 (Critério de Classificação Econômica Brasil, CCEB)[19]; and the Children's Global Assessment Scale (CGAS).[20] The standardized clinical, psychiatric, and nutritional records available at PROTAD helped obtain additional information when data were missing. Weight and height were measured by trained professionals, using anthropometric procedures. The body mass index (BMI) of each patient was calculated by dividing the weight in kilograms by the square of the height in meters. Each subject's nutritional status was assessed based on the BMI/age percentile, according to the World Health Organization.[21]

Seven different economic tiers determined by the CCEB[19] were grouped into two wider tiers. One group

comprised tiers A + B (A1, A2, B1, and B2 tiers, with a monthly income above R$ 1,669.00); the other group comprised tiers C + D + E, with a monthly income from R$ 207.00 to R$ 1.668.99).[19] An intact family was a family in which both parents lived with the patient. Age at ED onset was calculated in years, considering the date when the symptoms began. This parameter was used based on literature data (before this age, the disease is considered precocious, or early-onset ED).[22] ED duration was calculated in months, and was measured from the month when ED started to the date of enrollment at PROTAD.

Analysis of type of treatment only included patients admitted at PROTAD as of October 2006, when this department started having both inpatient and outpatient facilities. The outpatient category considered patients who underwent only outpatient treatment; the inpatient category included patients who underwent only inpatient treatment and also patients who required hospitalization at some point of the treatment. Previous treatment was any in- or outpatient psychological, nutritional, and/or medical treatment for ED. The time-relationship between ED onset and the beginning of psychiatric comorbidities was classified as "before" (comorbidities whose symptoms started before ED symptoms) and "during" (comorbidities whose symptoms started after the onset of ED symptoms). The following ED symptoms were classified as positive according DSM-IV-TR diagnostic specifications: fear of gaining weight, food restriction, compulsion, excessive physical exercises, vomiting, and menstruation.[16]

The variables collected and analyzed were distributed into five groups:

– Sociodemographic factors: age, gender, ethnicity, and economic class;

– Family factors: type of family, person responsible for treatment, degree of education of the person responsible for treatment, family history of ED, and/or other psychiatric disorders;

– Clinical factors: ED diagnosis, age at onset and duration of ED, type of treatment (in- or outpatient), previous treatments, weight, height, BMI, BMI/age percentile, and menstrual periods;

– Psychiatric comorbidities: prevalence and temporal relationship with ED;

– ED impact on patient global function, with or without comorbid psychiatric disorders.

Subjects were divided in two ED subgroups. The AN group included young subjects with AN, both full and partial syndromes according to DSM-IV-TR criteria.[16] The BN group included patients with both full and partial BN, also according to DSM-IV-TR criteria.[16] The analysis was performed in the total sample and also in the two ED subgroups. The eleven patients admitted for family treatment were excluded from the analyses of gender, person responsible, and ED diagnosis.

In order to identify the presence of significant differences between treatment types, a comparison between PROTAD inpatients and outpatients was performed as of October 2006.

### Statistical analysis

All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 14.0.

Firstly, a descriptive analysis of the sample was performed. Frequencies and percentages of all categorical variables were calculated. For the continuous variables, summary statistics were calculated (minimum, maximum, mean, and standard error). Descriptive analysis also made it possible to characterize the sample regarding ED subgroups. Fisher's exact test was used to assess possible associations between two binary categorical variables. For variables with more than two categories, the chi-square test or the chi-square test with Monte Carlo simulation were used. Continuous variables between the two ED groups were compared using the Student *t* test or Mann-Whitney's test. Statistical significance was set at 5% ($p < 0.05$).

## Results

A total of 106 patients were enrolled in PROTAD with a diagnosis of full or partial ED. Six subjects were excluded due to insufficient data. As a result, 100 patients comprised the final sample. Of these, 77 (77%) subjects were included in the AN group, and 23 (23%) in the BN group.

The sociodemographic profile of the sample is detailed in Table 1. One patient with partial BN was 9 years old upon enrollment in PROTAD. This was the youngest patient enrolled. The female/male ratio was approximately 12:1.

The most prevalent family structure was the intact one (69%). In 88% of the cases, the mother took responsibility for the patient's treatment. Most of the legal representatives (64%) had an educational level of complete high school or above. A positive family history of psychiatric disorders (ED, mood disorders, anxiety disorders, and substance addiction) was observed in 67% of the cases. No statistically significant differences were found between the two ED subgroups in terms of family data ($p > 0.05$).

The prevalence of full AN syndrome was 43%; of these, 32% were of the restrictive and 12% of the purgative subtype. The prevalence of full BN syndrome

was 17%. The sum of full AN and full BN syndromes was 60%. The prevalence of partial AN was 32%; of these, 8% were restrictive and 14% purgative, and the prevalence of partial BN was 9%; the sum of both partial ED syndromes was 41%.

ED clinical features are described in Table 2. Illness duration and the search for previous treatment were significantly different between the two ED groups ($p < 0.01$).

In terms of nutrition, both ED groups were mostly eutrophic: 67.5% in the AN group and 56.5% in the BN group. Regarding ED symptoms, the most frequent compensatory behaviors were food restriction in both groups, excessive physical exercises in the AN group (36%), and vomiting in the BN group (69.6%). The BN group had a higher frequency of compulsion and vomiting as compared to the AN group ($p < 0.01$). Among the 82 girls of the sample, 46 (49.5%) had been amenorrheic for at least 3 months, five (5.4%) had not had their first period yet, and 42 (45.2%) had had at least one period over the last 3 months, 22 (31%) in the AN group and 20 (90.9%) in the BN group. The absence of menstrual periods was more frequent in the AN group ($p < 0.01$).

Of the total sample, 74 (74%) patients presented a psychiatric comorbidity. The prevalence of comorbidities is shown in Table 3.

Table 4 describes the temporal relationship between psychiatric comorbidities and ED. In one patient, anxiety disorder started before ED, and in the two other patients, the disorder started during ED.

**Table 1 –** Sample sociodemographic profile

| Sociodemographic characteristics | AN (n = 77) | BN (n = 23) | p |
|---|---|---|---|
| Mean age (years) | 15.19 | 16.18 | 0.02* |
| Gender, n (%) | | | 1.00† |
| Female | 60 (91) | 22 (95.7) | |
| Male | 6 (9) | 1 (14.3) | |
| Ethnicity, n (%) | | | 0.97† |
| Caucasian | 65 (86.7) | 19 (86.04) | |
| Other | 10 (13.3) | 3 (13.60) | |
| Economic tier, n (%) | | | 0.93† |
| Tiers A + B | 49 (67.1) | 15 (68.2) | |
| Tiers C + D + E | 24 (32.9) | 7 (31.8) | |

AN = anorexia nervosa; BN = bulimia nervosa.
* Student's t test.
† Chi-square test.

**Table 2 –** Clinical features of the eating disorders

| Clinical characteristics | AN (n = 77) | BN (n = 23) | p |
|---|---|---|---|
| Mean weight (kg) | 43.59 | 58.63 | < 0.01* |
| Mean BMI (kg/m$^2$) | 17.09 | 22.86 | < 0.01* |
| Mean age at ED onset (years) | 13.54 | 13.36 | 0.69* |
| Mean duration of illness (months) | 18.26 | 30.43 | < 0.01† |
| Previous treatments, n (%) | | | < 0.01‡ |
| Yes | 57 (74) | 9 (39.1) | |
| No | 20 (26) | 14 (60.9) | |
| Relapses, n (%) | | | 1.00‡ |
| Yes | 2 (2.6) | 0 (0) | |
| No | 75 (97.9) | 23 (23) | |
| Age at ED onset, n (%) | | | 0.12‡ |
| ≤ 14 years | 43 (55.8) | 17 (73.9) | |
| > 14 years | 34 (44.2) | 6 (26.1) | |

AN = anorexia nervosa; BMI = body mass index; BN = bulimia nervosa; ED = eating disorders.
* Student's t test.
† Mann-Whitney's test.
‡ Chi-square test.

**Table 3 –** Psychiatric comorbidities

| | AN (n = 55) | BN (n = 19) | p* |
|---|---|---|---|
| Comorbidities, n (%) | | | |
| MD | 41 (74.5) | 15 (78.9) | 1.00 |
| AD | 32 (58.2) | 8 (42.2) | 0.40 |
| MD + AD | 18 (32.7) | 4 (21.1) | 0.40 |
| Other disorders† | 0 (0) | 2 (10.6) | 1.00 |
| Total of patients with comorbidities | 55 (100) | 19 (100) | - |
| Types of MD, n (%) | | | |
| Depressive episodes | 38 (93) | 10 (67) | 0.19 |
| Other depressive episodes | 0 (0) | 1 (7) | 0.26 |
| Bipolar disorder | 3 (8) | 4 (27) | 0.07 |
| Total | 41 (74.5) | 15 (78.9) | - |
| Types of AD, n (%) | | | |
| Specific phobia | 6 (19) | 2 (25) | 1.00 |
| Social phobia | 7 (22) | 1 (13) | 0.68 |
| GAD | 10 (32) | 2 (25) | 0.72 |
| OCD | 7 (22) | 3 (38) | 0.71 |
| SAD | 4 (13) | 0 (0) | 0.57 |
| PTSD | 0 (0) | 1 (13) | 0.26 |
| Panic disorder | 1 (4) | 0 (0) | 1.00 |
| Agoraphobia | 1 (4) | 0 (0) | 1.00 |
| Other AD | 7 (22) | 2 (25) | 1.00 |
| Total | 32 (58.2) | 8 (42.20) | - |

AD = anxiety disorders; AN = anorexia nervosa; BN = bulimia nervosa; GAD = general anxiety disorder; MD = mood disorders; OCD = obsessive-compulsive disorder; PTSD = post-traumatic stress disorder; SAD = separation anxiety disorder.
* Statistical significance: chi-square test.
† Other disorders: oppositional defiant disorder, attention-deficit/hyperactivity disorder, trichotillomania, and body dysmorphic disorder.

**Table 4 –** Temporal relationship between psychiatric comorbidities and ED

| Psychiatric comorbidities and ED | AN (n = 55) | BN (n = 19) | p* |
|---|---|---|---|
| Onset of MD† in relation to ED, n (%) | | | 0.90 |
| Before ED | 7 (17) | 3 (20) | |
| During ED | 34 (83) | 11 (74) | |
| Total of patients with MD | 41 (74.5) | 15 (94) | |
| Onset of AD in relation to ED, n (%) | | | 0.21 |
| Before ED | 25 (79) | 5 (63) | |
| During ED | 6 (19) | 2 (25) | |
| Before and after ED | 0 (0) | 1 (13) | |
| Total of patients with AD | 32 (58.2) | 8 (42.2) | |
| Psychiatric disorders before ED, n (%)† | | | 0.06 |
| AD | 19 (73) | 6 (66) | |
| MD | 1 (3.8) | 3 (33.4) | |
| AD + MD | 6 (23.2) | 0 (0) | |
| Total of patients | 26 (100) | 9 (100) | |

AD = anxiety disorders; ED = eating disorders MD = mood disorders.
* Statistical significance: chi-square test.
† Psychiatric comorbidities that started before ED.

All CGAS scores obtained in the sample were below 70, i.e., out of normal function. There was no statistically significant difference between the ED subgroups; 68.9% of the patients in the AN group and 65.2% in the BN group had scores between 41 and 60 ($p > 0.05$).

Of the 37 patients enrolled in PROTAD as of October 2006, 16 received outpatient treatment only: 15 patients in the AN group and one in the BN group. Another 21 were hospitalized: 20 AN patients and one BN patient. Hospitalized patients had statistically significantly lower

BMI, longer ED duration and a lower number of CGAS scores varying between 31 and 40 as compared to nonhospitalized patients ($p < 0.05$). Notwithstanding, most of the variables investigated did not show statistically significant differences between types of treatment ($p > 0.05$).

## Discussion

### Sociodemographic and family profile

The sociodemographic results of the present study were in agreement with most of the scientific data available.[2,10,12,23-25] With these results, it was possible to show that young Brazilian subjects with ED have characteristics that are very similar to those of other ED populations in developed countries. Both in Brazil and in developed countries, samples are mostly comprised of female, Caucasian subjects, coming from higher income classes, intact families, and with parents with higher educational levels. Even though most of the patients have this profile, ED is not restricted to it. According to Pamela & Julie,[24] the creation of a ED stereotype may put "different" subjects at risk, as they may be misdiagnosed. The idea that higher economic classes are overrepresented in some countries due to the structure, functioning, and rules of the health care system is defended by Hoek[8] and may also be applicable to the Brazilian health care structure, deficient in terms of specialized professionals and public services for the treatment of ED. However, studies with Brazilian adolescent females[26] and with Latin women[24] have shown a relationship between ED and economic level, excluding the confusion factor of the health care system. Less favored economic tiers were present in the sample, confirming that ED is not exclusive of higher economic tiers.[10,24,25]

Also, similarly to the relevant literature, a family history of psychiatric disorders was very frequent.[2,9]

### Clinical profile

The higher prevalence of full ED syndromes in this sample is in disagreement with most clinical trials, which point to partial forms as more common among adolescents.[7,27,28] The long duration of ED before treatment among Brazilian patients (mean: 21 months) as compared to a mean of 11 to 15 months in other studies,[29,30] in addition to the difficult access to specialized treatment for ED, may have been responsible for the higher number of patients with clinical presentations reaching diagnostic criteria for the full AN and BN syndromes. A 2003 study with patients on a waiting list at the same unit where the present research was conducted had already reported a similar finding: the mean waiting time for treatment was then 22 months, and 61.2% of the subjects had full ED syndromes.[13] The fact that these samples were selected at a tertiary psychiatric service probably explains the more severe disorders found compared to samples recruited at community services, primary or secondary services.

The partial forms of ED had a significant prevalence, even though they were not predominant. This may have been due to two symptoms observed in this sample that were part of the diagnostic criteria of DSM-IV-TR for AN and were reassessed in DSM-5.[7,29] One of them, present in 67.5% of the AN group, was an eutrophic nutritional profile rather than the expected malnutrition.[7,27,29] According to the literature, this may occur at this age due to a downshift in the BMI/age percentile curve, which may indicate an acute ED even within a normal wide percentile range.[7,27,29] Therefore, an eutrophic nutritional profile should not exclude the diagnosis of AN.[31] Another symptom that has been questioned by the scientific community is amenorrhea.[7] Five girls from this sample had not had their first period, and 22 girls already had menstrual cycles at the beginning of the trial.

In this sample, full and partial AN syndromes, especially of the restrictive subtype, were more frequent in younger subjects (mean age: 15.19 years), whereas full and partial BN syndromes were more common in older adolescents (mean age: 16.18 years).[31-33] The only exception was a 9-year-old female patient with partial BN who had an important ED family history.

Our patients presented symptoms characteristic of ED in childhood and adolescence, which is in agreement with the literature.[12,29] Food restriction was the most prevalent symptom, followed by exercises in the AN group and vomiting in the BN group. Compulsion occurred mostly in the BN group.[9,29] The AN and BN groups were different in terms of weight, BMI, nutrition, and menstrual periods, mostly due to the typical clinical presentation of each disorder according to DSM-IV-TR criteria.[16]

Some results were highlighted due to their importance and potential implications. Patients admitted to PROTAD had an early onset of ED, at approximately 13 years of age, and were therefore part of a different ED subgroup, called early-onset group.[22] Moreover, it took our patients almost 24 months to get to a specialized service, much longer than the time reported in developed countries (11 to 15 months).[29,30] The interval was even longer in the BN group, probably because in this disorder symptoms tend to remain secret and their physical consequences unnoticed. Patients with AN, a more evident disease due to the weight loss and organic changes involved, had tried other services before, but without success.

When comparing different types of treatment, hospitalized patients showed more pronounced physical damage, as indicated by BMI indices. ED duration was almost three times longer among admitted patients as compared to nonhospitalized ones.

### Psychiatric comorbidities

Psychiatric comorbidities were very frequent in our patients. Mood disorders were the most prevalent comorbidity, and major depressive disorder the most common diagnosis in both ED subgroups. In most cases, the affective disorder started during ED, which is in accordance with the literature.[34-36] This finding may corroborate the hypothesis that mood disorders occur more frequently as a consequence of ED, due to complex interactions between several biological, psychological, and relationship factors.[34,35] Anxiety disorders were also frequent. In both groups, general anxiety disorder, social phobia, obsessive-compulsive disorder, and non-specified anxiety disorders were the most frequent comorbidities, however at different frequencies. In general, anxiety disorders started after ED, which again is in line with previous studies.[9,37,38] These findings confirm the hypothesis that ED and anxiety disorders may share the same etiologic factors, and that anxiety disorders may increase the risk of ED.[35,36]

Comorbidities usually have negative influences on the course and prognosis of ED.[7,37] In addition, as confirmed in this study, they influence treatment strategies: diagnostic assessments have to be detailed and comprehensive in order to identify these disorders. Finally, they require treatment adaptations, both in drug treatment and in psychotherapy techniques, and even the reassessment of treatment goals over the follow-up. Anxiety disorders are very frequent in community samples of Brazilian children and adolescents[39] and require early intervention, considering, among others, the risk of development of an ED.

### Impact

In our sample, all patients presented a significant impact on function due to ED, regardless of the presence of psychiatric comorbidities. This was even more evident among hospitalized patients, whose CGAS scores showed a significantly limited functional capacity at home, at school, or in society. In fact, the higher number of patients who required this type of treatment may serve as an alert to the severity that ED may reach, even among very young patients, as shown in other studies.[2,10,31,39] In addition, it indicates that these patients only received specialized treatment after their symptoms became severe.

All the findings above point to a precarious, unprepared health care structure, whose slowness in diagnosing and treating ED in childhood and adolescence may be responsible for a worse prognosis and potentially more serious consequences. In addition, the costs of chronic diseases are high for society as a whole, imposing financial burdens related with long treatments, medication use, hospitalizations, and parental unemployment. Most of these subjects could probably have been treated in the outpatient setting, with much lower financial, personal, and social costs, had they been diagnosed earlier. Unfortunately, the Brazilian health care system seems to be going in an opposite direction from established scientific knowledge, which recommends early treatment of psychiatric disorders in childhood and adolescence, including ED.[2,10,13,31,39]

This study has limitations inherent to cross-sectional trials, especially the difficulty establishing a temporal relationship between the study variables and the outcome (ED). Other limitations were the use of a clinical sample, which makes it difficult to extrapolate results to community subjects, and the inclusion of both outpatient and inpatient subjects, with different disease severities.

## Conclusion

This cross-sectional study allowed us to improve our knowledge about the sociodemographic and clinical characteristics of young Brazilian patients with ED, as well as to compare them with other data available in the relevant literature. Our population was similar to others in most of the parameters assessed.

The high prevalence of psychiatric comorbidities, the early onset of ED, the long time elapsed between ED onset and the start of specialized treatment, and the higher severity observed in hospitalized patients show that ED in childhood and adolescence is still a challenge for health care services and professionals in Brazil. We believe that our results may contribute to reinforce the importance of ED as a diagnostic hypothesis in clinical practice at primary health centers and hospitals, help promote the development of more rational and effective investigational, diagnostic, and treatment strategies, and finally help establish new services for Brazilian children and adolescents with ED.

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