CLINICAL AND DEMOGRAPHIC FEATURES OF PATIENTS WITH DEMENTIA ATTENDED IN A TERTIARY OUTPATIENT CLINIC

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ABSTRACT - We describe clinical and socio-demographic features of patients with dementia attended in a tertiary outpatient clinic during a three years period (56.9% of the total attendance). Most of them were men, white, from the local community, urban district. Nobody had a job at the moment, two thirds of them got social welfare benefit. They lived with their family, the caregiver being the spouse or a daughter. The education level was very low, a quarter of them being illiterate. They were referred mostly from the public health care service, by neurologists or psychiatrists due to cognitive disorders. Family history as well as individual history of previous neurological/psychiatric disorders were frequent, especially alcoholism, stroke, head trauma and dementia. The neurological exam showed abnormalities in two thirds of cases, chiefly extra-pyramidal and pyramidal signs. Alzheimer's disease was the most frequent cause, followed by cerebrovascular disorder; alcoholism and normal pressure hydrocephalus were also frequent causes. Most patients presented concomitant non-etiological neurological/psychiatric disorders, mainly alcoholism and depression, and non-neurological/psychiatric diseases, predominantly hypertension, cardiopathy and diabetes. Most patients had been referred under medication, frequently politherapy, including psychotropics.

KEY WORDS: dementia, Alzheimer's disease, vascular dementia, epidemiology, tertiary outpatient clinic.

Características clínicas e demográficas de pacientes com demência atendidos em ambulatório terciário

RESUMO - São descritas características clínicas e sociodemográficas dos pacientes com demência de um ambulatório terciário, atendidos em período de três anos (56,9% de todos os atendimentos). Eram predominantemente do sexo masculino, cor branca, de procedência local, zona urbana. Nenhum permanecia trabalhando, dois terços recebiam benefício previdenciário. Residiam com familiares, o cuidador sendo cônjuge ou filha. Tinham escolaridade baixa, um quarto sendo analfabetos. Na maioria, eram provenientes da rede pública e referenciados por neurologistas ou psiquiatras, por distúrbios cognitivos. Antecedentes individuais ou familiares de transtornos neurológicos/psiquiátricos eram frequentes, destacando-se alcoolismo, doenças cerebrovascular, trauna crânio-encefalico e demência. Exame neurológico demonstrou anormalidades em dois terços, destacando-se sinais extra-piramidais e piramidais. Doença de Alzheimer era a etiologia mais frequente, seguida de doença cerebrovascular; alcoolismo e hidrocefalo de presão normal também eram frequentes. A maioria apresentava concomitantemente transtornos neurológicos/psiquiátricos não etiológicos, destacando-se alcoolismo e depressão, e doenças não neurológicas/psiquiátricas, destacando-se hipertensão, cardiopatia e diabete. A maioria era encaminhada sob medicação, frequentemente politerapia, incluindo psicotrópicos.

PALAVRAS-CHAVE: demência, doença de Alzheimer, demência vascular, epidemiologia, ambulatório terciário.

Even though general practitioners are able to properly refer patients with cognitive disturbance to specialized clinics, they are often unable to diagnose the dementia syndrome[1,2]. Nowadays there are many multidisciplinary outpatient clinics specialized in the attendance of patients with cognitive/behavioral disorders in universities environments[3-5]. Recent changes in the concept and range of dementia demands the knowledge of the characteristics of the patients attended in clinics specialized in diagnosing and treating cognitive disorders. Furthermore, the occurrence of potentially reversible dementias demands an early identification and investigation of their etiology[6,7]. The definition of the clinical and socio-de-

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mographic characteristics of patients attended in a service is an essential step for the detailed knowledge of its casuistry, giving way to further studies and making it possible the comparison with other services' casuistries. The systematic data manipulation grants the settlement of comparative parameters with other services and offers the possibility of planned developments of strategies for therapeutic intervention and preventive procedures. Also the teaching and research activities profit because it is possible to offer better information for training health professionals in a specialized service whose main characteristics of the casuistry have been well studied.

This study has aimed at describing the clinical and socio-demographic features of patients with dementing disorders attended in a specialized outpatient clinic, discussing etiological factors and pathological associations. Yet there are currently several well-known specialized cognitive/behavioral services in our country, studies focusing on that topic are still scarce. Some of them were taken for comparison with our data: Nitrini's[8], Godoy et al.'[9] and Silva's[10] which are likewise tertiary-care outpatient clinics series and also Herrera's[11] which is a population-based survey.

METHOD

The clinical and socio-demographic characteristics of the patients attended in the Behavioral Neurology Outpatient Clinic (BNOC), Clinical Hospital of the Faculty of Medicine of Ribeirão Preto (CHFMRP) have been formerly described[12]. The BNOC is a tertiary-care outpatient clinic belonging to a teaching hospital.

This study was approved by the Ethics on Research Committee of the CHFMRP. We examined patients attended in the BNOC with diagnosis of dementia who had their first attendance in the years 1997-99. A preliminary analysis of the population with dementia attended in the BNOC had been presented earlier[13]; currently it was made a revision focused mainly on the clinical and socio-demographic features and on the etiological diagnosis, 18 months after the initial assessment.

The diagnosis and staging of dementia were made according to international criteria and instruments[14-21]. All patients underwent CT scan and/or MRI. They also underwent most of the following haematologic exams as part of the clinical investigation: CBC, glycaemia, BUN, creatinine, SGOT/SGPT, electrolytes, B12 and folate, TSH/T4, syphilis serology and HIV screen.

The socio-demographic features studied were age at the first attendance, sex, ethnicity, home origin, education, occupation, living conditions, job and reason of referral. The following clinical features have been studied: etiology of the dementia syndrome, dementia stage, neurological exam findings, individual and familiar antecedents of neurological and psychiatric disorders, non-etiological concomitant neurological and psychiatric disorders, concomitant non-neurological/psychiatric diseases and medication in use.

RESULTS

One hundred and eighty-six patients with dementia were studied, representing 56.88% of the total number of new patients' attendance in the BNOC in the years 1997-99. The mean age was 67.40±13.21 (from 26 to 93 years of age). Socio-demographic features are shown in Table 1.

Individual antecedents of neurological diseases not accounted as etiology of the dementia syndrome were reported by 38.59% of patients (stroke by 20.11%, head trauma by 8.70%) and antecedents of psychiatric disorders by 30.98% of them (alcoholism by 21.74%, depression by 5.98%). Family history of neurological diseases was present in 31.52% of cases (stroke in 17.39%, dementia in 12.67%) and of psychiatric disorders in 15.76% (alcoholism in 7.07%).

The neurological exam was abnormal in 63.93% of the patients; extrapyramidal signs were found in 32.97% of them, pyramidal in 21.08%, cerebellar in 8.65% and primitive reflex in 40.00% (these very often represented by abnormal palmomentual or glabelar reflexes).

Alzheimer's disease was the most frequent cause of dementia (38.08%), followed by cerebrovascular disorder (32.25%). Table 2 shows the etiological profile of this casuistry. Table 3 shows concomitant neurological/psychiatric disorders not accounted as etiology of the dementia syndrome. At the onset of the follow-up in the BNOC, the patient's dementia was staged as mild in 24.73% of the cases, as moderate in 33.87% and as severe in 41.40%.

More than half of patients (69.90%) presented concomitant non-neurological/psychiatric diseases (33.33% presented only one disease and 36.57% presented two or more diseases). The most prevalent systemic diseases were hypertension (46.24%), cardiopathy (16.13%) and diabetes (14.52%).

When the patients were referred to the clinic, 81.19% of them were under prescription of medication (19.35% under monotherapy, 61.84% under politherapy). The most used medicaments were antihypertensive drugs (40.86%), neuroleptics (25.81%), platelet anti-aggregant drugs (17.74%), benzodiazepines (16.67%), antiepileptic drugs (14.52%) and tricyclic antidepressants (9.14%).

Table 1. Socio-demographic characteristics of dementia patients attended in the BNOC* in the years 1997-99.

Gender	58.60% male, 41.40% female (chi-square test, *p*=0.019)
Ethnicity	79.03% white, 10.75% black, 8.60% 'mixed' black/white, 1.62% other
Marital status	57.30% married, 27.57% widow/widower, 5.41% single, 8.10% other
Level of education	27. 87% illiterate, 6.01% learned how to write and read out of school, 55.74% incomplete 1st grade, 5.46% complete 1st grade, 0.55% incomplete 2nd grade, 3.83% complete 2nd grade, 0.55 incomplete superior grade Mean schooling of 2.96±3.17 years
Home	95.11% lived in urban zone, 4.89% in rural zone; 50.00% lived in Ribeirão Preto city, 44.57% in cities up to 100 km far from it, 5.43% in cities over 100 Km far from it; 95.16% lived with their family
Primary caregiver	40.32% spouse, 24.73% daughter, 5.91% son, 18.29 other; 10.75% of patients did not need caregiver
Occupation	44.32% salaried city jobs, 20.74% salaried rural jobs, 10.08% other kinf of job, 24.86% housewives No patient remained in his/her job by the time of the study; 63.78% of them had retirement benefits or any other
Referral to the BNOC	63.19% by neurologists, 14.29% by psychiatrists, 22.53% by other specialists; 74.59% from the CHFMRP, 23.20% from SUS§ primary/secondary care facilities, 2.21% from private clinics; 35.14% were referred for memory disorder, 29.19% for suspected dementia, 14.05% for behavior disorder, 11.35% for management of diagnosed dementia

* Behavioral Neurology Outpatient Clinic at the Clinical Hospital of the Faculty of Medicine of Ribeirão Preto. § SUS (*Sistema Único de Saúde*) is the Brazilian public health care system.

Table 2. Etiology of dementia in the BNOC* in the years 1997-99.

Etiology	Occurrence	
	n	%
Alzheimer's disease (AD), isolated	58	31.18
Vascular dementia (VD), isolated	36	19.35
Alcoholism	16	8.60
Alzheimer's disease associated with vascular dementia	12	6.45
Normal-pressure hydrocephalus	10	5.38
Head trauma	7	3.76
Other non-degenerative dementia §	7	3.76
Lewy body disease	6	3.23
Frontotemporal dementia	6	3.23
Parkinson's disease	5	2.69
CNS-syphilis	4	2.15
Other degenerative dementia §	4	2.15
Mixed etiology, excluding AD associated to VD	4	2.15
Depression	2	1.08
(Non-elucidated etiology)	9	4.84

* Behavioral Neurology Outpatient Clinic at the Clinical Hospital of the Faculty of Medicine of Ribeirão Preto. § Excluding the ones cited in the table.

Table 3. Concomitant neurological and/or psychiatric disorders not accounted as etiology of the dementia syndrome, in the BNOC* in the years 1997-99.

Neurological/psychiatric disorders	Occurrence	
	n	%
Alcoholism	21	11.29
Depression	15	8.06
Epilepsy	13	6.99
Parkinson's disease	12	6.45
Delirium	5	2.69
Headache	2	1.08
Other	34	18.28
(None)	84	45.16

* Behavioral Neurology Outpatient Clinic at the Clinical Hospital of the Faculty of Medicine of Ribeirão Preto.

DISCUSSION

The patients with dementia attended in the BNOC during that three-years period represented more than half of the total number of cases. The patients' average age was lower than in Godoy et al. (1998), higher than in Silva's (2001), and similar to Nitrini's (1993). Male sex was predominant as observed in Silva's study

(2001), but not in Godoy et al.' (1998). Population studies usually point out higher prevalence of female sex for dementias in general and for Alzheimer's disease[11,22,23], even though some of them do not demonstrate such difference[24,25]. Concerning the vascular dementia, some studies have shown a higher prevalence of the male sex[26] and others have shown no difference[27]. The difference evidenced in our study may be chiefly due to the patients' etiological profile, discussed ahead.

The majority of patients had been characterized as being white people (79.0%), what differs from the Brazilian population composition[28]. Probably the number related to 'white' was overestimated in detriment of the ones related to 'mixed' and to 'black'. This ethnicity feature may be biased because the information was taken from the attendant receptionists' notes on the patients' files, which are not always precise and may even be influenced by sociocultural matters.

More than half of patients (57.3%) were married and over a quarter of them (27.6%) were widows/widowers; considering the advanced patients´ ages, those are not surprising figures.

The majority of patients lived in town or in neighboring cities (94.6%). Although most of them lived in urban zones (95.1%), a significant number of them had worked in the countryside (20.7%). Almost half of the patients had got their salaries from urban jobs and about a quarter of them had not worked outside home (all housewives). Although no patient was still working by the time of the study, less than two thirds of them had retirement benefit or any other social security support, denoting a quite unfavorable economical situation.

Most of patients lived with their families. They were not placed in institution even in more advanced stages of their dementia, yet this was probably due not only to cultural characteristics of our population but also to the economical condition of the families. Whether a caregiver was needed, he/she was most frequently the spouse or a daughter and less frequently a son.

The patients had very low education level (on average three years of education), over a quarter of them being illiterate, data comparable to other casuistries[8-10]. Most patients were aged and by the time of their childhood and youth the educational opportunities were scarce, despite the fact that our study likewise others used herein for comparisons had been carried out in the most economically resourceful state of our country.

The majority of patients attended in the BNOC was derived from the Brazilian public health system (SUS). About three quarters of patients were derived from the CHFMRP itself and one quarter from primary and secondary-care SUS facilities; few patients were referred from private clinics. The patientes were referred mostly by neurologists and psychiatry was the second single specialty to refer patients. This may confirm the condition of the BNOC as a tertiary-care service. It is important to highlight that in our hospital the Psychiatry and Geriatry services also keep outpatient clinics which attend patients with dementia. The most frequently reported reason for referring to the BNOC was memory disorder, yet a significant number of patients had been sent either with a suggested diagnosis of dementia to be investigated or with a diagnosed dementia to be managed; less frequently, behavior disorder was the main reason for reference. In a study, 46% of the patients referred due to cognitive symptoms or possible dementia syndromes were diagnosed as really having dementing disorders[5].

Although 41.4% of patients have had their dementia clinically staged as severe at the beginning of their follow-up, only 11.4% had been referred with an established diagnosis of dementia, what suggests that even specialists are not always able to identify this syndrome.

Previous individual neurological and/or psychiatric disorder were reported by two thirds of patients, mainly alcohol abuse, stroke and head trauma, but there was no association between the patient´s dementias and those previous disorders.

Family history of neurological and/or psychiatric disorder was reported in almost half of cases, chiefly, stroke, dementia and alcoholism. These are well recognized risk factors for dementia, especially family history of dementia itself[29].

The neurological exam showed abnormalities in about two thirds of cases, especially extra-pyramidal and pyramidal signs, as it could be expected considering the number of cases with dementia staged as moderate or severe.

In reference to etiology, Alzheimer's disease (AD) was the most frequent cause (37.6%), followed by cerebrovascular disease (25.8%); in 6.5% of the patients there was an association of the two diseases. The prevalence of AD found in our casuistry differs from the ones found in other hospital series from our region; it is lower than the ones found by Godoy et al. (1998) and by Nitrini (1993), which are similar to numbers found in population studies[11,22] and is higher than the one found by Silva (2001). Concerning vascular dementia, the prevalence found in our study

is close to the one found by Silva (2001), being higher than Nitrini's (1993) and lower than Godoy et al. (1998). The number of AD cases associated to vascular dementia is intermediary between the one found by Godoy et al. (1998), which is bigger than ours, and the one by Silva (2001). The profiles of dementia etilogy in outpatient clinics' casuistries and in populational studies may differ because in outpatient clinics' series, especially clinics belonging to general teaching hospitals, the kind of patients reference is dependent on how well structured are the various services in the hospital. Due to the same reason they may differ even among the various outpatient clinics in the same hospital. Thus, in our casuistry we had alcoholism (8.6%) and normal-pressure hydrocephalus (NPH) as frequent causes, Silva (2001) found NPH in 11.9% of patients and depressive 'pseudo-dementia' in 11.1%, and in Godoy et al. (1998) casuistry, cerebrovascular disease isolated or in association with AD was found in 40.4% of cases. None of the Brazilian series mentioned before had shown a prevalence of dementia secondary to alcoholism as high as ours, whose cases were mainly referred by the Psychiatry clinic. Likewise, the high number of vascular dementia cases in our series is probably due to the references by the cerebrovascular diseases outpatient clinic at the CHFMRP. The etiology could not be identified in 4.8% of the cases, a number comparable with Silva's (2001) and inferior to Herrera's (1999).

Over half of our patients had other neurological and/or psychiatric clinical disorders concomitant with the dementia syndrome, the most frequent being alcoholism and depression; nevertheless, those disordes were not accounted as causes of the patients' dementia syndromes. Also, most patients presented concomitant non-neurological/psychiatric disorders, especially hypertension, cardiopathy and diabetes, which were not diagnosed as etiological factors of their dementias. The majority of patients was referred under medication, over half of them under politherapy, including psychotropic drugs in two thirds of the cases. These figures should drive attention to the negative impact on the dementia condition by concomitant morbidities and drug toxicity that are common in the senile age.

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