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Self-reported memory problems in everyday activities in patients with epilepsy treated with antiepileptic drugs

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ABSTRACT

Objective: The goal of this study was to assess everyday memory complaints in a large cohort of patients with epilepsy treated with antiepileptic drugs and to determine demographic, clinical, and emotional state factors associated with patients' self-perception of memory disturbances.
Methods: This cross-sectional epidemiological study was carried out in routine clinical practice using the Questionnaire of Memory Efficiency (QME) and the Hospital Anxiety and Depression Scale (HADS).
Results: Six hundred sixty-one patients were recruited. The time since epilepsy diagnosis was 17.3 years (SD = 12.5); the number of seizures in the past year 13.8 (SD = 4.8); the proportion of patients free of seizures in the last year 42.5%; the proportion of patients with partial seizures 73.2%; and the proportion of patients on monotherapy 56.3%. Total QME score was 110.0 (SD = 18.6). Depression and anxiety scores and polytherapy explained 38.7% of the QME variance.
Conclusions: Subjective memory functioning in this cohort of patients with epilepsy was relatively good. Complaints expressed by these patients are explained mainly by the presence of depressive and anxiety symptoms.

1. Introduction

Patients with epilepsy frequently present with cognitive complaints. Studies on the side effects of antiepileptic drugs (AEDs) and studies on subjective complaints, in general, in outpatients or community patients with well-controlled seizures have revealed that about 70% of patients report problems in some cognitive area [1,2], the most common being memory.

Several studies have specifically addressed patients' memory complaints and have concluded that, in general, patients tend to overestimate their memory problems, as many of these patients achieve average or even better scores on neuropsychological assessment [3–12]. On the contrary, underestimation of memory disturbances, as well as of their impact on daily life, has also been reported [13,14]. The characteristics of patients included in the studies may explain these differences. Studies showing overestimation of memory complaints have been conducted in patients who may be more likely to report memory problems, such as those referred for neuropsychological assessment [3], patients with epilepsy who have undergone surgery [3,4,6,7,9], and patients with a refractory or severe disease [5,11,12]; the opposite holds true, in general, for studies performed in the general population with epilepsy [13,14].

Regarding factors related to memory complaints, a clear association has been repeatedly reported between subjective complaints and emotional state [5,8,10,13,15], whereas a slight or no association at all has been found with epilepsy-related factors [5,10,11].

We designed a cross-sectional epidemiological study in the setting of routine clinical practice. Our objective was to assess everyday memory complaints in a large cohort of patients with epilepsy treated with AEDs. We also tried to determine which demographic, clinical, and emotional factors are associated with patients' self-perception of memory disturbances. The study was performed in tertiary epilepsy clinics as well as general neurology outpatient clinics and included patients with refractory seizures and others

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whose seizures were well-controlled, to obtain complete information about the population of patients with epilepsy.

2. Methods

Eighty-two neurologists participated in the study. The outpatient clinics, either general neurology or specialized clinics, were located in 74 hospitals (listed in Appendix I). The study was carried out in the setting of routine clinical practice. Patients aged 18 years and older, with a minimum time since diagnosis of epilepsy of 12 months and at least 6 months of treatment with AEDs, were included. Patients with mental retardation or other concomitant diseases that, according to the neurologists' criteria, could limit their ability to complete the questionnaires were excluded.

Each neurologist consecutively recruited 10 patients who met the inclusion criteria, regardless of the reason for their visit. This procedure limited the bias toward patients with a higher number of complaints or more severe disease.

Demographic data, concomitant psychiatric treatment, and data on epilepsy and AED treatment were recorded. Patients completed the Questionnaire of Memory Efficiency (QME) [5] and the Hospital Anxiety and Depression Scale (HADS) [16,17]. The QME is a 28-item questionnaire that addresses memory problems for everyday situations (see Appendix 2). It comprises seven individual memory areas: Concentration and Orientation (items 1 and 2), Pre-illness Knowledge (items 3–6), Learning (items 7–12), Episodic Memory (items 13–17), Prospective Memory (items 18 and 19), Reactions to Memory Difficulties and Use of Memory Aids (items 20–26), and Awareness of Memory Problems (items 27 and 28). Patients assess each item on a 5-point scale: never (5 points), seldom (4 points), sometimes (3 points), often (2 points), or always (1 point). Therefore, the possible score ranges from 28 to 140, with higher scores indicating a subjective impression of better memory functioning. The HADS is a screening scale for emotional (anxiety and depression) symptoms widely used in the general medical setting. It consists of 14 items divided into two subscales: Anxiety (odd items) and Depression (even items). Items are assessed on a 4-point scale, ranging from 0 if the symptom is absent to 3 if the symptom is present and significantly impacts the patient. Patients are classified according to their total score on each subscale into four categories: scores <8 indicate the absence of anxiety or depressive symptoms, scores of 8–10 indicate a borderline or mild disorder, scores of 11–14 indicate a moderate disorder, and scores >14 indicate the presence of severe anxiety or depressive symptoms.

The study was approved by the Hospital Universitario Central de Asturias (Oviedo) Ethics Committee. All patients gave written informed consent.

The data were analyzed using the Statistical Package for Social Sciences (Version 15.0). QME scores among groups were compared with respect to demographic, epilepsy-related, and emotional factors. Parametric or nonparametric tests and post hoc analysis, when necessary, were applied according to variable characteristics. Spearman rank correlation was computed to assess the relationship of time since epilepsy diagnosis, AEDs in monotherapy, and drug dose with the total QME score. A linear regression model was used to study the relative explanatory power of variables that had shown significance in the previous comparative analysis. All P values were based on two-tailed tests, and statistical significance was set at $P < 0.05$.

3. Results

3.1. Sample characteristics

A total of 661 patients were included; 56% were women. Their mean age was 42.1 years (SD = 15.2, range = 18–83.9). Regarding educational level, 45.9% had completed elementary studies, nearly a third (32.9%) had attended high school, and 18.4% had attended university; 2.7% had no formal education. Approximately half (53.3%) of the patients were actively working, 5.8% were students, 8.3% were unemployed, 19.1% were housewives, and 13.5% were retired. Data on marital status were as follows: 55% were married or living with a partner, 39.5% were single, 4.0% were separated or divorced, and 1.5% were widowed.

With respect to concomitant psychiatric treatment, 6.6% ($n = 44$) were receiving psychotropic drugs; most patients (95.5%) were on antidepressant and/or antianxiety treatment.

Mean time since epilepsy diagnosis was 17.3 years (SD = 12.5, range = 1–54, median = 15) and mean number of seizures in the preceding 12 months was 13.8 (SD = 4.8, range 0–725, median = 1). The global percentage of patients free of seizures during the preceding 12 months was 42.5%; when this percentage was broken down according to type of seizure, 35.2% had partial seizures and 63.9% had generalized seizures. Moreover, the percentage of patients who had experienced only one seizure in the last 12 months was 9.2% for the whole sample, 7.5% in the partial seizure group and 14.8% in the generalized seizure group. Overall, 73.2% of patients had partial seizures, 26.5% had generalized seizures, and 0.3% had unclassified seizures. Slightly more than half of the sample population was on monotherapy (56.3%).

3.2. Emotional status

The prevalence of anxiety and depression symptoms according to the cutoff scores defined above is illustrated in Fig. 1. Patients receiving concomitant psychiatric treatment scored significantly worse on the HADS when compared with patients with no concomitant psychiatric treatment. Mean Depression subscale scores were 7.5 (SD = 4.5) and 3.3 (SD = 3.2) ($P > 0.001$); mean Anxiety subscale scores were 10.1 (SD = 3.8) and 6.1 (SD = 3.9) ($P > 0.001$), respectively.

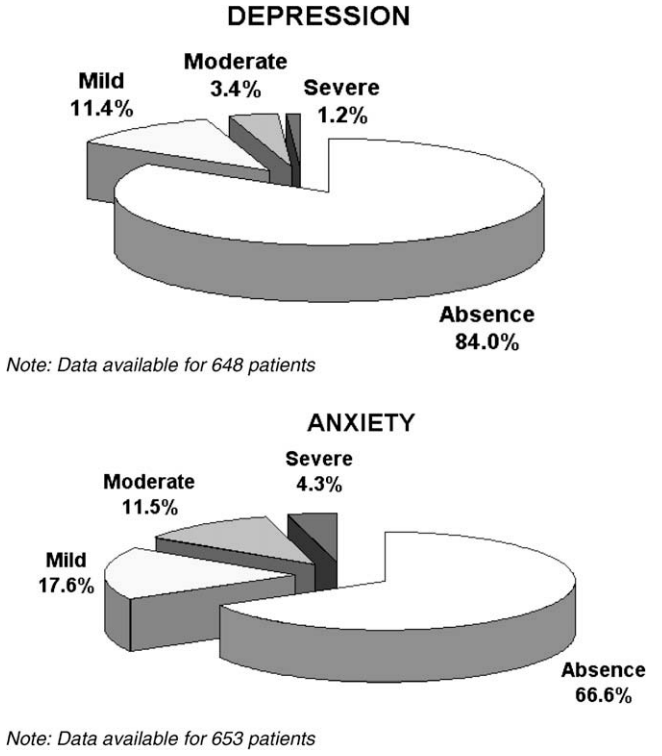

Fig. 1. Prevalence of emotional symptoms according to the Hospital Anxiety and Depression Scale.