Seizure (2008) **17**, 646—650

ELSEVIER

SEIZURE

www.elsevier.com/locate/yseiz

SHORT COMMUNICATION

Epilepsy prevalence by individual interview in a Norwegian community

Eylert Brodtkorb [a,b,*], **Ottar Sjaastad** [a,b,c]

[a] *Department of Neuroscience, Norwegian University of Science and Technology, Trondheim, Norway*
[b] *Department of Neurology and Clinical Neurophysiology, St. Olav's University Hospital, Olav Kyrres Gate 17, 7006 Trondheim, Norway*
[c] *Vågå Communal Health Centre, Vågåmo, Norway*

Received 11 December 2007; received in revised form 23 February 2008; accepted 21 March 2008

KEYWORDS
Epilepsy;
Prevalence;
Case ascertainment;
Individual interview

Summary Incomplete case finding is a problem in epidemiological studies of epilepsy. We tried to optimize case ascertainment by combining information from individual interviews and medical records. During 2 years, 1838 inhabitants of Vågå, Norway, aged 18—65 (88.6% of the target population) were interviewed as part of an epidemiological study of headache. Individuals with learning disability, mental disorders and dementia were excluded. One question concerning epilepsy was presented to 1793 consecutive cases (mean age 35, males 49%): ''Have you ever had convulsions, epileptic fits or other epileptic symptoms?'' The medical records of the 133 subjects who acknowledged this possibility were reviewed, and telephone interviews were performed when needed. A diagnosis of epilepsy had been made in 41 subjects. Twenty-one were treated with antiepileptic drugs, of whom 12 had had seizures within the last 5 years. By this unique method of case ascertainment, the prevalence of epilepsy in adults (cases under treatment) was 1.2%, and of active cases 0.7%, despite the fact that high-risk groups for epilepsy, such as elderly people and individuals with cognitive deficits, were excluded. Although these findings were derived from a small population in a circumscribed rural area, they suggest that the true prevalence of epilepsy may be higher than reflected in many previous studies.

Introduction

Epilepsy is one of the most common chronic neurological disorders world-wide. The symptoms are limited to short-lasting attacks, which even in patients with intractable seizures occupy only minor parts of their total lives. The diagnosis is associated with prejudice and myths, and some victims endeavour to keep it secret. A large number of epidemiological studies have been undertaken to assess the population-based prevalence of epilepsy in various parts of the world (see[1—3]). However, a range of methodological shortcomings hamper these surveys. Study designs differ considerably. Diversities of sources for case identification, heterogeneity of

* Corresponding author. Tel.: +47 72575075; fax: +47 72575774.
E-mail address: eylert.brodtkorb@ntnu.no (E. Brodtkorb).

1059-1311/$ — see front matter
doi:10.1016/j.seizure.2008.03.005

clinical manifestations and differences regarding prognosis may influence the findings. Problems concerning definition and accurate diagnosis are often prevailing.[4] Cases are also missed because some sufferers conceal their condition and do not seek appropriate medical help or do not comply with treatment and follow-up.

We have tried to optimize case ascertainment by individual interviews in a population of a small, rural community in Norway.

Methods

The study was carried out as part of an epidemiological study of headache in the Vågå community in southern Norway. The design of this study has previously been described in detail.[5,6] A short version is given in this context.

During a 2-year period beginning in 1995, a total of 1838 inhabitants in the age range18—65 (males 49%) met for an individual examination by one single investigator (OS). The recruited individuals comprised 88.6% of the invited target population (n = 2075) at the start of the study. The examiner had been brought up in the parish and knows the local conditions well. Inhabitants with learning disability, mental disorders and dementia were excluded. The participants underwent a semi-structured interview concerning headache and a neurological/physical examination. In addition, one single question concerning epilepsy was presented to 1793 consecutive cases (mean age 35, males 49%): ''Have you ever had convulsions, epileptic fits or other epileptic symptoms?'' The Health Centre medical records of those who acknowledged possible epileptic symptoms were reviewed (by E.B.), and telephone interviews were performed when needed. The study area has a relatively stable, rural population. It is served by general practitioners with a basis in the national health care. Relevant medical reports from hospitals and specialists are usually available for all inhabitants at the communal health centre.

Table 1 Diagnoses in 133 subjects who acknowledged a possible ''history of convulsions, epileptic fits or other epileptic symptoms'' (numbers)

Epilepsy ever (41)
Active (12)
In remission with treatment (9)
In remission, treatment withdrawn (18)
In remission, never treated (2)
Single unprovoked seizures (4)
Situation-related seizures (20)
Febrile seizures in childhood (14)
Alcohol related (3)
Hypoglycemia in diabetes (2)
Other (1)
Psychogenic non-epileptic seizures (1)
Apparent syncopes (35)
Miscellaneous (32)
Probably hyperventilation induced (5)
Transitory ischemic attacks (5)
Migraine aura (1)
Unclear and other episodes (21)

The following definitions were adopted from the International League against epilepsy.[4] Active epilepsy means fulfilment of the criteria for epilepsy and a minimum of one seizure in the previous 5 years. Cases under treatment are individuals with the correct diagnosis of epilepsy receiving antiepileptic drugs (AEDs), regardless of seizure control.

Informed consent was given by all patients. The study was as a whole recommended by the Regional Committee for Ethics in Medical Research and by the Norwegian Data Inspectorate.

Table 2 Patients with active epilepsy in Vågå

Patient number	Sex	Age	Onset age	Seizure types	Epilepsy syndrome	Etiology
1	F	49	0	CP, GTC	Partial	Cryptogenic
2	F	36	7	SP, GTC	Partial	Cryptogenic
3	M	19	15	CP	Partial	Cryptogenic
4	M	36	19	SP, GTC	Partial	Encephalitis
5	F	24	20	CP, GTC	Partial	Cryptogenic
6	M	38	25	CP, GTC	Partial	Cryptogenic
7	M	31	26	GTC	Partial	Cryptogenic
8	M	37	28	GTC	Partial	Cryptogenic
9	M	36	33	GTC	Partial	Post-traumatic
10	M	60	43	GTC	Unclassified	Unknown
11	F	61	45	CP, GTC	Partial	Post-traumatic
12	F	54	51	GTC	Partial	Post-traumatic

F, female; M, male; CP, complex partial; GTC, generalized tonic-clonic; SP, simple partial.