

SURVEYING THE POPULATION WITH EPILEPSY: ULCERS, ALLERGIES, AND OTHER MEDICAL COMORBIDITIES

Somatic Comorbidity of Epilepsy in the General Population in Canada

Télez-Zenteno JF, Matijevic S, Wiebe S

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PURPOSE: There is a notion that people with epilepsy have substantial and often unrecognized comorbidity of chronic conditions. However, most studies focus on selected patient groups; population-based studies are scarce. We compared the prevalence of chronic somatic conditions in people with epilepsy with that in the general population using Canadian, nationwide, population-based health data.

METHOD: We examined epilepsy-specific and general population health data obtained through two previously validated, independently performed, door-to-door Canadian health surveys, the National Population Health Survey (NPHS, $N = 49,000$) and the Community Health Survey (CHS, $N = 130,882$), which represent 98% of the Canadian population. The prevalence of epilepsy and 19 other chronic conditions was ascertained through direct inquiry from respondents about physician-diagnosed illnesses. Weighted prevalence, prevalence ratios (PR), and 95% confidence intervals were obtained for the entire population and for males and females separately. Multivariate analyses assessed the strength of association of comorbid conditions with epilepsy as compared with the general population.

RESULTS: People with epilepsy had a statistically significant higher prevalence of most chronic conditions than the general population. Conditions with particularly high

prevalence in epilepsy (prevalence ratio ≥ 2.0) include stomach/intestinal ulcers (PR, CHS 2.5, NPHS 2.7), stroke (PR, CHS 3.9, NPHS 4.7), urinary incontinence (PR, CHS 3.2, NPHS 4.4), bowel disorders (PR, CHS 2.0, NPHS 3.3), migraine (PR, CHS 2.0, NPHS 2.6), Alzheimer's disease (PR, NPHS 4.3), and chronic fatigue (PR, CHS 4.1). There were no gender-specific differences in prevalence of chronic conditions among people with epilepsy.

CONCLUSIONS: People with epilepsy in the general population, not only those actively seeking medical care, have a high prevalence of chronic somatic comorbid conditions. The findings are consistent across two independent surveys, which show that people with epilepsy in the general population have a two- to five-fold risk of somatic comorbid conditions, as compared with people without epilepsy. This patient-centered comorbidity profile reflects health aspects that are important to people with epilepsy, and indicate the need for a more integrated approach to people with epilepsy. The impact of epilepsy relative to other comorbid conditions requires further analysis, as does the contribution of comorbidity to epilepsy intractability and to differential health care needs. Similarly, it remains to be determined whether the observed comorbidity patterns are specific to epilepsy or simply reflect a pattern that is common to chronic illnesses in general.

COMMENTARY

The literature concerning the presence of psychiatric comorbidities in persons with epilepsy is not scarce. Although there is a lack of evidence-based data to guide treatment, it is known that psychiatric comorbidities significantly affect quality of life, and they are getting the recognition they deserve by treating physicians (1,2). The situation regarding comorbidities outside the mental health spectrum is different,

as little is known about them, with few exceptions, such as migraine and hypertension (3). In an effort to assess the prevalence of different medical conditions that occur in persons with epilepsy and to compare these patients with the general population, Télez-Zenteno et al. reviewed two population-based Canadian surveys.

The surveys used by Télez-Zenteno and colleagues, the National Population Health Survey (NPHS) and the Community Health Survey (CHS), have been extensively validated. The NPHS is the first national longitudinal survey to collect information on the health of Canadians over a 20-year period. The objective of the NPHS has been to obtain ongoing information on health status, factors affecting health, and the use of health

services. The survey also supplies information on changes in people's health over time. In contrast, the CHS provides regular and timely cross-sectional estimates of health determinants, health status, and health system utilization for 136 health regions across Canada. A previous study performed in the United Kingdom (4) presented data similar to the CHS but was drawn from physician-generated diagnostic codes; it showed that most chronic diseases were more prevalent in patients with epilepsy.

The main weakness of the Téllez-Zenteno study concerns the limitation of the questionnaire to provide details of the disorder being reported. The surveys were performed in the traditional door-to-door manner, which is considered the "gold standard" methodology of epidemiology studies, although this method may result in under- or over-reporting. Such surveys reflect the health of true, self-identified epileptic patients in the general population and are likely to capture individuals with active epilepsy and other chronic conditions. Furthermore, they have been validated by the same authors in a study of the prevalence of epilepsy in Canada (5). Population surveys may lack the details of disease severity desired by clinicians because of their scope, method, and purposes, but the population-based analysis of epilepsy patients provided in this article is useful in the following ways.

First, the results are clear: some somatic conditions are seen more often in people with epilepsy than in the general population, although the reasons for this finding are unknown. Nonetheless, the high prevalence of comorbidities requires increased access to healthcare and subsequent health care expenditure by patients with epilepsy. Compared with the general population, these patients are referred to specialists more frequently, have higher home-visiting rates, and encounter more visits to the primary care physician (6). The Téllez-Zenteno et al. findings enhance previously published results indicating that indirect costs contribute greatly to the economic burden of epilepsy (7).

Second, these results may be indicating that epilepsy is a marker of inferior quality of life. Quality of life issues concern not only the association between the stigma of seizures that occurs in all societies and the low-level fulfillment of goals in these patients' lives but also involve the lower income and poorer

social support documented among epilepsy sufferers (8). Studies report that epilepsy is associated with higher rates of unemployment and underemployment than is found in the general population. How much comorbidities associated with epilepsy contribute to the impairment in quality of life was not assessed in this study and is still unknown.

Finally, in regard to the conditions found to be associated with epilepsy, there are logical explanations for why stroke, dementia, sleep problems, chronic fatigue, and migraine would happen more frequently than in the general population, but why entities like cataracts, arthritis, bronchitis, back pain, or allergies have a higher prevalence is unknown. Further studies will be needed to evaluate causality, as prevalence studies only alert the physician to possible associations. Clinicians would do well to ask questions about comorbidities, such as ulcers, allergies, and other medical conditions, as they may pose more obstacles in the management of epilepsy patients.

by Jorge Burneo, MD, MSPH

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