

Increasing epilepsy-related mortality: A multiple causes of death study in Northern Italy

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Purpose

To assess the burden of epilepsy as the underlying or contributory cause of death, to investigate time trends in mortality with epilepsy, and to examine the main associated comorbidities.

Methods

All deaths from January 1, 2008 to December 31, 2019 with any mention of epilepsy were retrieved from the mortality register of the Veneto Region (Italy). The average annual percent change (AAPC) in age-standardized mortality rates was estimated by log-linear models. The association between mention of epilepsy and of selected disease categories in death certificates was assessed by conditional logistic regression.

Results

Any mention of epilepsy was reported in 5,907 death certificates; of these, epilepsy was selected as the underlying cause in 1,020 decedents. Deaths with epilepsy represented 0.8% of total mortality in 2008–2011, increasing to 1.3% in 2016–2019. The AAPC was 4.7% for males (95% CI 3.0–6.4, $p < 0.001$) and 6.2% for females (95% CI 4.5–7.9, $p < 0.001$). A strong association was found between mention of epilepsy and meningitis/encephalitis, congenital anomalies/cerebral palsy and other paralytic syndromes, central nervous system tumours, cerebrovascular diseases, and dementia/Alzheimer.

Conclusions

The present analysis from Southern Europe confirms recent reports limited to the UK and the US on increasing epilepsy-related mortality rates. aging of the population and the growing prevalence of neurological disorders are among long-term causes of this unfavorable trend; further studies on mortality data and other health archives are warranted.

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