Maternal death in women with epilepsy
Smaller scope studies

Jakob Christensen, PhD, Claus Vestergaard, MSci, and Bodil Hammer Bech, PhD

Cite as: Neurology® 2018;91:e1716-e1720. doi:10.1212/WNL.0000000000006426

Correspondence
Dr. Christensen
jakob@farm.au.dk

Study objective
To determine whether epilepsy is associated with an increased maternal mortality risk in Denmark.

Summary results
Epilepsy is associated with an increased maternal mortality risk in Denmark.

What is known and what this paper adds
Recent UK and US studies reported that epilepsy is associated with an elevated risk of maternal mortality. This study reproduces that finding in the context of Denmark.

Participants and setting
This study reviewed data for all women born in Denmark between 1962 and 1994 who survived to adulthood.

Design, size, and duration
A list of study-eligible women was obtained from the Danish Central Register, and hospital admissions data for the 1977–2013 period and outpatient data for the 1995–2013 period were obtained from the Danish National Hospital Register (DNHR). The DNHR data were searched for diagnostic codes corresponding to epilepsy or pregnancy. This study applied the World Health Organization definition of maternal mortality as dying during pregnancy or within 42 days of the end of pregnancy (whether due to childbirth, abortion, or miscarriage). Each case of maternal death was matched based on income, calendar year, parity, and maternal age to ≤100 control pregnancies that did not end in death. A conditional logistic model was used to determine the relationship between epilepsy and the risk of maternal mortality.

Primary outcome measures
The primary outcome was the risk of maternal mortality in women with epilepsy relative to the risk in women without epilepsy.

Main results and the role of chance
This study identified 2,105,084 pregnancies in 801,739 women, with 11,976 (0.57%) pregnancies occurring in women with epilepsy. Of the 176 cases of maternal mortality, 5 occurred in women with epilepsy. Epilepsy was associated with an increased risk of maternal mortality (odds ratio, 5.57; 95% confidence interval, 2.23–13.9; p < 0.001). The mortality in women of childbearing age (18–50 years) was increased in women with epilepsy regardless of pregnancy (figure).

Bias, confounding, and other reasons for caution
Outcome data were missing for some pregnancies.

Generalizability to other populations
This study’s results are probably generalizable to other high-income countries because they are consistent with findings from the US and the UK.

Study funding/potential competing interests
This study was funded by the Danish Epilepsy Society, the Lundbeck Foundation, the Central Denmark Region, and the Novo Nordisk Foundation. Dr. Christensen reports receiving lecture honoraria, travel funding, and advisory board appointments from various healthcare companies. Go to Neurology.org/N for full disclosures.

A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The authors of the full-length article and the journal editors edited and approved the final version.
Maternal death in women with epilepsy: Smaller scope studies
Jakob Christensen, Claus Vestergaard and Bodil Hammer Bech
Neurology 2018;91;e1716-e1720 Published Online before print September 26, 2018
DOI 10.1212/WNL.0000000000006426

This information is current as of September 26, 2018