

Reusing data from a completed clinical trial to inform guidelines

BACKGROUND:

Epilepsy is a common neurological disorder in which abnormal electrical discharges from the brain cause recurrent seizures. Approximately 60% to 70% of people with epilepsy will achieve a longer-term remission from seizures, which for most comes shortly after starting antiepileptic drug treatment. The most common treatment approach for people with epilepsy is a single antiepileptic drug, also known as monotherapy.

RESEARCHER QUESTION:

Dr. Sarah Nevitt is a senior research associate at the University of Liverpool in the United Kingdom. Her primary research focus is on clinical trial methodology, critical appraisal and evidence synthesis. Much of Dr. Nevitt's work focuses on individual participant data meta-analysis, network meta-analysis and data sharing.



For this study, Dr. Nevitt and her fellow researchers sought to compare the time to treatment failure, remission, and first seizure of 12 antiepileptic drugs (AEDs) currently used as monotherapy in children and adults with focal onset seizures or generalized tonic-clonic seizures.

“The results of this network meta-analysis have already directly informed the update of UK guidelines.” - Dr. Sarah Nevitt

FINDINGS

IPD were available for at least one outcome specified for this review for 67% of eligible participants, and for 43% of eligible trials. Key findings from assessment of eligible data in the network meta-analysis showed that, for people with both focal and generalized seizures, the oldest drugs, such as phenobarbitone and phenytoin, were better options in terms of seizure control than the other drugs assessed. However, these older drugs also had the worst outcomes in terms of long-term retention (stopping the treatment) compared to newer drugs such as lamotrigine and levetiracetam. The analysis also indicated that sodium valproate was the best option of all the drugs assessed for achieving control and remission of generalized tonic-clonic seizures, but this is not a suitable option for everybody with a new diagnosis of epilepsy, particularly people of childbearing age.

IMPACT

The network meta-analysis has been published in the Cochrane Library.

Additionally, Dr. Nevitt indicated in a conversation with Vivli that the results of this network meta-analysis have already directly informed the update of UK guidelines which were published in 2022, so are already informing the treatment of people with a new diagnosis of epilepsy in the UK.

EPILEPSY DATA REUSE

RESEARCH PROCESS:

To compare the time to treatment failure, remission and first seizure of 12 AEDs used as monotherapy, the research team requested access to two studies held on the Vivli database of clinical trial data. Individual patient data (IPD) from these trials was collected from these trials and incorporated into a larger network meta-analysis considering data from 89 trials and more than 22,000 participants.

NEXT STEPS:

READ MORE

[Antiepileptic drug monotherapy for epilepsy: a network meta-analysis of individual participant data \(Cochrane Library\)](#)

[Interview with Dr. Nevitt](#)

[Find out more about requesting data from Vivli.](#)