

The real-world effectiveness and safety of perampanel in Europe: A scoping review

An infographic based on Estévez-María JC, Garamendi-Ruiz I. *Epilepsy Behav.* 2022;134:108777

Aim: This study provides a qualitative review of the recently published literature with perampanel during clinical use across different patient groups and countries in Europe

Methods



Inclusion criteria

Real-world observational studies of perampanel conducted in Europe:

- In adolescents (aged ≥ 12 years) or adults who were prescribed perampanel for focal epilepsy or primary generalized tonic-clonic seizures in the context of idiopathic generalized epilepsy
- Published between 2016 and 2021

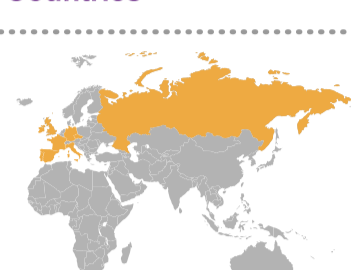


Exclusion criteria

- Controlled clinical trials, case reports, reviews, meta-analyses, or pooled analyses



Countries



Austria, France, Germany, Ireland, Italy, Portugal, Russia, Spain, UK



Patients per study = 11–464

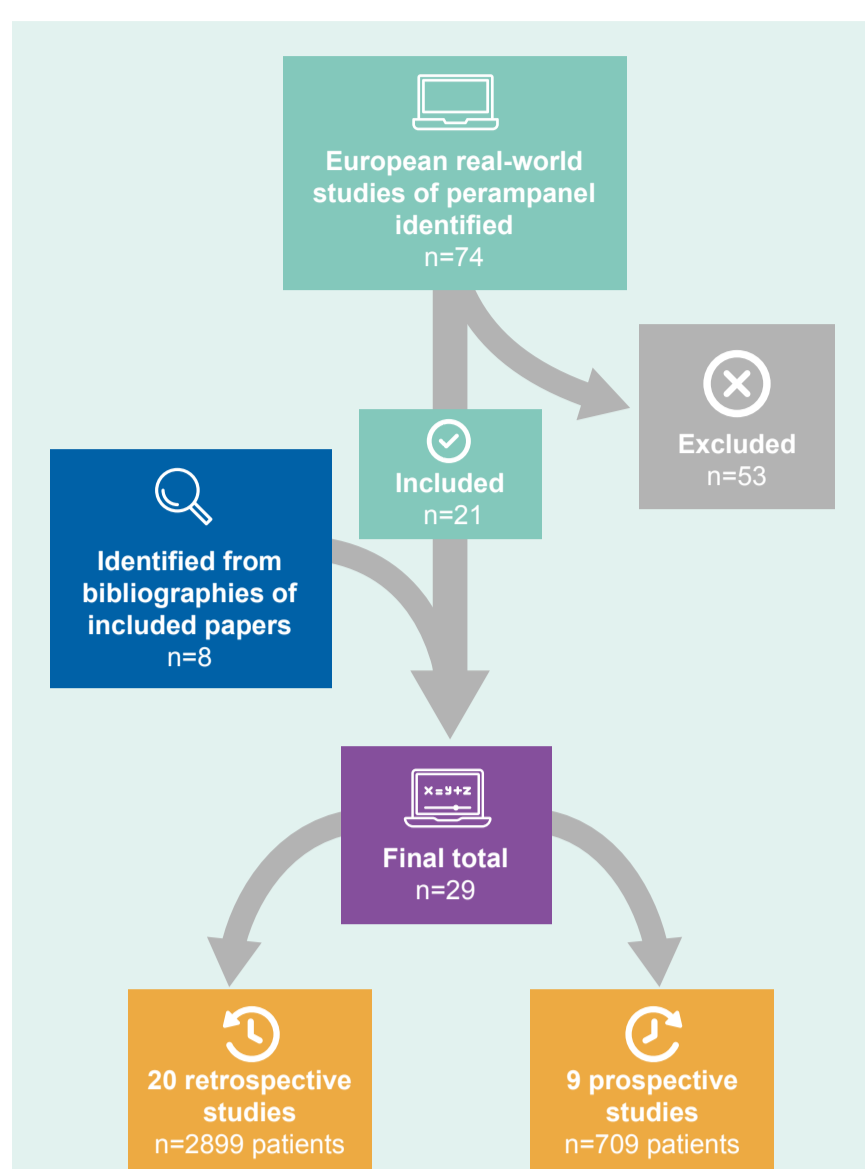
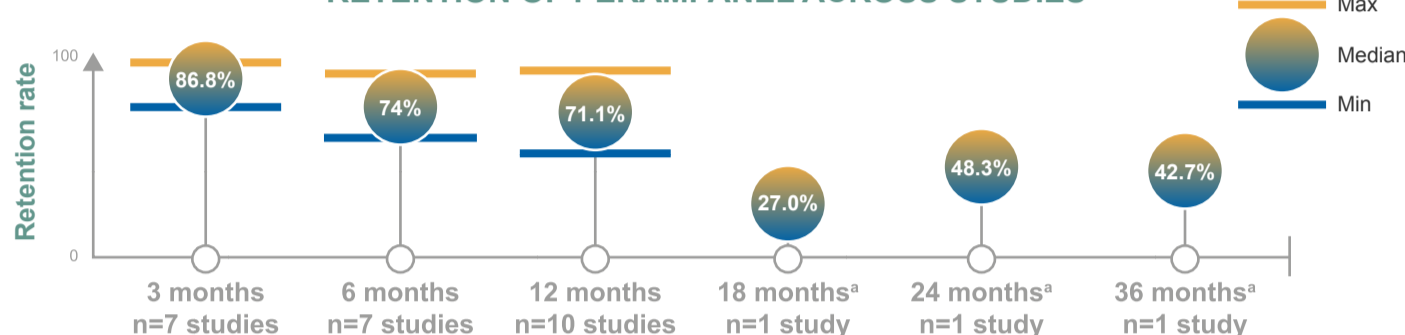


Chart adapted from Estévez-María JC, Garamendi-Ruiz I. *Epilepsy Behav.* 2022;134:108777

Results: Retention and effect on seizures

RETENTION OF PERAMPANEL ACROSS STUDIES



^aRetention rates for 18, 24, and 36 months were obtained from single studies (18 months, Shah E, et al. *Seizure.* 2016; 34:1–5; 24 and 36 months, Wehner T, et al. *Epilepsy Behav.* 2017; 73:106–110)

The median 12-month retention rate across studies was 71.1%

EFFECT ON SEIZURES OF PERAMPANEL ACROSS STUDIES^b

Analysis by number of prior ASMs

Seizure freedom: ≤ 5 prior ASMs associated with \uparrow seizure-freedom rates; > 5 prior ASMs associated with \downarrow seizure-freedom rates. $\geq 50\%$ seizure reduction: Number of prior ASMs did not appear to impact 50% responder rates.

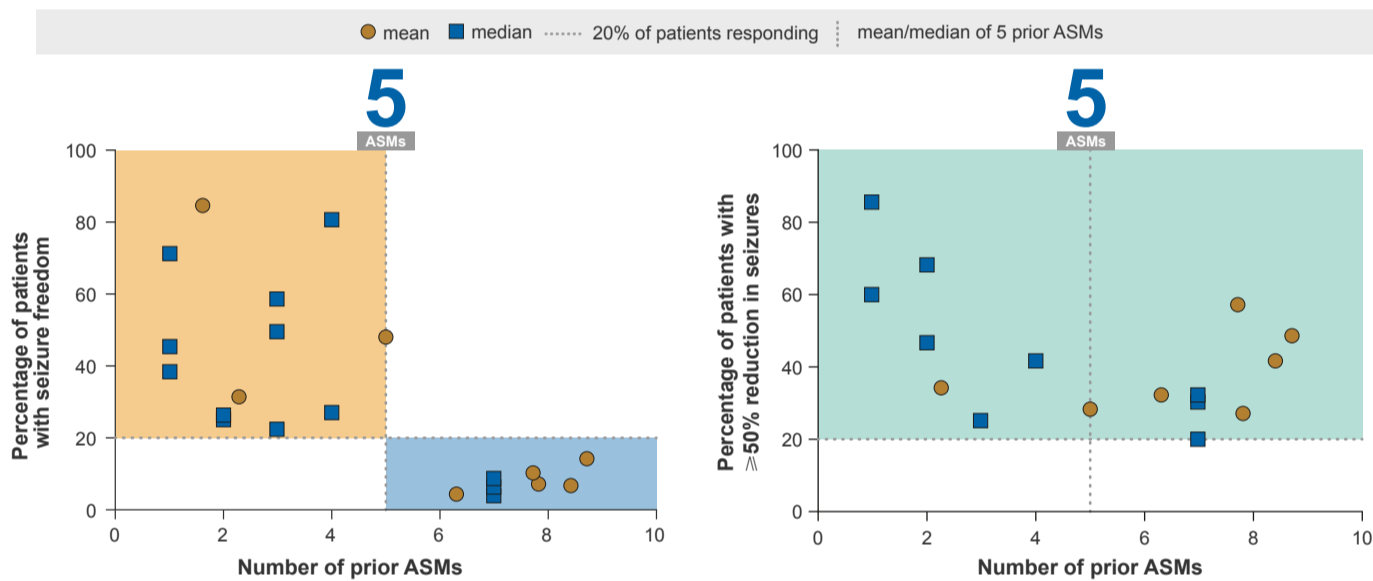


Chart adapted from Estévez-María JC, Garamendi-Ruiz I. *Epilepsy Behav.* 2022;134:108777

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Seizure-freedom rates were higher in patients with an average of ≤ 5 prior ASMs vs > 5 prior ASMs, but no such clear difference in 50% responder rates was observed

Analysis by seizure type

Seizure freedom GTCS: 80.8% median

Seizure freedom FOS: 22.7% median

$\geq 50\%$ seizure reduction: Patients had similar 50% responder rates irrespective of seizure type

Seizure-freedom rates were higher for GTCS than FOS, but no difference in 50% responder rates was observed

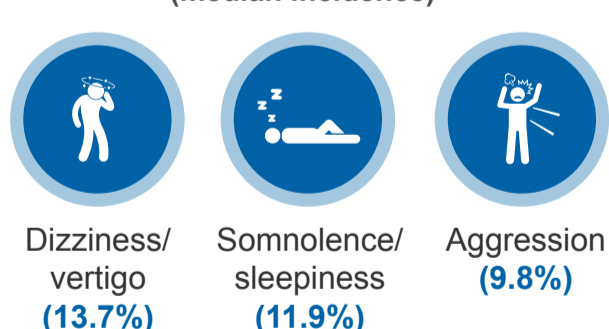
^bReported endpoints are at 3 months in two studies, 6 months in four studies, 12 months in 19 studies, and undefined in four studies. Other clinical factors impacting seizure freedom and 50% responder rates with perampanel treatment were also described in the original paper

Results: Safety

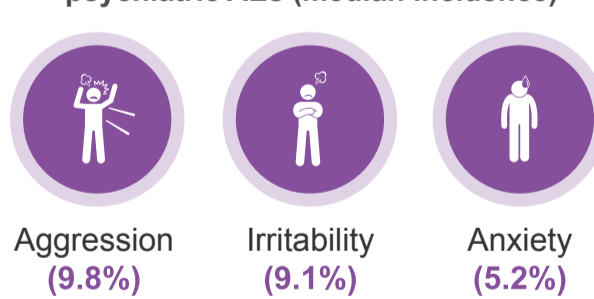
37.1% Median incidence of AEs across studies

12.5% Median rate of perampanel discontinuations caused by AEs

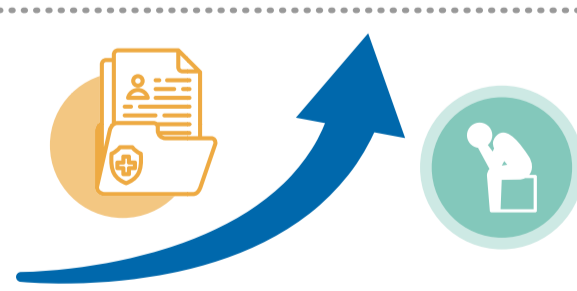
Three most commonly reported AEs (median incidence)



Three most commonly reported psychiatric AEs (median incidence)



Incidence of psychiatric/behavioral AEs was higher in patients with a history of psychiatric/mental health comorbidity



Conclusions

- Based on this review of 29 real-world observational studies, it was concluded that **perampanel was effective** in clinical practice in a range of patients and settings, and **across a range of countries**
 - However, this review provided only a qualitative assessment of trends and should be interpreted accordingly
 - Also, some patients may have been included in more than one study
- The median 12-month **retention rate** across all studies was **71.1%**
- **Seizure freedom** was more likely with **earlier use** (≤ 5 prior ASMs) of perampanel vs later use (> 5 prior ASMs) of perampanel
- Across all studies, the most commonly reported AEs were **dizziness/vertigo**, **somnolence/sleepiness**, and **aggression**
- It is recommended that patients with a history of psychiatric comorbidity be monitored for the development of psychiatric AEs during perampanel treatment

Abbreviations

AE, adverse event; ASM, anti-seizure medication; FOS, focal-onset seizures; GTCS, generalized tonic-clonic seizures; max, maximum; min, minimum

Reference

Estévez-María JC, Garamendi-Ruiz I. *Epilepsy Behav.* 2022;134:108777.

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Disclosures

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