I. Characteristics of included adult studies

A. Gabapentin

Study	**Anhut 1994 [1]**
Methods	Randomized double blind placebo controlled parallel group study. 3 treatment arms: 1 placebo and 2 gabapentin. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks. Blinding: identical tablets and packaging. Prospective pre randomization baseline period = 12 weeks. Titration period = 2 days. Treatment period including titration = 12 weeks.
Participants	Cross continent study. All adults. Mean age = 32 years (range 12 to 67 years). All with drug-resistant partial epilepsy Total randomized 272; 109 to PCB; 111 to 900 mg GBP; 52 to 1200 mg GBP. 56% male Other AEDs < or = 2. Median baseline seizure frequency/ 28 days = 10.2 (range 0.5 to 634.3).
Interventions	900 mg GBP per day. 1200 mg GBP per day. Placebo. All treatments and packaging were identical.
Outcomes	Proportion with a 50% reduction in seizure frequency. Response ratio*. Adverse effects.
**Response ratio = (T-B)/(T+B) where T = number of seizures during the treatment period, and B = number of seizure in the baseline period.*	
Notes	27 participants excluded from published analyses: 10 from the placebo group; 15 from the 900 mg group; 2 from the 1200 mg group. 21 participants withdrew from study; 9 from placebo and 12 from GBP group
Allocation concealment A	

Study	**Sivenius 1991 [2]**
Methods	Randomized double blind placebo controlled parallel group study. 3 treatment arms: 1 placebo and 2 gabapentin. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks Blinding: identical tablets and packaging. Prospective pre randomization baseline period = 12 weeks. Titration period =2 days. Treatment period including titration = 12 weeks.
Participants	Finland All adults. Mean age = 39 years (range 16 to 59 years) All with drug-resistant partial epilepsy. Total randomized 45; 18 to PCB; 18 to 900 mg GBP; 9 to 1200 mg GBP. 47% male Other AEDs < or = 2. Median baseline seizure frequency/ 28 days = 8. PCB = 12; 900 mg GBP = 8; 1200 mg GBP = 8.
Interventions	900 mg GBP per day 1200 mg GBP per day

	Placebo. All treatments and packaging were identical.
Outcomes	Median change in seizure frequency. Percent change in seizure frequency. Adverse effects.
Notes	2 people in the 900mg group were excluded from published analysis. No participant withdrew from study.
Allocation concealment A	

Study	**UK Gabapentin 1990 [3]**
Methods	Randomized double blind placebo controlled parallel group study. 2 treatment arms: 1 placebo and 1 gabapentin Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks. Blinding: identical tablets and packaging. Prospective pre randomization baseline period = 12 weeks. Titration period = 2 days. Treatment period including titration = 14 weeks.
Participants	Cross continent study. All adults. Mean age = 31 years (range 14 to 73 years). All with drug- resistant partial epilepsy. Total randomized 127; 66 to PCB; 61 to 1200 mg GBP. 39% male. Other AEDs < or = 2. Median baseline seizure frequency/28 days = 13. GBP = 13; PCB = 13
Interventions	1200 mg GBP per day. Placebo. All treatments and packaging were identical.
Outcomes	Proportion with a 50% reduction in seizure frequency. Response ratio. Adverse effects.
Notes	14 participants excluded from published analyses: 5 from the placebo group; 9 from the 1200 mg group. 11 participants withdrew from study; 4 from placebo and 7 from GBP group
Allocation concealment A	

Study	**US Gabapentin 1993 [4]**
Methods	Randomized double blind placebo controlled parallel group study. 4 treatment arms: 1 placebo and 3 gabapentin. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks. Blinding: identical tablets and packaging. Prospective pre randomization baseline period = 12 weeks. Titration period = 2 days. Treatment period including titration = 12 weeks.
Participants	USA study All adults. Mean age = 35 years (range 16 to 70 years) All with drug- resistant partial epilepsy. Total randomized 306; 98 to PCB; 53 to 600 mg GBP; 101 to 1200 mg GBP; 54 to 1800 mg GBP. 66% male. Other AEDs < or = 2. Median baseline seizure frequency/28 days 10.8. PCB = 10.7; 600 mg GBP = 10; 1200 mg GBP = 11; 1800 mg GBP = 12.7.
Interventions	600 mg GBP per day.

	1200 mg GBP per day. 1800 mg GBP per day. Placebo. All treatments and packages were identical.
Outcomes	Proportion with a 50% reduction in seizure frequency. Response ratio. Adverse effects.
Notes	18 participants were excluded from published analyses: 3 from the placebo group; 4 from the 600 mg group; 10 from the 1200 mg group; 1 from the 1800 mg group. 14 participants withdrew from study; 2 from placebo and 12 from GBP group
Allocation concealment A	

Study	**Yamaushi 2006 [5]**
Methods	Randomized double blind placebo controlled parallel group study. 3 treatment arms: 1 placebo and 2 gabapentin Randomization concealment: telephone randomization. Random list generation: centralized minimization procedure of an unbalanced randomization list (2 PCB : 2 GBP 1200 mg/day : 1 GBP 1800 mg:day). Blinding: identical tablets and packaging. Prospective pre randomization baseline period = 12 weeks. Titration period = 3 days. Treatment period including titration = 12 weeks.
Participants	Multicenter across Japan All adults. Mean age = 32 years (range 16 to 65 years) all with drug- resistant partial epilepsy. Total randomized 209; 82 to PCB; 86 to 1200 mg GBP; 41 to 1800 mg GBP. 48% male. Other AEDs < or = 2. Median baseline seizure frequency/28 days = 11. 1200 mg GBP = 11.2; 1800 mg GBP = 12.3; PCB = 9.7.
Interventions	1200 mg GBP per day 1800 mg GBP per day Placebo. All treatments and packaging were identical.
Outcomes	Response ratio Proportion with a 50% reduction in seizure frequency. Adverse effects.
Notes	19 participants excluded from published analyses: 7 from the placebo group; 6 from the 1200 mg group; 6 from the 1800 mg group. 15 participants withdrew from study; 6 from placebo; 5 from 1200 mg GBP and 4 from 1800 mg GBP.
Allocation concealment A	

B. Lamotrigine

Study	**Binnie 1989 [6]**
Methods	Randomized, double blind, crossover study. 2 treatment arms: 1 placebo, 1 lamotrigine. Randomization concealment: allocated sequentially numbered sealed packages containing either lamotrigine or placebo. Random list generation: computer generated random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline period = 8 weeks. Titration period = 2 weeks. Treatment I & II including titration = 12 weeks each. Washout = 6 weeks including taper period.

Participants	Single centre study from Netherlands. All adults. Mean age = 37 (range 16 to 51 years). All with drug-resistant partial epilepsy Total randomized 34; 18 to PCB; 16 to LTG during the 1rst treatment phase. 64.7 % male Maximum number of other AEDs = 4. Median baseline seizure frequency/28 days = Unknown
Interventions	Lamotrigine Placebo Median daily dose of lamotrigine was 200 mg. Participants on valproate received lower doses. An unblinded investigatorwith knowledge of the medication and plasma concentrations instructed the blinded investigators about dispensing the trial medications. All treatments and packagings were identical.
Outcomes	50% responder rates. Withdrawal from study for any reason. Adverse effects.
Notes	No participants were excluded from analysis. No participant withdrew from the study during the 1rst treatment phase.
Allocation concealment A	

Study	**Boas 1996 [7]**
Methods	Randomized, double blind, crossover study. 2 treatment arms: 1 placebo, 1 lamotrigine. Randomization concealment: allocated sequentially numbered sealed packages containing either lamotrigine or placebo. Random list generation: computer generated random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline period = 12 weeks. Titration period = 2 weeks. Treatment I & II including titration = 12 weeks. Washout = 4 weeks including 1 week taper.
Participants	4 centre study from Denmark. All adults. Mean age = 40.4 years (range 18 to 67 years). All with drug-resistant partial epilepsy. Total randomized 56; 26 to PCB; 30 to LTG during the 1rst treatment phase. 48% male Maximum number of other AEDs = 3. Median baseline seizure frequency/28 days = ?
Interventions	Lamotrigine Placebo The daily LTG dose was up to 400 mg; median dose = 300 mg. Participants on valproate received lower doses. All treatments and packagings were identical. Prepacked coded medication was dispensed by pharmacy.
Outcomes	50% responder rates. Withdrawal from study for any reason. Adverse effects.
Notes	No participants were excluded from analysis. 10 participants withdrew from the study; 8 randomized to lamotrigine and 2 to placebo.
Allocation concealment A	

Study	**Jawad 1989 [8]**
Methods	Randomized, double blind, crossover study.

	2 treatment arms: 1 placebo, 1 lamotrigine. Randomization concealment: allocated sequentially numbered, sealed packages containing either lamotrigine or placebo. Random list generation: computer generated random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline period = 8 weeks. Titration period = 2 weeks. Treatment I & II including titration = 12 weeks each. Washout = 6 weeks including 2 weeks taper.
Participants	Single centre study from UK. All adults. Mean age = ? (range 16 to 60 years). All with drug-resistant partial epilepsy. Total randomized 24; 12 to PCB; 12 to LTG during the 1rst treatment phase. Maximum number of other AEDs = 2. Median baseline seizure frequency/28 days = ?
Interventions	Lamotrigine Placebo The median daily dose of lamotrigine was 250 mg. Unblinded investigator wrote prescriptions based on plasma concentration. Participants on valproate received lower doses. All treatments and packagings were identical.
Outcomes	50% responder rates. Withdrawal from study for any reason. Adverse effects.
Notes	No participants were excluded from analysis. One participant withdrew from the study who was allocated to lamotrigine and none from placebo group.
Allocation concealment A	

Study	**Loiseau 1990 [9]**
Methods	Randomized, double blind, crossover study. 2 treatment arms: 1 placebo, 1 lamotrigine. Randomization concealment: allocated sequentially numbered, sealed packages containing either lamotrigine or placebo. Random list generation: computer generated random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline period = 4 weeks. Titration period = 1 week. Treatment I and II including titration = 8 weeks each. Washout = 4 weeks including 1 week taper period.
Participants	Single centre study from France. All adults. Mean age = 34 years (range 20 to 54 years) All with drug-resistant partial epilepsy. Total randomized 25; 14 to PCB; 11 to LTG during the 1rst treatment phase. 48% male Maximum number of other AEDs = 2. Median baseline seizure frequency/28 days = ?
Interventions	Lamotrigine Placebo The median daily LTG dose was 300 mg. Participants on valproate received lower doses. All treatments and packagings were identical. Prepacked coded medication dispensed by pharmacy.
Outcomes	50% responder rates. Withdrawal from study for any reason. Adverse effects.
Notes	No participants were excluded from analysis. 2 participants withdrew from the study; 1 receiving Lamotrigine and 1 receiving placebo.

Allocation concealment A

Study	**Matsuo 1993 [10]**
Methods	Randomized, double blind, parallel group study. 3 treatment arms: 1 placebo, 1 lamotrigine 300 mg and 1 lamotrigine 500 mg. Randomization concealment: allocated sequentially numbered, sealed packages containing either lamotrigine or placebo. Random list generation: computer generated random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline = 12 weeks. Titration period = 5 weeks. Treatment period including titration = 24 weeks.
Participants	Multicentre US study All adults. Mean age = 33 years (range 18 to 63). All with drug-resistant partial epilepsy. Total randomized 216; 73 to PCB; 71 to LTG 300 mg; 72 to LTG 500 mg. 31% male Maximum number of other AEDs = 3. Median baseline seizure frequency/28 days = 12.2. LTG 300 mg = 12.0; LTG 500 mg = 12.7; PCB = 12.7
Interventions	Lamotrigine 300 mg Lamotrigine 500 mg Placebo. All treatments and packagings were identical.
Outcomes	50% responder rates. Withdrawal from study for any reason. Adverse effects.
Notes	No participants were excluded from analysis. 25 participants withdrew from the study; 6 receiving LTG 300 mg, 13 receiving LTG 500 mg and 6 receiving PCB.
Allocation concealment A	

Study	**Messenheimer 1994 [11]**
Methods	Randomized, double blind, crossover study. 2 treatment arms: 1 placebo, 1 lamotrigine. Randomization concealment: allocated sequentially numbered, sealed packages containing either lamotrigine or placebo. Random list generation: computer generated random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline = 8 weeks. Titration period = 4 weeks. Treatment I and II including titration = 14 weeks each including 2 weeks blinded tapering. Washout = 4 weeks.
Participants	Multicentre US study All adults. Mean age = 35 years (range 18 to 64 years). All with drug-resistant partial epilepsy. Total randomized 98; 52 to PCB; 46 to LTG. 47% male Up to 3 other AEDs were permitted. Concomitant use of valproate was not allowed. Median baseline seizure frequency/28 days = 12.5. LTG = 13.3; PCB = 12.3
Interventions	Lamotrigine Placebo Median lamotrigine dose 400 mg/day. All treatments and packagings were identical.
Outcomes	50% responder rates. Withdrawal from study for any reason.

	Adverse effects.
Notes	No participants were excluded from analysis. 6 participants withdrew from the study; 2 receiving LTG and 4 receiving PCB.
Allocation concealment A	

Study	**Schapel 1993 [12]**
Methods	Randomized, double blind, crossover study. 2 treatment arms: 1 placebo, 1 lamotrigine. Randomization concealment: allocated sequentially numbered, sealed packages containing either lamotrigine or placebo. Random list generation: computer generated random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline = 12 weeks. Titration period = 2 weeks. Treatment I an II including titration = 12 weeks each. Washout = 4 weeks including 1 week taper.
Participants	Multicenter Australian study. All adults. Mean age 31 years (range 17 to 63). All with drug-resistant partial epilepsy. Total randomized 41; 20 to PCB; 21 to LTG. 51% male Maximum number of other AEDs permitted = 3. People receiving valproate monotherapy were excluded Median baseline seizure frequency/28 days = Unknown
Interventions	Lamotrigine 300 mg Placebo. Participants receiving valproate received lower doses. All treatments and packagings were identical.
Outcomes	50% responder rates. Withdrawal from study for any reason. Adverse effects.
Notes	No participants were excluded from analysis. None withdrew from the study.
Allocation concealment A	

Study	**Schmidt 1993 [13]**
Methods	Randomized, double blind, crossover study. 2 treatment arms: 1 placebo, 1 lamotrigine. Randomization concealment: allocated sequentially numbered, sealed packages containing either lamotrigine or placebo. Random list generation: computer generated random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline = ?. Titration period = ?. Treatment I and II = 12 weeks each including 2 week tapering period. Washout = 2 weeks .
Participants	Single centre German study. All adults. Mean age = ? (range 16 o 62 years) All with drug-resistant partial epilepsy. Total randomized 23; 12 to PCB; 11 to LTG. 48% male Maximum number of other AEDs permitted was 2. Median baseline seizure frequency/28 days = ?
Interventions	Lamotrigine. Dosage varied from 50 mg to 450 mg (median dose was 300 mg). Placebo. Unblinded investigator wrote prescriptions based on plasma concentration. All treatments and packagings were identical.
Outcomes	50% responder rates. Withdrawal from study for any reason.

	Adverse effects.
Notes	No participants were excluded from analysis. One participant receiving LTG and none receiving PCB withdrew from the study.
Allocation concealment A	

Study	**Smith 1993 [14]**
Methods	Randomized, double blind, crossover study. 2 treatment arms: 1 placebo, 1 lamotrigine. Randomization concealment: allocated sequentially numbered, sealed packages containing either lamotrigine or placebo. Random list generation: computer generated random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline = 4 weeks. Titration period = ?. Treatment I and II = 18 weeks each. Washout = 6 weeks.
Participants	Single centre UK study. All adults. Mean age = 34 years (range 15 to 67) All with drug-resistant partial epilepsy. Total randomized 81; 40 to PCB; 41 to LTG. 41% male Maximum number of other AEDS permitted was 2. Median baseline seizure frequency/28 days = ?
Interventions	Lamotrigine dose up to 400 mg/day. Median daily dose was 300 mg. Placebo Participants on valproate received lower doses. All treatments and packagings were identical.
Outcomes	50% responder rates. Withdrawal from study for any reason. Adverse effects. Quality of life and neuropsychological outcomes
Notes	No participants were excluded from analysis. 9 people withdrew from the study; 6 receiving LTG and 3 receiving PCB. The various Quality of life and neuropsychological scales were completed by 40 to 54 participants.
Allocation concealment A	

C. Levetiracetam

Study	**Ben-Menachem 2000 [15]**
Methods	Randomized double-blind placebo controlled parallel trial. 2 treatment arms: 1 PCB and 1 LEV. Randomization concealment: telephone randomization. Random list generation: centralized minimization procedure of an unbalanced randomization list (1 PCB : 2 LEV). Blinding: identical tablets and packagings. Prospective pre randomization baseline period = 12 weeks. Titration period = 4 weeks. Treatment period including titration period = 16 weeks.
Participants	Multicenter across Europe. All adults. Mean age = 36 years (range 17 to 70 years). All with drug-resistant partial epilepsy Total randomized 286; 105 to PCB; 181 to 3000 mg LEV. 48% male. Other AEDs = 1. Median baseline seizure frequency/28 days = 6.8. 3000 mg LEV = 6.8; PCB = 7.
Interventions	3000 mg LEV per day.

	PCB. All treatments and packagings were identical.
Outcomes	50% or greater reduction in seizure frequency. Treatment withdrawal. Adverse effects.
Notes	2 participants excluded from published analysis: 1 from the PCB and 1 from the 3000 mg LEV. 47 participants withdrew from study; 15 from placebo; 32 from LEV.
Allocation concealment A	

Study	**Cereghino 2000 [16]**
Methods	Randomized double-blind placebo controlled parallel trial. 3 treatment arms: 1 PCB and 2 LEV. Randomization concealment: allocated sequentially sealed, numbered packages containing either levetiracetam or placebo. Random list generation: random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline period = 12 weeks. Titration period = 4 weeks. Treatment period including titration period = 18 weeks.
Participants	Multicentre across USA. All adults. Mean age = 38 years (range 16 to 70 years) All with drug-resistant partial epilepsy but a minority also had generalized and/or unclassified seizures Total randomized 294; 95 to PCB; 98 to 1000 mg LEV; 101 to 3000 mg LEV. 61% male. Other AEDs 1 to 2. Median baseline seizure frequency/28 days = 9. 1000 mg LEV = 10.1; 3000 mg LEV = 8.3; PCB = 7.1
Interventions	1000 mg LEV per day. 3000 mg LEV per day. PCB. All treatments and packagings were identical.
Outcomes	50% or greater reduction in seizure frequency. Treatment withdrawal. Adverse effects. Quality of life and cognitive effects.
Notes	One participant in 1000 mg LEV was excluded from published analysis. Quality of life was assessed using the QOLIE-31, for 81 participants in PCB, 80 participants in 1000 mg LEV and 85 participants in 3000 mg LEV. 26 participants withdrew from study; 6 from placebo; 12 from 1000 mg LEV and 8 from 3000 mg LEV group.
Allocation concealment A	

Study	**Shorvon 2000 [17]**
Methods	Randomized double-blind placebo controlled crossover trial. 3 treatment arms: 1 PCB and 2 LEV. Randomization concealment: allocated sequentially sealed, numbered packages containing either LEV or PCB. Random list generation: random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline period = 8 to 12 weeks. Titration period = 4 weeks. Treatment period including titration = 16 weeks.
Participants	Multicentre across Europe. All adults. Mean age = 37 years (range 14 to 69 years)

	All with drug-resistant partial epilepsy but a few also had generalized onset and/or unclassiffed seizures Total randomized 324; 112 to PCB; 106 to 1000 mg LEV; 106 to 2000 mg LEV. 49% male. Other AEDs 1to 3. Median baseline seizure frequency/28 days = 10.4. 1000 mg LEV = 11.2; 2000 mg LEV = 10.4; PCB = 10.
Interventions	1000 mg LEV per day. 2000 mg LEV per day. PCB. All treatments and packagings were identical.
Outcomes	50% or greater reduction in seizure frequency. Treatment withdrawal. Adverse effects. Quality of life and cognitive effects.
Notes	2 participants excluded from published analysis: 1 from the PCB and 1 from the 2000 mg LEV. Quality of life was assessed using the ESI-55 for 89 participants in PCB, 92 participants in 1000 mg LEV and 2000 mg LEV. 46 participants withdrew from study; 15 from placebo; 12 from 1000 mg LEV and 19 from 2000 mg LEV group.
Allocation concealment A	

Study	**Tsai 2006 [18]**
Methods	Randomized double-blind placebo controlled parallel trial. 2 treatment arms: 1 PCB and 1 LEV. Randomization concealment: allocated sequentially sealed, numbered packages containing either levetiracetam or placebo. Random list generation: random permuted blocks. Blinding: identical tablets and packagings. Prospective pre randomization baseline period = 8 weeks. Titration period = 2 weeks. Treatment period including titration period = 14 weeks.
Participants	Multicenter across Taiwan. All adults. Mean age = 32 (range 16 to 60 years) All with drug-resistant partial epilepsy Total randomized 94; 47 to PCB; 47 to 2000 mg LEV. 45% male Other AEDs = 1 to 4. Median baseline seizure frequency/28 days = 7.2. LEV = 6.4; PCB = 8.0
Interventions	2000 mg LEV per day. PCB. All treatments and packagings were identical.
Outcomes	Logarythmically transformed weekly frequency of partial-onset seizures 50% or greater reduction in seizure frequency. Treatment withdrawal. Adverse effects.
Notes	1 participants (2000 mg LEV) excluded from published analysis. 4 participants withdrew from study; 1 from placebo; 3 from LEV group.
Allocation concealment A	

D. Oxcarbazepine

Study	**Barcs 2000 [19]**
Methods	Randomized double blind placebo controlled parallel group trial. 4 treatment groups: placebo, 600, 1200 and 2400 mg/day oxcarbazepine. Randomization concealed by allocating sequentially packed containers. Double blinded using identical preparations and packaging. Prospective pre-randomization baseline period of 8 weeks. Titration period = 2 weeks. Treatment period including titration = 28 weeks.
Participants	Multi-national All adults. Mean age = 34.5 years (range 15 to 65) All with drug-resistant partial epilepsy. Total randomized 649; 173 to PCB; 169 to OXC 600 mg; 178 to OXC 1200 mg; 174 to OXC 2400 mg. 49% male Maximum number of other AEDS permitted was 3. Median baseline seizure frequency/28 days = 10. PCB = 8.6; OXC 600 mg = 9.6; OXC 1200 mg = 9.8; OXC 2400 mg = 10.
Interventions	Oxcarbazepine 600 mg/day Oxcarbazepine 1200 mg/day oxcarbazepine Oxcarbazepine 2400 mg/day oxcarbazepine Placebo.
Outcomes	Percentage change in seizure frequency 50% or greater reduction in seizure frequency. Total number of seizures. Side effects. Liverpool seizure severity scale.
Notes	The 2400 mg/day was poorly tolerated, and the trial protocol was amended, with 43 out of 174 patients titrated to 1800 mg/day instead. 2 patients (1 taking 600 mg/day oxcarbazepine and the other 1200 mg/day placebo) had been excluded from published analyses. 297 participants withdrew from study; 49 from PCB; 39 from 600 mg OXC; 81 from 1200 mg OXC and 128 from 2400 mg OXC group.
Allocation concealment A	

E. Topiramate

Study	**Ben-Menachem 1996 [20]**
Methods	Double-blind placebo-controlled parallel group study. 2 treatment arms: 1 placebo, 1 TPM. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks. Blinding: identical tablets and packaging. Prospective pre-randomization baseline period = 8 weeks. Titration = 5 weeks. Treatment period including titration = 13 weeks.
Participants	A multi-centre study (Sweden, Norway, Denmark, Germany). All adults. Mean age = 37.2 years (range 18 to 65). All with drug-resistant partial epilepsy. Total randomized 56; 28 to PCB; 28 to TPM 800 mg. 84% males Other AEDs = 2 or less. Median baseline seizure frequency/28 days = 13. PCB = 11.4; TPM = 14.2.

Interventions	Topiramate 800 mg Placebo. All treatments and packaging were identical.
Outcomes	Per cent reduction in generalized seizure rate. Per cent responders (50% and 75%). Side effects.
Notes	No participants were excluded from the analysis. 7 people withdrew from the study: 6 from 800 mg TPM group and 1from placebo group.
Allocation concealment A	

Study	**Faught 1996 [21]**
Methods	Double-blind placebo-controlled parallel group study. 4 treatment arms: 1 placebo, 3 topiramate. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks. Binding: identical tablets and packaging. Prospective pre-randomization baseline period = 12 weeks. Titration period = 4 weeks. Treatment period including titration = 16 weeks.
Participants	USA All adults. Mean age = 37 years (range 19 to 68) All with drug-resistant partial epilepsy Total randomized 181; 45 to PCB; 45 to 200 mg per day TPM, 45 to 400 mg per day TPM, 46 to 600 mg per day TPM. 70% males. Other AEDs = 2 or less. Median baseline seizure frequency/28 days = 10.8. PCB = 10.0; 200 mg TPM = 11.5; 400 mg TPM = 11.0; 600 mg TPM = 11.2.
Interventions	Topiramate 200 mg Topiramate 400 mg Topiramate 600 mg Placebo. All treatments and packaging were identical.
Outcomes	Per cent seizure rate reduction. Per cent responders (50%). Side effects.
Notes	No participants were excluded from the analysis. 21 people withdrew from the study: 16 from TPM groups and 5 from placebo group.
Allocation concealment A	

Study	**Korean 1999 [22]**
Methods	Randomized double blind placebo controlled study. 2 treatment arms: 1 placebo, 1 TPM. Randomization concealment: sealed opaque envelopes. Random list generation: random number tables with permuted blocks of 4. Binding: double blinded using identical tablets and packaging. Prospective pre-randomization baseline period = 12 weeks. Titration period = 10 weeks. Treatment period including titration = 18 weeks.
Participants	Korea All adults. Mean age = 29 years (range 16 to 65) All with drug-resistant partial epilepsy Total randomized 177; 86 to PCB, 91 to TPM.

	54% males Other AEDs = 2 or less Median baseline seizure frequency/28 days = 5.6. PCB = 5.6; TPM = 5.6.
Interventions	Topiramate 600 mg Placebo.
Outcomes	MSFRR. 50% Responder rate. Seizure free rate. Global evaluation by participant and physician. Side effects.
Notes	3 participants were excluded from published analysis. 24 participants withdrew from the study; 9 from placebo group and 15 from TPM group.
Allocation concealment A	

Study	**Privitera 1996 [23]**
Methods	Double-blind parallel group study. 4 treatment arms: 1 placebo, 3 TPM. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks. Binding: identical tablets and packaging. Prospective pre-randomization baseline period = 12 weeks. Titration period = 6 weeks. Treatment period including titration = 18 weeks.
Participants	USA All adults. Mean age = 35 years (range 18 to 68) All with drug-resistant partial epilepsy Total randomized 190; 47 to PCB; 48 to 600 mg TPM; 48 to 800 mg TPM; 47 to 1000 mg TPM. 80% males. Other AEDs = 2 or less. Median baseline seizure frequency/28 days = 11. PCB = 9.3; 600 mg TPM = 10.0; 800 mg TPM = 16.2; 1000 mg TPM = 11.7.
Interventions	Topiramate 600 mg Topiramate 800 mg Topiramate 1000 mg Placebo. All treatments and packaging were identical.
Outcomes	Per cent seizure rate reduction. 50% responder rate.. Side effects.
Notes	No participants were excluded from analysis. 36 people withdrew from the study: 33 from TPM groups and 3 from placebo group.
Allocation concealment A	

Study	**Rosenfeld 1996 [24]**
Methods	Double-blind placebo-controlled parallel group study. 2 treatment arms: 1 placebo, 1 TPM. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks. Blinding: identical tablets and packaging. Prospective pre-randomization baseline period = 8 weeks. Titration period = ?. Treatment period = 19 weeks.

Participants	USA All adults. Mean age = ? (range 18-65) All with drug-resistant partial epilepsy Total randomized 209; 42 to PCB; 167 to 1000 mg TPM. 49% male. Other AEDs = 1. Median baseline seizure frequency/28 days = Unknown
Interventions	Topiramate 1000 mg Placebo. All treatments and packaging were identical.
Outcomes	50% responder rate.
Notes	No participants were excluded from analysis. 36 people withdrew from the study: 33 from TPM groups and 3 from placebo group.
Allocation concealment A	

Study	**Sharief 1996 [25]**
Methods	Randomized double blind placebo controlled parallel group study. 2 treatment arms: 1 placebo, 1 TPM. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks. Binding: identical tablets and packaging. Prospective pre-randomization baseline period = 8 weeks. Titration period = 3 weeks. Treatment period including titration = 11 weeks.
Participants	Sweden, Spain, UK and France All adults. Mean age = 34 (range 18 to 65) All with drug-resistant partial epilepsy Total randomized 47 people; 24 to PCB; 23 to 400 mg TPM. 85% males Other AEDs = 2 or less Median baseline seizure frequency/28 days =12.5. PCB = 10.0; TPM = 18.
Interventions	Topiramate 400 mg Placebo. All treatments and packaging were identical.
Outcomes	Per cent reduction in average seizure rate. 50% responder rate. Side effects.
Notes	No participants were excluded from the analysis. 8 participants withdrew from the study: 6 from 400 mg TPM group and 2 from placebo group.
Allocation concealment A	

Study	**Tassinari 1996 [26]**
Methods	Double-blind placebo-controlled parallel group study. 2 treatment arms: 1 placebo, 1 TPM. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks. Binding: identical tablets and packaging. Prospective pre-randomization baseline period = 8 weeks. Titration period = 4 weeks. Treatment period including titration = 12 weeks.
Participants	UK, Italy, France, Norway and Denmark. All adults. Mean age = 32.9 years (range 18 to 65). All with drug-resistant partial epilepsy Total randomized 60; 30 to PCB; 30 to 600 mg TPM.

	68% males. Other AEDs = 2 or less. Median baseline seizure frequency/28 days = 15.9. PCB = 15; TPM = 16.8.
Interventions	Topiramate 600 mg Placebo. All treatments and packaging were identical.
Outcomes	Per cent reduction in average seizure rate. 50% responders rate. Side effects.
Notes	No participants were excluded from the analysis. 7 people withdrew from the study: 5 from TPM group and 2 from placebo group.
Allocation concealment A	

Study	**Yen 2000 [27]**
Methods	Double-blind placebo controlled parallel group. 2 treatment arms: 1 placebo, 1 TPM. Randomization concealment: sequentially sealed numbered packages. Random list generation: random permuted blocks. Blinding: identical tablets and packaging. Prospective pre-randomization baseline period = 8 weeks. Titration period = 6 weeks. Treatment period including titration = 14 weeks.
Participants	China All adults. Mean age = 31 years (range 18 to 54) All with drug-resistant partial epilepsy Total randomized 46; 23 to PCB, 23 to TPM. 41% males Other AEDs up to 4 or more. Median baseline seizure frequency/28 days = 3.
Interventions	Topiramate 300 mg Placebo. All treatments and packaging were identical.
Outcomes	50% responder rate. Investigator's global evaluation. Participant's overall assessment. Side effects.
Notes	No participants were excluded from analysis. 5 participants withdrew from study; 2 from placebo and 3 from TPM group.
Allocation concealment A	

II. Characteristics of included paediatric studies

A. Gabapentin

Study	**Appleton 1999 [28]**
Methods	Randomized double blind placebo controlled parallel group study. 2 treatment arms: 1 placebo and 1 gabapentin Method of allocation concealment and blinding not described. Prospective pre randomization baseline period = 6 weeks. Titration period = 3 days. Treatment period including titration = 12 weeks.
Participants	Cross continent study. All children. Mean age = 8.4 years (range 3 to 12) all with drug-resistant partial seizures (15 to 16% had generalized seizures also). Total randomized 247; 128 to PCB; 119 to GBP. 54% male. Other AEDs < or = 3. Median baseline seizure frequency/ 28 days = 26.7. PCB = 28; GBP = 24.1.
Interventions	Gabapentin 600 to 1800 mg per day (equivalent to 23.2 to 35.3 mg/kg/day). PCB
Outcomes	50% responder rate Response ratio Adverse effects
Notes	No patient excluded. 49 participants withdrew from study; 28 from PCB and 21 from GBP group.
Allocation concealment B	

B. Lamotrigine

Study	**Duchowny 1999 [29]**
Methods	Randomized, double blind, parallel group, multicentre study. 2 treatment arms: 1 placebo, 1 lamotrigine. Random list generation: computer generated random permuted blocks. Blinding: identical tablets and packagings. Prospective pre-randomization baseline = 8 weeks. Titration period = 6 weeks. Treatment period including titration = 18 weeks
Participants	40 centres from USA and France: All children. Mean age = ? (range 2 to 16; 27% were less than 6 years old, 60% aged between 6 to 12 years and 11% were over 12 years age). All with refractory drug-resistant partial seizures Total randomized 199 children; 98 to LTG and 101 to PCB. 52% male Maximum number of other AEDs = 2. Median baseline seizure frequency/ 28 days = Unknown.
Interventions	Lamotrigine Placebo. Median dose of LTG ranged from 2.7 to 12.9 mg/kg/day depending upon concurrent use of other AEDs. Participants on valproate received lower doses. All treatments and packagings were identical and dispensed in bottles labelled with pregenerated participant numbers.
Outcomes	50% responder rates. Withdrawal from study for any reason.

	Adverse effects.
Notes	No participants were excluded from analysis. 32 participants withdrew from study; 18 from placebo and 14 from GBP group.
Allocation concealment A	

C. Levetiracetam

Study	**Glauser 2006 [30]**
Methods	Randomized double blind placebo controlled parallel group study. 2 treatment arms: 1 placebo, 1 LEV. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: computer generated random permuted blocks. Binding: identical tablets and packaging. Prospective pre-randomization baseline period = 8 weeks. Titration period = 4 weeks. Treatment period including titration = 14 weeks.
Participants	United States; Canada. All children. Mean age = 10 years (range 4 to 16). All with drug-resistant partial epilepsy. Total randomized 216: 97 to placebo and 101 to LEV 51% males Other AEDs = 2 or less Median baseline seizure frequency/28 days = 5: 5.3 for PCB, 4.7 for LEV group.
Interventions	60 mg/kg/day LEV placebo. All treatments and packaging were identical.
Outcomes	Partial seizure frequency per week during the treatment period. 50% responder rate adverse events.
Notes	18 patients had been excluded from reported analyses. 21 participants withdrew from study; 14 from placebo and 7 from LEV group
Allocation concealment A	

D. Oxcarbazepine

Study	**Glauser 2000 [31]**
Methods	Randomized double blind placebo controlled parallel group trial. 2 treatment arms = 1 OXC and 1 PCB Randomization concealed by allocating sequentially packed containers. ouble blinded using identical preparations and packaging. Pre-randomization baseline period of 8 weeks. Titration period = 2 weeks. Treatment period including titration = 16 weeks.
Participants	Multi-national, multi-centre study All children. Mean age = 11 years (range 4 to 17) All with drug-resistant partial seizures. Total randomized 267; 129 to PCB; 138 to OXC. 53% male. Maximum number of other AEDs = 2. Median baseline seizure frequency/ 28 days = 13. PCB = 13; OXC = 12.

Interventions	Oxcarbazepine Placebo Dose of oxcarbazepine was allocated according to weight: 20.0 - 29.0 kg 900 mg/day 29.1 - 39.0 kg 1200 mg/day 39.1 - 60.0 kg 1800 mg/day
Outcomes	Percentage change in seizure frequency. 50% or greater reduction in seizure frequency. Side effects.
Notes	3 patients (2 oxcarbazepine, 1 placebo) had been excluded from reported analyses. 31 participants withdrew from study; 10 from placebo and 21 from OXC group
Allocation concealment A	

E. Topiramate

Study	**Elterman 1999 [32]**
Methods	Randomized double blind placebo controlled parallel group study. 2 treatment arms: 1 placebo, 1 TPM. Randomization concealment: allocated sequentially sealed numbered packages. Random list generation: random permuted blocks. Binding: identical tablets and packaging. Prospective pre-randomization baseline period = 8 weeks. Titration period = 8 weeks. Treatment period including titration = 16 weeks.
Participants	United States; Costa Rica. All children. Mean age = 9 years (range 2 to 16). All with drug-resistant partial epilepsy. Total randomized 86: 45 to placebo and 41 to TPM. 56% males (48/86) Other AEDs = 2 or less, except for person who was on more than 2 AEDs. Median baseline seizure frequency/28 days = 21: 19 for PCB, 22 for TPM group.
Interventions	6 mg/kg/day TPM placebo. All treatments and packaging were identical.
Outcomes	median percentage reduction in average monthly partial onset seizure rate. median percentage reduction in average monthly seizure rate for secondarily generalized seizures 50% responder rate global evaluation of seizure severity adverse events.
Notes	No participant excluded; 2 withdrew from placebo group.
Allocation concealment A	

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