Q 10: In adults and children with epilepsy, which psychological interventions used as adjunctive therapies with antiepileptic drugs when compared to placebo/comparator produce benefits/harm in specified outcomes?

Background

It has been postulated that there is a relationship between behavioural, physiological and psychological states and the probability of seizure occurrence (Fenwick 1992). Epilepsy is often comorbid with anxiety, depression, behaviour problems and cognitive dysfunction. This co-morbidity may reflect a common single cause, or be due to the stigma and social handicaps associated with epilepsy or a combination of both. Psychological interventions such as psychotherapy, individual, group or family counselling, progressive relaxation therapy and cognitive behaviour therapy have been used to treat psychopathology associated with epilepsy (Davis et al, 1984; Miller 1994). According to anecdotal reports, such treatments not only alleviate anxiety, depression and behaviour problems but also reduce the seizure frequency. Epileptic seizures have been known to be precipitated by psychological triggers (internal precipitants) such as stress, anxiety, anger and emotions as well as by mental tasks and thoughts (Betts 1992; Fenwick 1994; Temkin & Davis, 1984). In reflex epilepsies such as musicogenic, photogenic, movement induced, eating or reading epilepsy, external factors may precipitate a seizure. Self induction of seizures by some people with epilepsy (waving the hand in front of eyes or blinking inducing photosensitive seizures) provides evidence that some people are aware of stimuli that precipitate their seizures.

There are anecdotal reports of people with epilepsy using behavioural methods to avoid seizures, for example an individual may recognize precipitating factors or prodromal symptoms of a seizure and initiate countermeasures (Fenwick 1994; Pritchard et al,1985; Wolf 1997). Hence the question arises as to whether psychological and behavioural methods can be used as adjunctive treatments in order to improve seizure outcomes as well as quality of life.

Population/Intervention(s)/Comparison/Outcome(s) (PICO)

Population:	adults and children with epilepsy
Interventions:	psychological interventions (relaxation therapy, cognitive-behavioural therapy, educational programmes, family counselling, yoga)
Comparison:	treatment as usual
Outcomes:	improvement in seizure frequency
	improved quality of life

List of the systematic reviews identified by the search process

Arias AJ et al (2006). Systematic review of the efficacy of meditation techniques as treatments for medical illness. *Journal of Alternate and Complementary Medicine,* 12:817-32.

Marson AG, Maguire M, Ramaratnam S (2009). Epilepsy. *Clinical Evidence (Online),* pii:1201.

Ramaratnam S, Baker GA, Goldstein LH (2008). Psychological treatments for epilepsy. *Cochrane Database of Systematic Reviews,* (3):CD002029.

Ramaratnam S, Sridharan K (2000). Yoga for epilepsy. *Cochrane Database Systematic Reviews,* (2):CD001524.

Scottish Intercollegiate Guidelines Network (SIGN) (2003). Diagnosis and management of epilepsy in adults. A National Clinical Guideline.

Stokes T et al (2004). NICE Clinical Guidelines and Evidence Review for the Epilepsies: diagnosis and management in adults and children in primary and secondary care. London: Royal College of General Practitioners.

PICO table

Serial no.	Intervention/Comparison	Outcomes	Systematic reviews used for GRADE	Explanation
I	Relaxation therapy vs. attention control	Seizure frequency	Ramaratnam et al, 2008 (Cochrane review)	Only systematic review available. Good methods.
		Quality of life (QOL)	No studies found	
	Relaxation therapy vs. no treatment	Seizure frequency	Ramaratnam et al, 2008	Only one study. Poor quality. Bias likely
		QOL	No studies found	
2	Cognitive-behavioural therapy (CBT) vs. attention control	Seizure frequency	Ramaratnam et al, 2008	Four studies included in the review – only 2 were blinded.
		QOL	No studies found	
	CBT vs. no intervention/therapy as usual	Seizure frequency	Ramaratnam et al, 2008	
		QOL	Marson et al, 2009	

	CBT vs. supportive therapy	Seizure frequency	Ramaratnam et al, 2008	
		QOL	No studies found	
3	Educational programmes vs. control	Seizure frequency	Marson et al, 2009	
		QOL	Marson et al, 2009	
4	Family counselling vs. control	Seizure frequency	No studies found	
		QOL	No studies found	
5	Yoga vs. sham yoga vs. no intervention	Seizure frequency	Ramaratnam & Sridharan, 2000	Only one study
		QOL	No studies found	

Narrative description of the studies that went into the analysis

Ramaratnam et al, 2008. Cochrane review of Psychological treatments for epilepsy. Search strategy Specialized register which includes Cochrane Controlled trials and Medline. Also hand-searches of selected journals and conference proceedings. For relaxation and seizure control found only 3 poor quality studies.

Marson et al, 2009. Search strategy: Medline, Embase, Cochrane database of Systematic review and Cochrane Central register of controlled trials, plus extra searches. Also sought retractions. Used systematic review and RCTs, blinded >20 individuals of whom >80% followed up.

Ramaratnam & Sridharan, 2000. Cochrane review of yoga and epilepsy. Search strategy Cochrane specialized register, Cochrane central register of controlled trials, Medline, Research Council for complementary medicine – plus references. Found only one small study with some significant results (wide Confidence intervals). This systematic review found no studies relating to QOL. It also refers to another publication seen only as abstract by them - what appears to be the whole reference (Lundgren et al, 2008) is a small randomised trial with no control group, described later.

SIGN 2003 – psychological treatments are not an alternative to pharmacological treatments but their use can be considered in patients with poorly controlled seizures. This is based on a body of evidence including studies rated as high quality studies, which directly applies to patients with poorly controlled seizures, and demonstrated overall consistent results.

Stokes et al, 2004 – psychological interventions may be used in conjunction with AED therapy in adults where seizure control is inadequate with optimal AED therapy. This approach may be associated with an improved QOL in some individuals. They may be used in children with drug-resistant focal epilepsy. May be used as adjunctive therapy – not an alternative to pharmacological treatment. This is based on evidence from Cochrane review - Ramaratnam et al, 2008.

Grade tables

Table 1

Author(s): G Bell T Dua N Huynh
Date: 2009-08-05
Question: Should Relaxation therapy vs. attention control be used for people with convulsive epilepsy?
Settings: not stated
Bibliography: Ramaratnam S, Baker GA, Goldstein LH (2008). Psychological treatments for epilepsy. *Cochrane Database of Systematic Reviews*, (3):CD002029.

Quality assessment							Summary of findings					Importance
							No of patients		Effect		Quality	
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	Relaxation therapy	attention control	Relative (95% CI)	Absolute		
At least 50% reduction in seizure frequency												
3	randomized trials	very serious[1]	serious[2]	serious[3]	very serious[4,5]	None	0/0 (0%)[6]	0/0 (0%)[6] 0%	not pooled	not pooled not pooled	VERY LOW	IMPORTANT
Reduction in seizure frequency (Better indicated by lower values)												
3	randomized trials	very serious[1]	serious[2]	serious[3]	very serious[7,8]	None	0	0	-	not pooled	VERY LOW	IMPORTANT

[1] Puskarich et al. 1992 has 55% who did not enter the experimental phase or did not complete the study. Puscharich et al, 1992; and Rousseau et al, 1985 randomization inadequate. Dahl et al,1985 randomization unclear.
[2] Not assessed in Cochrane review.
[3] Dahll et al, 1987 - unclear how many had convulsive seizures. Puskarich et al, 1992 - 3/24 had primary generalized seizures. Others 'partial' - unclear whether any had secondary generalization.
[4] Only 44 patients in all 3 interventions.
[5] Odds ratios for at least 50% reduction in seizure frequency: Dahl et al, 1987, OR 15.64 (95% CI 1.57 to 155.75). Puskarich et al, 1992, OR 2.56 (95% CI 0.45 to 14.44). Rousseau et al, 1985, OR 2.54 (95%CI 0.17 to 37.01).
[6] The confidence intervals are wide and given that this study is of poor methodological quality this result is unreliable. In view of the methodological deficiencies already discussed we decided against a formal meta-analysis.
[7] N = 42 for all interventions.
[8] Mean difference in seizure frequency: Dahl et al, 1987, 358.96 (95% CI -49.33 to 767.25), Puskarich et al, 1992, 27.08 (95% CI -10.49 to 64.65), Rousseau et al, 1985, 32.68 (95%I -5.56 to 70.92).

Table 2

Psychological interventions in adults and children with epilepsy

Author(s): G Bell T Dua N Huynh
Date: 2009-08-05
Question: Should relaxation therapy vs. no intervention be used for convulsive epilepsy?
Settings: not stated
Bibliography: Ramaratnam S, Baker GA, Goldstein LH (2008). Psychological treatments for epilepsy. *Cochrane Database of Systematic Reviews*, (3):CD002029.

Quality assessment							Summary of findings					
							No of patients		Effect		Quality	Importance
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	relaxation therapy	no intervention	Relative (95% CI)	Absolute		
At least 50% reduction in seizure frequency												
1	randomized trials	serious[1]	no serious inconsistency	serious[2]	very serious[3]	None	4/6 (66.7%)	0/6 (0%) 0%	OR 15.64 (1.57 to 155.75)	0 more per 1000 (from 0 more to 0 more) 0 more per 1000 (from 0 more to 0 more)	VERY LOW	IMPORTANT
Reduction in seizure frequency (Better indicated by higher values)												
1	randomized trials	serious[1]	no serious inconsistency	serious[2]	very serious[4]	None	5	6	-	MD 49.78 higher (20.78 to 78.78 higher)	VERY LOW	IMPORTANT

[1] Allocation concealment unclear, unblinded, only 1 participant in the relaxation therapy group and none among the controls were seizure free (Rousseau, 1985).
[2] Unclear how many had convulsive seizures.
[3] Total sample size = 12 although CI excludes 1. the confidence intervals are wide and given that this study is of poor methodological quality this result is unreliable. In view of the methodological deficiencies already discussed we decided against a formal meta-analysis.
[4] Total N = 11. Study mean difference excludes 0. The confidence intervals are wide and given that this study is of poor methodological quality this result is unreliable. In view of the methodological deficiencies already discussed we decided against a formal meta-analysis.

Table 3

Author(s): G Bell T Dua N Huynh
Date: 2009-08-05
Question: Should CBT vs. attention control be used for people with convulsive epilepsy?
Settings: not stated
Bibliography: Ramaratnam S, Baker GA, Goldstein LH (2008). Psychological treatments for epilepsy. *Cochrane Database of Systematic Reviews,* (3):CD002029.

Quality assessment							Summary of findings					
							No of patients		Effect		Quality	Importance
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	CBT	attention control	Relative (95% CI)	Absolute		
At least 50% reduction in seizure frequency												
1	randomized trials	serious[1]	no serious inconsistency	very serious[2]	very serious[3]	None	1/10 (10%)	2/10 (20%)	OR 0.47 (0.04 to 5.19)	95 fewer per 1000 (from 190 fewer to 365 more)	VERY LOW	IMPORTANT
								0%		0 fewer per 1000 (from 0 fewer to 0 more)		

[1] Unblinded study. Randomization method unclear.

[2] Probably 0 of 10 patients in CBT group had convulsive seizures, probably 2/10 in attention control group.

[3] total N = 20. Wide confidence intervals(cross 1).

Table 4

Author(s): G Bell T Dua N Huynh
Date: 2009-08-05
Question: Should CBT vs. no intervention be used for people with convulsive epilepsy?
Settings: not stated
Bibliography: Ramaratnam S, Baker GA, Goldstein LH (2008). Psychological treatments for epilepsy. *Cochrane Database of Systematic Reviews,* (3):CD002029.

Quality assessment							Summary of findings					
							No of patients		Effect		Quality	Importance
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	CBT	no intervention	Relative (95% CI)	Absolute		
At least 50% reduction in seizure frequency												
1	randomized trials	no serious limitations	no serious inconsistency	very serious[1]	very serious[2]	None	1/10 (10%)	1/10 (10%)	OR 1 (0.06 to 17.25)	0 fewer per 1000 (from 93 fewer to 557 more)	VERY LOW	IMPORTANT
								0%		0 fewer per 1000 (from 0 fewer to 0 more)		

[1] Probably none in CBT group had convulsive seizures. 3 in control group had 'generalized seizures'.
[2] Total N = 20. Wide confidence intervals (cross 1).

Table 5

Author(s): G Bell T Dua N Huynh
Date: 2009-08-05
Question: Should CBT vs. supportive therapy be used for people with convulsive seizures?
Settings: not stated
Bibliography: Ramaratnam S, Baker GA, Goldstein LH (2008). Psychological treatments for epilepsy. *Cochrane Database of Systematic Reviews,* (3):CD002029.

Quality assessment							Summary of findings					
							No of patients		Effect		Quality	Importance
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	CBT	supportive therapy	Relative (95% CI)	Absolute		
Seizure frequency six months after treatment (Better indicated by lower values)												
1	randomized trials	serious[1]	no serious inconsistency	serious[2]	serious[3]	none	14	13	-	MD 5.16 lower (7.18 to 3.14 lower)	VERY LOW	IMPORTANT
Seizure frequency one year after treatment (measured with: Difference in seizure frequency between the 2 groups at one year; Better indicated by lower values)												
1	randomized trials	no serious limitations	no serious inconsistency	serious[4]	serious[4]	none	14	13	-	MD 5.18 lower (7.14 to 3.22 lower)	LOW	IMPORTANT

[1] Drop out rate not mentioned.
[2] 10/14 with CBT and 9/13 with supportive therapy had GTC seizures.
[3] Total N = 27. Cochrane analysis appears to use only difference in seizure frequency at 6 months and did not correct for seizure frequency at baseline.
[4] Total N = 27. Cochrane review appears to take only the mean seizure frequency difference between the 2 groups at one year without correcting for baseline seizure frequency.

Table 6

Author(s): G Bell T Dua N Huynh
Date: 2009-08-05
Question: Should CBT vs. Therapy as usual/supportive therapy be used for People with convulsive epilepsy?
Settings: not stated
Bibliography: Marson AG, Maguire M, Ramaratnam S (2009). Epilepsy. *Clinical Evidence (Online),* pii: 1201.

Quality assessment							Summary of findings					
							No of patients		Effect		Quality	Importance
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	CBT	Therapy as usual/supportive therapy	Relative (95% CI)	Absolute		

QOL scores (Better indicated by lower values)												
2	randomized trials	serious[1]	serious[2]	serious[3]	serious[4]	none[5]	0	0	-	not pooled	VERY LOW	CRITICAL

[1] Martinovic et al, 2006 allocation concealment unclear and 2/30 withdrawals. Lundgren et L,2006 does not mention the drop out rate.

[2] Data not pooled thus I squared not calculated.

[3] In Martinovic et al, 2006, 6/15 in treatment group and 5/15 in control group had generalized seizures. In Lundgren et al, 2006, 10/14 in treatment group and 9/13 in control group had GTCS.

[4] Total N = 57.

[5] Lundgren et al, 2006 considered WHOQOL-BREF in adults with refractory epilepsy and found mean scores at 6 months of 61.21 for those with CBT and 56.08 in those with supportive therapy. Martinovic et al, 2006 considered QOLIE-31 scores in adolescents with newly diagnosed epilepsy and sub-threshold depression and found mean scores at 9 months of 56.4 with CBT and 42.23 with therapy as usual.

Table 7

Author(s): G Bell T Dua N Huynh
Date: 2009-08-05
Question: Should educational programmes vs. control be used for people with convulsive epilepsy?
Settings: not stated
Bibliography: Marson AG, Maguire M, Ramaratnam S (2009). Epilepsy. *Clinical Evidence (Online),* pii: 1201.

Quality assessment							Summary of findings					
							No of patients		Effect		Quality	Importance
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	educational programmes	control	Relative (95% CI)	Absolute		
Seizure frequency (measured with: Change in sz on a scale from 0-5. 0=no szs in 6/12, 5 = at least 1 sz daily; Better indicated by lower values)												
1	randomized trials	serious[1]	no serious inconsistency[2]	serious[3]	no serious imprecision[4]	None	113	129	-		LOW	IMPORTANT
Quality of life												
1	randomized trials	serious[1]	no serious inconsistency[2]	serious[3]	no serious imprecision[5]	None	0/0 (0%)	0/0 (0%)	RR 0 (0 to 0)	0 fewer per 1000 (from 0 fewer to 0 fewer)	LOW	CRITICAL
								0%		0 fewer per 1000 (from 0 fewer to 0 fewer)		

[1] Drop out rate 37%. Allocation concealment unclear.

[2] Only one study.

[3] 48% had GTCS.
[4] Study to evaluate an educational package (MOSES) in German speaking countries. Out of original 383 who agreed to participate, 113 had intervention and 129 had waiting list control. Outcome included seizure frequency on a scale from 0 (No seizures in previous 6/12) to 6 (at least one seizure per day). 21/113 treatment group improved by at least 2 points on the scale compared with 9/129 in the control group. 2 in the treatment group deteriorated 'markedly' compared with 6/129 in the control group.
[5] Study to evaluate an educational package (MOSES) in German speaking countries. Out of original 383 who agreed to participate, 113 had intervention and 129 had waiting list control. Outcome included HR QOL in the German version of the Short-Form 36. At 6 months, SF36 mental component 43.7 in intervention group, 42.5 in controls and SF36 physical component 50.4 in intervention group and 52.0 in controls (not corrected for baseline values).

Table 8

Author(s): G Bell T Dua N Huyhn
Date: 2009-08-06
Question: Should Yoga vs. Sham yoga (exercises mimicking yoga) be used for people with convulsive epilepsy?
Settings: not stated
Bibliography: Ramaratnam S, Sridharan K (2000). Yoga for epilepsy. *Cochrane Database Systematic Reviews,* (2):CD001524.

Quality assessment							Summary of findings					
							No of patients		Effect		Quality	Importance
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	Yoga	Sham yoga (exercises mimicking yoga)	Relative (95% CI)	Absolute		
Difference in monthly seizure frequency after 6 months (Better indicated by lower values)												
1	randomized trials	serious[1]	no serious inconsistency[2]	serious[3]	very serious[4]	None	10	10	-	MD 2.10 lower (3.15 to 1.05 lower)	VERY LOW	CRITICAL
At least 50% reduction in seizure frequency after 6 months (Odds ratio)												
1	randomized trials	serious[1]	no serious inconsistency[2]	serious[3]	very serious[4]	None	9/10 (90%)	1/10 (10%)	OR 81 (4.36 to 1504.46)	800 more per 1000 (from 226 more to 894 more)	VERY LOW	CRITICAL
								0%		0 more per 1000 (from 0 more to 0 more)		

[1] Allocation concealment inadequate.
[2] Only one study.
[3] Majority had GTCS.
[4] N=20.

Table 9

Author(s): G Bell T Dua N Huynh
Date: 2009-08-06
Question: Should Yoga vs. no intervention be used for convulsive epilepsy?
Settings: not stated
Bibliography: Ramaratnam S, Sridharan K (2000). Yoga for epilepsy. *Cochrane Database Systematic Reviews,* (2):CD001524.

Quality assessment							Summary of findings					
							No of patients		Effect		Quality	Importance
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	Yoga	no intervention	Relative (95% CI)	Absolute		
Difference in monthly seizure frequency after 6 months (Better indicated by lower values)												
1	randomized trials	serious[1]	no serious inconsistency[2]	serious[3]	very serious[4]	none	10	12	-	MD 1.1 lower (1.8 to 0.4 lower)	VERY LOW	CRITICAL
At least 50% reduction is seizure frequency after 6 months (odds ratio)												
1	randomized trials	serious[1]	no serious inconsistency[2]	serious[3]	very serious[4]	None	9/10 (90%)	0/12 (0%)	OR 158.33 (5.78 to 4335.63)	0 more per 1000 (from 0 more to 0 more)	VERY LOW	CRITICAL
								0%		0 more per 1000 (from 0 more to 0 more)		

[1] Allocation concealment inadequate.
[2] Only 1 study.
[3] Majority had GTCS.
[4] N=22.

Narrative description of studies not GRADEd

Information needs

Psychological interventions in adults and children with epilepsy

According to Stokes et al, 2004, individuals with epilepsy and their families and/or carers should be given, and have access to sources of, information and advice on avoiding high risk activities relevant to the person with epilepsy and family members (i.e., road safety and driving, recreational drugs, alcohol, and sleep deprivation).

Cognitive behavioural therapy (CBT) and epilepsy

The Cochrane review found four studies evaluating the effect of CBT on seizure control and or psychological functioning (Davis et al,1984; Lundgren et al, 2006; Martinovic et al, 2006; Tan & Bruni, 1986). The BMJ review found 2 studies (which were also included in Cochrane, but evaluated the effect of cognitive behaviour therapy (CBT) on quality of life (Lundgren et al, 2006; Martinovic et al, 2006). Davis et al, 1984 studied the effect of cognitive behaviour therapy among 15 adults with epilepsy who were also depressed. Tan & Bruni, 1986 investigated the efficacy of group cognitive behaviour therapy for the alleviation of psychosocial problems and reduction of seizures, among 30 adults with epilepsy. Lundgren et al, 2006 investigated the effects of "Acceptance and concomitant therapy for drug refractory epilepsy" among 27 South African adults who were institutionalized or day workers in a centre for epilepsy. Martinovic et al, 2006 studied 30 adolescents with newly diagnosed epilepsy and sub-threshold depression who were given either cognitive behavioural intervention or treatment with counselling as usual and assessed the effects on depression and quality of life.

Educational interventions and epilepsy

Four studies (Helgeson et al, 1990; Lewis et al, 1990; May & Pfafflin, 2002; Olley et al, 2001) assessed the outcome of educational interventions on psychosocial functioning. Helgeson et al, 1990 tested the effect of a two-day psycho- educational program (Sepulveda Epilepsy Education) among 100 adults with epilepsy. Lewis et al, 1990 investigated the effect of a child centred, family focussed, educational program on 252 children with epilepsy aged between 7 to 14 years. Self competence, changes in the children's knowledge about seizures, changes in the children's and in their parents' behaviour were studied. Olley et al, 2001 evaluated the efficacy of a two-day modular didactic psychoeducational program on adjustment to epilepsy, stigma, psychoneurotic traits, depression and knowledge of epilepsy among adult Nigerian patients. Apart from May & Pfafflin, 2002, the other studies did not investigate the outcome of their interventions on seizures.

Relaxation and behaviour therapy and epilepsy

The combined use of relaxation and behaviour therapy was evaluated in two studies. Dahl et al, 1985 investigated the effect of a broad spectrum behaviour modification therapy on seizures among 18 children with uncontrolled epilepsy, randomized to three groups: behaviour modification, attention control and control groups. Sultana 1987 (unpublished thesis) studied 150 adults with uncontrolled epilepsy randomized into a treatment group which received Jacobson's muscle relaxation and behaviour therapy and a control group in a 2:1 ratio. The outcomes studied included seizure frequency as well as psychological measures.

Other therapies and epilepsy

The Cochrane review found no randomized studies that investigated the effects of counselling, suggestion, hypnotherapy, conditioning, systematic desensitization, behavioural countermeasures, physical therapies, massage, aromatherapy, music or dance therapy.

Uncontrolled studies

A study used a multi-disciplinary approach to treat 44 patients (minimum age 9 years) with at least one complex partial seizure per month. In this uncontrolled study 35 of 44 patients achieved seizure control of 6 months. A comment was made that an attempt was made in patients on polytherapy to one drug, but no further comments are made on anti-epileptic drug usage during the study (Joy Andrews et al, 2000). Another uncontrolled study investigated the use of 'self-control' in reducing seizure frequency. All 16 patients (aged 12 to 43 years) had pharmacoresistant epilepsy. Ten had primary or secondarily generalized epilepsy. At the end of the study, 11 patients who had dealt with illness-related problems achieved better seizure control (Schmid-Schonbein, 1998).

Yoga vs. ACT

A small study in adults in India with at least one seizure per month were randomized (computer generated) to ACT (similar to CBT) or yoga. There was a significant reduction in seizure index (seizure frequency * seizure duration) in both groups, but the ACT group improved significantly more than those assigned to yoga. QOL (measured by WHOQOL-BREF) increased significantly in the ACT group, but no significant changes were shown in the group assigned to yoga (Arias et al, 2006).

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From evidence to recommendations

Factor	Explanation
Narrative summary of the evidence base	**Effect on seizure frequency:** There is a small number of studies investigating psychological treatments as adjunctive therapies for seizure control in people with epilepsy; most are small and of poor quality. Three studies considered relaxation therapy – two compared with attention control groups while the third considered also a 'no treatment' control group. One of three studies comparing relaxation with attention control found a higher number of people with at least a 50%

	reduction in seizure frequency but the numbers were small. Three studies compared CBT with attention control, no treatment (or therapy as usual) and supportive therapy. Only the CBT vs. supportive therapy found a possible beneficial effect of CBT on seizure frequency and the studies were all of low quality. An educational programme showed no effect on seizure frequency. There is possibly a beneficial effect of yoga on seizure frequency, but the study was small and the confidence intervals wide. **Effect on quality of life:** Most studies did not report on quality of life. There is possibly a beneficial effect of CBT on QOL. Many of the studies included (but not analysed) by the Cochrane review evaluated different outcomes to those we are interested in. Two studies reporting seizure reduction by behavioural and psychological methods were uncontrolled.
Summary of the quality of evidence	Almost all studies were small and of low or very low quality.
Balance of benefits versus harms	Evidence for benefit is extremely limited, and contributed to by only small low and very low quality studies. There is no evidence of any possible harm.
Values and preferences including any variability and human rights issues	Adjunctive psychosocial treatments may be useful from the patient's perspective. They may improve compliance and decrease stigma, thus improving social integration. It is possible that the results of psychosocial interventions may depend on various differences in the patients studied.
Costs and resource use and	Most psychological interventions require multiple sessions of patient training,

any other relevant feasibility issues	increasing resource use and possibly decreasing the chances of completion of the courses. Training of the trainers is also required.

Final recommendation(s)

Psychological treatments such as relaxation therapy, treatments based on cognitive behavioural therapy (CBT) principles, psychoeducational programmes and family counselling may be considered as adjunctive treatment for epilepsy.
Strength of recommendation: STANDARD

Information and advice on avoiding high risk activities and first aid relevant to the person and family members should be routinely given in a culturally appropriate and sensitive manner.
Strength of recommendation: STRONG

Update of the literature search – June 2012

In June 2012 the literature search for this scoping question was updated. The following systematic reviews were found to be relevant without changing the recommendation:

Al-aqeel S, Al-sabhan J. Strategies for improving adherence to antiepileptic drug treatment in patients with epilepsy. Cochrane Database of Systematic Reviews 2011, Issue 1. Art. No.: CD008312. DOI: 10.1002/14651858.CD008312.pub2.

Ramaratnam S, Baker GA, Goldstein LH. Psychological treatments for epilepsy. Cochrane Database of Systematic Reviews 2008, Issue 3. Art. No.: CD002029. DOI: 10.1002/14651858.CD002029.pub3.