BEST in Mental Health
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Best Evidence Summaries of Topics in Mental Healthcare

BEST *in* MH *clinical question-answering service*

Question

"In adults with non-epileptic attack disorder, how effective are psychological and behavioural therapies, compared to any other intervention, for reducing seizures?"

Clarification of question using PICO structure

Patients:	Adults with non-epileptic attack disorder
Intervention:	Psychological and behavioural therapies
Comparator:	Any other intervention
Outcome:	Reducing seizures

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Clinical and research implications

Evidence from one high quality systematic review and two poor quality pilot RCTs indicates that there is a lack of evidence to support the use of CBT or other psychotherapy or educational programmes in adults with non-epileptic attack disorder. Further large-scale RCTs, ideally with blinding of outcome assessments, are needed to provide evidence for this question.

What does the evidence say?

Number of included studies/reviews (number of participants)

One systematic review (Martlew (1)) containing 12 studies (343 participants), and two pilot randomised controlled trials (RCTs) containing 64 participants (Chen (2)) and 19 participants (Thompson (3)) provided evidence for this question.

Main Findings

The systematic review (1) included one RCT and six observational before and after design studies which were relevant to the population in this question. The RCT (66 participants) found a significant reduction in monthly seizure frequency with CBT compared with standard care. The six observational studies (120 participants) reported some benefits of CBT, psychotherapy or a mixed intervention on reducing seizure frequency but the studies were small and it was not always clear if they were statistically significant or not.

The two RCTs were both pilot trials, so were on a small scale and not designed to find statistically significant between group differences. One compared a brief group psychoeducation session to treatment as usual and found no significant differences between them in seizure frequency or reported seizure intensity (2). The other trial compared a brief educational intervention given whilst the participants were still in hospital to treatment as usual and found no significant decreases in frequency or the intensity of seizures in either group, however results comparing the groups were not reported (3).

Authors Conclusions

The systematic review concluded that there is little reliable evidence to support the use of any treatment, including CBT, in the treatment of non-epileptic seizures and that further RCTs of CBT and other interventions are needed. The trial of psychoeducation concluded that their findings suggested that their cost and resource effective, brief group psychoeducational programme, when provided early and by the same team who diagnosed PNES, may contribute to significant functional improvement among participating patients. The group education trial concluded that their supportive intervention assists patients to accept the functional or nonorganic nature of their symptoms and the need to psychological services (the primary outcome of this trial was whether participants made and kept an appointment with a mental health professional).

Reliability of conclusions/Strength of evidence

The systematic review was a high quality Cochrane review, conducted using appropriate systematic review methods and its conclusions are likely to be reliable. The only relevant RCT within it was considered to be at low risk of bias and it did find a statistically significant reduction in monthly seizure frequency with CBT. The two RCTs were both small pilot studies and neither reported any significant differences or reductions in seizure frequency with psychoeducation or educational interventions. These trials were both considered to be at high risk of bias, no blinding was reported (although it was unlikely to have been possible to blind participants and researchers), one had a high dropout rate and the other had very poor reporting of outcomes (no numerical results and not always reporting the between group comparisons). On the whole there is a lack of evidence to support the use of CBT in reducing seizure frequency, as reflected by the conclusion of the systematic review.

What do guidelines say?

Although not about specific treatments, NICE guidelines (CG 137, 2013) make the following recommendations regarding non-epileptic attack disorder:

"Where non-epileptic attack disorder is suspected, suitable referral should be made to psychological or psychiatric services for further investigation and treatment." (p.18)

SIGN guidelines do not make recommendations regarding treatment for non-epileptic attack disorder.

Date question received: 12/08/2014
Date searches conducted: 02/09/2014
Date answer completed: 05/10/2014

References

SRs

Martlew, J., Pulman, J., Marson, A.G. (2014) Psychological and behavioural treatments for adults with non-epileptic attack disorder. *Cochrane Database of Systematic Reviews*, Issue 2.

RCTs

Chen, D. K., Maheshwari, A., Franks, R., Trolley, G. C., Robinson, J. S., & Hrachovy, R. A. (2014). Brief group psychoeducation for psychogenic nonepileptic seizures: A neurologist-initiated program in an epilepsy center. *Epilepsia*, *55*(1), 156-166.

Thompson, N., Connelly, L., Peltzer, J., Nowack, W. J., Hamera, E., & Hunter, E. E. (2013). Psychogenic nonepileptic seizures: a pilot study of a brief educational intervention. *Perspectives in psychiatric care*, *49*(2), 78-83.

Guidelines

National Institute for Health and Care Excellence. (2013). The epilepsies: the diagnosis and management of the epilepsies in adults and children in primary and secondary care. CG137. National Institute for Health and Care Excellence: London.
http://www.nice.org.uk/guidance/cg137/resources/guidance-the-epilepsies-the-diagnosis-and-management-of-the-epilepsies-in-adults-and-children-in-primary-and-secondary-care-pdf

Results

Systematic Reviews

Author (year)	Search Date	Inclusion criteria	Number of included studies	Summary of results	Risk of bias
Martlew et al. (2014)	04/02/2013	*Participants*: Adult males or females with any type of non-organic, non-epileptic seizures, with or without learning disabilities. *Intervention*: Any behavioural or psychological intervention, such as cognitive behaviour therapy, relaxation therapy, biofeedback, counselling, hypnotherapy, conditioning, physical therapies, massage or aromatherapy. *Comparator*: Any other intervention, or usual care or no treatment. *Outcome*: Primary outcome: Seizure reduction (≥ 50% reduction in seizure frequency, seizure freedom, percentage change in seizure frequency). Secondary outcomes: quality of life, seizure severity (using a standardised and validated scale e.g. Quality of Life in Epilepsy). *Study design*: Randomised or quasi-randomised controlled trials. Trials could be single-blind, double-blind or unblinded. Before and after studies with or without a control group.	12 (total *N* = 343)	Four RCTs were included, of which only one was of participants with non-epileptic seizures, the other three had a mixed diagnosis (pseudoseizures, conversion disorder and somatisation disorder). The other eight studies were before and after uncontrolled studies, mostly of non-epileptic seizure participants. The RCT relevant to this question (non-epileptic seizure disorder) compared CBT to standard therapy in 66 participants (mean age 36.5 years). It was a good quality trial and reported a significant decrease (p=0.002) in monthly seizure frequency with CBT compared to control. Six before and after studies (120 participants) also provided evidence for this population. These studies were considered to be low quality. One evaluated CBT (21 participants) and five evaluated various	Low The inclusion criteria were pre-specified and clear. Inclusion screening, data extraction and risk of bias assessment were performed by two review authors independently. Risk of bias was assessed using the Cochrane risk of bias tool.

				types of psychotherapy (study sizes ranged from 10 to 33). The CBT study found that 16/21 participants had a more than 50% reduction in seizure frequency and 121/17 had no seizure by the end of 12 sessions (p=0.001). The four psychotherapy studies and the mixed intervention study also reported reductions in seizure frequency and some increases in the numbers who were seizure free, but it was unclear if some of these results were statistically significant.	Due to differences between studies a meta-analysis was not possible so results were presented in a narrative.

RCTs

Author (year)	**Inclusion criteria**	**Number of participants**	**Summary of results**	**Risk of bias**
Chen et al. (2014)	*Participants*: Adult patients who have demonstrated non-epileptic events, interpreted to be of psychogenic origin based on combined features of ictal semiology, psychosocial history, and the results from psychological screening instruments. Exclusion criteria: (1) main place of dwelling beyond commutable distance; (2) suspected mixed disorder of	*N* = 64 (intervention = 34; control = 30)	Participants receiving group psychoeducation attended three sessions which were led by either a neurologist or neurology nurse practitioner. Partners and family member could also attend the sessions. Out of those who attended all 3 sessions, 65% completed the intervention within 3 months and 35% completed within 5 months. Group sizes per session ranged from 3 to 10. Outcomes were assessed between 3 and 5 months, and between 6	High The method of random assignment was appropriate but it was unclear if there was any allocation concealment. Random numbers were used

	psychogenic nonepileptic seizures (PNES) and epilepsy; and, (3) Mini-Mental Status Exam score of <25, when assessed during the EMU admission. *Intervention*: Brief group psychoeducation, consisting of 3 successive monthly sessions, each 1.5 hour long. In session 1, patients were taught concepts aiming to promote the acceptance of PNES as legitimate but manageable behavioural disruptions, rather than as exasperating, life-threatening events. Sessions 2 and 3 were in a support group format. The facilitator directed discussions regarding how physical manifestations can frequently arise from underlying emotional causes (e.g., stress ulcers, stage fright), with the aim of empowering patients to take active roles toward their own recovery. *Comparator*: Care as usual (e.g., follow-up visits to the seizure clinics, and referral to mental health services if applicable). *Outcome*: Primary outcome: impairment of psychosocial functioning (Work and Social Adjustment Scale); and assessment of patients' perceived progress regarding seizure frequency and intensity. Secondary outcomes: PNES-related emergency room visits or hospitalisations; the development of any new and disabling		and 8 months after discharge. The mean participant age was 50.7 years and 75% were male. The mean number of axis I and II disorders was 2.1 (SD 1.14), 23% were receiving concurrent counselling therapy and most participants were experiencing daily or weekly seizures (70%). The mean duration of seizure history was 96 months (SD 109). For seizure frequency, no significant differences were seen between the groups at either the first (p=0.359) or second follow-up assessment (p=0.394). There were also no significant between group differences for reported seizure intensity (p=0.504 first follow-up, p=0.437 second follow-up). One participant from the psychoeducation group and five from the control group needed emergency room visits or hospitalisation for PNES related symptoms (p=0.184).	but then odd or even numbers were assigned different groups, so it is possible the allocation could have been altered. Due to the nature of the interventions it would not have been possible to blind the participants or researchers. Participant reported outcomes could also not be blinded, but it was not reported if objective outcomes (e.g. hospital visits) were collected without knowledge of the treatment group. Dropout rates were high (36%) and it was not reported if ITT analysis was used. All outcomes appear to

	symptoms for which causes have not been readily explained medically; knowledge and perception of PNES.			have been reported. This was a pilot trial and was not powered to detect significant differences in outcome.
Thompson et al. (2013)	*Participants*: Adults, aged 18-66 with a diagnosis of PNES established by a neurologist using exam, history and video-EEG of a typical event; and no comorbid neurological disease or confirmed medical condition causing the seizures. Exclusion criteria: patients with legal guardians; concurrent epilepsy; and history of psychiatric disorders that included psychotic features (hallucinations and/or delusions). *Intervention*: Brief educational intervention given whilst participants were still in hospital to discuss the challenges or difficulties they have encountered while living with seizures. Reframing was used, to assist them to view negative information in a positive perspective and understand and accept the diagnosis. Reframing included (a) identification of the participants' strengths, (b) assessment of the participants' point of view about the diagnosis, (c) addressing feelings of stigma	N = 19	The educational intervention was given by the attending neurologist who did not have any contact with the control group. Outcomes were measured in a telephone interview 6 to 8 weeks after discharge. A decrease in seizure frequency of more than 25% was considered clinically significant (one less seizure per week). There were 25 participants who consented to the study but 3 were not eligible and 3 could not be contacted for the follow-up telephone interview, so 19 were finally included. The mean participant age was 33 years and 63% were aged between 18 and 32 years, 60% were female. No significant decreases in frequency or the intensity of seizures were seen in either group. No results were reported for the difference between groups and no numerical data were reported (means or p-values).	High The method of random assignment was appropriate (random number table) but it was unclear if there was any allocation concealment. Due to the nature of the interventions it would not have been possible to blind the participants or researchers. Participant reported outcomes could also not be blinded. Loss to follow-up was fairly low (8.6%) and

	or shame, and (d) discussing the contribution of their individual life stressors and encouraging the acceptance of psychological services post-discharge. *Comparator*: Treatment as usual, including advice about seeking mental health care and a possible referral. *Outcome*: Primary outcome: making and/or keeping an appointment with a mental health professional. Secondary outcomes: number and quality of seizures, and quality of life (Quality of Life in Epilepsy).			unlikely to be related to treatment (unable to contact participants). The reporting of outcomes was poor, there were no tables or figures of results and not all had numerical data (e.g. seizure frequency and intensity). This was a pilot trial and was not powered to detect significant differences in outcome.

Risk of Bias:

SRs

Author (year)	Risk of Bias				
	Inclusion criteria	Searches	Review Process	Quality assessment	Synthesis
Martlew et al. (2014)	☺	☺	☺	☺	☺

RCTs

Study	RISK OF BIAS					
	Random allocation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective Reporting
Chen et al. (2014)	☺	?	☹	☹	☹	☺
Thompson et al. (2013)	☺	?	☹	☹	☺	☹

☺Low Risk ☹High Risk ? Unclear Risk

Search Details

Source	Search Strategy	Number of hits	Relevant evidence identified
SRs and Guidelines			
NICE	non-epileptic seizures treatments	6	1
Primary studies			
CENTRAL	#1 non-epileptic:ti,ab,kw 17 #2 nonepileptic25 #3 pseudoseizure*8 #4 pseudo-seizure4 #5 psychogenic near seizure*15 #6 psychogenic near attack*3 #7 psychogenic near seizure*15 #8 pseudo near seizure5 #9 pseudo near attack3 #10 {or #1-#9}55 #11 2013 or 2014113457 #12 #10 and #11 = 13 (3 in central)	3	1
PsycINFO	1. PsycINFO; (nonepileptic adj3 (attack* OR seizure*)).ti,ab; 451 results. 2. PsycINFO; (non-epileptic adj3 (attack* OR seizure*)).ti,ab; 218 results. 3. PsycINFO; (psychogenic adj3 (attack* OR seizure*)).ti,ab; 559 results. 4. PsycINFO; (pseudo* adj3 (attack* OR seizure*)).ti,ab; 104 results. 5. PsycINFO; pseudoseizure*.ti,ab; 205 results. 6. PsycINFO; 1 OR 2 OR 3 OR 4 OR 5; 981 results. 7. PsycINFO; exp PSYCHOTHERAPY/; 177311 results.	29	2

	8. PsycINFO; exp COGNITIVE THERAPY/; 11692 results. 9. PsycINFO; exp GROUP PSYCHOTHERAPY/; 19783 results. 10. PsycINFO; (psychotherap* OR psychodynam* OR psychoanaly*).ti,ab; 155112 results. 11. PsycINFO; ((behavio* OR cognitive OR group) adj2 therap*).ti,ab; 41876 results. 12. PsycINFO; "transactional analy*".ti,ab; 1377 results. 13. PsycINFO; (solution* adj2 focus*).ti,ab; 1531 results. 14. PsycINFO; (DBT OR CBT).ti,ab; 8620 results. 15. PsycINFO; "schema therapy".ti,ab; 212 results. 16. PsycINFO; psychoeducation*.ti,ab; 6207 results. 17. PsycINFO; formulation.ti,ab; 13537 results. 18. PsycINFO; 6 OR 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 15 OR 16 OR 17; 276730 results. 19. PsycINFO; 6 AND 18; 981 results. 20. PsycINFO; 19 [Limit to: Publication Year 2013-2014]; 87 results. 21. PsycINFO; CLINICAL TRIALS/; 7858 results. 22. PsycINFO; random*.ti,ab; 132825 results. 23. PsycINFO; groups*.ti,ab; 372632 results. 24. PsycINFO; (doubl* adj3 blind*).ti,ab; 18500 results. 25. PsycINFO; (singl* adj3 blind*).ti,ab; 1676 results. 26. PsycINFO; EXPERIMENTAL DESIGN/; 9248 results. 27. PsycINFO; controlled.ti,ab; 82406 results. 28. PsycINFO; (clinical adj3 study).ti,ab; 8068 results. 29. PsycINFO; trial.ti,ab; 69884 results. 30. PsycINFO; "treatment outcome clinical trial".md; 27657 results.		

	31. PsycINFO; 21 OR 22 OR 23 OR 24 OR 25 OR 26 OR 27 OR 28 OR 29 OR 30; 577576 results. 32. PsycINFO; 19 AND 31; 222 results. 33. PsycINFO; 32 [Limit to: Publication Year 2013-2014]; 29 results.		
Embase	35. EMBASE; (nonepileptic adj3 (attack* OR seizure*)).ti,ab; 817 results. 36. EMBASE; (non-epileptic adj3 (attack* OR seizure*)).ti,ab; 838 results. 37. EMBASE; (psychogenic adj3 (attack* OR seizure*)).ti,ab; 1140 results. 38. EMBASE; (pseudo* adj3 (attack* OR seizure*)).ti,ab; 429 results. 39. EMBASE; pseudoseizure*.ti,ab; 431 results. 40. EMBASE; 35 OR 36 OR 37 OR 38 OR 39; 2490 results. 41. EMBASE; (psychotherap* OR psychodynam* OR psychoanaly*).ti,ab; 61797 results. 42. EMBASE; ((behavio* OR cognitive OR group) adj2 therap*).ti,ab; 42058 results. 43. EMBASE; "transactional analy*".ti,ab; 235 results. 44. EMBASE; (solution* adj2 focus*).ti,ab; 623 results. 45. EMBASE; (DBT OR CBT).ti,ab; 9394 results. 46. EMBASE; "schema therapy".ti,ab; 109 results. 47. EMBASE; psychoeducation*.ti,ab; 3865 results. 48. EMBASE; formulation.ti,ab; 87305 results. 49. EMBASE; exp PSYCHOTHERAPY/; 181337 results. 50. EMBASE; 41 OR 42 OR 43 OR 44 OR 45 OR 46 OR 47 OR 48 OR 49; 313527 results. 51. EMBASE; 40 AND 50; 261 results.	4	0

	52. EMBASE; random*.tw; 893332 results. 53. EMBASE; factorial*.tw; 23185 results. 54. EMBASE; placebo*.tw; 200795 results. 55. EMBASE; (crossover* OR cross-over*).tw; 69461 results. 56. EMBASE; (doubl* adj3 blind*).tw; 142856 results. 57. EMBASE; (singl* adj3 blind*).tw; 16939 results. 58. EMBASE; assign*.tw; 240434 results. 59. EMBASE; allocat*.tw; 84606 results. 60. EMBASE; volunteer*.tw; 176944 results. 61. EMBASE; CROSSOVER PROCEDURE/; 39924 results. 62. EMBASE; DOUBLE-BLIND PROCEDURE/; 115016 results. 63. EMBASE; SINGLE-BLIND PROCEDURE/; 18707 results. 64. EMBASE; RANDOMIZED CONTROLLED TRIAL/; 348266 results. 65. EMBASE; 52 OR 53 OR 54 OR 55 OR 56 OR 57 OR 58 OR 59 OR 60 OR 61 OR 62 OR 63 OR 64; 1423351 results. 66. EMBASE; 51 AND 65; 34 results. 67. EMBASE; 66 [Limit to: Publication Year 2013-2014]; 4 results.		
Medline	68. MEDLINE; (nonepileptic adj3 (attack* OR seizure*)).ti,ab; 555 results. 69. MEDLINE; (non-epileptic adj3 (attack* OR seizure*)).ti,ab; 428 results. 70. MEDLINE; (psychogenic adj3 (attack* OR seizure*)).ti,ab; 722 results. 71. MEDLINE; (pseudo* adj3 (attack* OR	4	0

	seizure*)).ti,ab; 336 results. 72. MEDLINE; pseudoseizure*.ti,ab; 319 results. 73. MEDLINE; 68 OR 69 OR 70 OR 71 OR 72; 1648 results. 74. MEDLINE; (psychotherap* OR psychodynam* OR psychoanaly*).ti,ab; 45601 results. 75. MEDLINE; ((behavio* OR cognitive OR group) adj2 therap*).ti,ab; 30770 results. 76. MEDLINE; "transactional analy*".ti,ab; 166 results. 77. MEDLINE; (solution* adj2 focus*).ti,ab; 464 results. 78. MEDLINE; (DBT OR CBT).ti,ab; 6582 results. 79. MEDLINE; "schema therapy".ti,ab; 66 results. 80. MEDLINE; psychoeducation*.ti,ab; 2680 results. 81. MEDLINE; formulation.ti,ab; 66380 results. 82. MEDLINE; exp PSYCHOTHERAPY/; 152693 results. 83. MEDLINE; 74 OR 75 OR 76 OR 77 OR 78 OR 79 OR 80 OR 81 OR 82; 253973 results. 84. MEDLINE; 73 AND 83; 172 results. 85. MEDLINE; "randomized controlled trial".pt; 386360 results. 86. MEDLINE; "controlled clinical trial".pt; 89697 results. 87. MEDLINE; placebo.ab; 158852 results. 88. MEDLINE; random*.ab; 719668 results. 89. MEDLINE; trial.ti; 132282 results. 90. MEDLINE; CLINICAL TRIALS AS TOPIC/; 172130 results. 91. MEDLINE; 85 OR 86 OR 87 OR 88 OR 89 OR 90; 1101060 results. 92. MEDLINE; exp ANIMALS/ NOT HUMANS/; 3998550 results. 93. MEDLINE; 91 NOT 92; 1006858 results.		

	94. MEDLINE; 84 AND 93; 26 results. 95. MEDLINE; 94 [Limit to: Publication Year 2013-2014]; 4 results.		
Summary	**NA**	**NA**	

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