

# Best Evidence Summaries of Topics in Mental Healthcare

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

## Question

“In adults with obsessive compulsive disorder (OCD) and panic, how effective is systematic desensitisation or graded exposure, compared to any other intervention, in reducing OCD and panic?”

## Clarification of question using PICO structure

<i>Patients:</i>	Adults with OCD and panic
<i>Intervention:</i>	Systematic desensitisation or graded exposure
<i>Comparator:</i>	Any other intervention
<i>Outcome:</i>	Panic and OCD symptoms

## **Clinical and research implications**

The results of one methodologically weak systematic review and a second, high quality systematic review, (which included a subset of studies from the first review) consistently indicated that therapist-guided Exposure Response Prevention (ERP) behavioural therapy is likely to be effective in reducing obsessive-compulsive symptoms in adults with obsessive compulsive disorder (OCD). The available evidence suggested that self-applied ERP may not be effective. Similarly, the available evidence suggested that ERP is not effective in reducing symptoms of anxiety.

Larger, high quality randomised controlled trials are needed to fully explore the effects of ERP in people with OCD. In particular, studies should address effectiveness in people with different levels of disease severity.

## **What does the evidence say?**

### ***Number of included studies/reviews (number of participants)***

We identified two systematic reviews that included some data relevant to this evidence summary.<sup>1,2</sup> Both reviews assessed the effectiveness of psychological interventions for the treatment of adults with obsessive compulsive disorder (OCD). One review included any controlled study that compared a psychological intervention to a placebo or waiting list control.<sup>1</sup> This review included 19 studies, of which 18 reported data on an intervention that included a component of Exposure with Response Prevention (ERP).<sup>1</sup> The second review included only randomised controlled trials (RCTs) that compared a psychological intervention to usual care.<sup>2</sup> This review included only three studies that assessed an ERP intervention, all of which were also included in the first review.<sup>2</sup>

### ***Main Findings***

The results of both systematic reviews indicated that treatment with behavioural therapy (ERP) was associated with a reduction in obsessive-compulsive symptoms.<sup>1,2</sup> The first review reported an effect size (based on standardised mean difference) of 1.127 (95% CI: 0.802 to 1.452), based on data from 13 controlled studies.<sup>1</sup> The second review reported a weighted mean difference (WMD), of -11.73 (95% CI: -14.52 to -8.95), indicating that ERP was associated with a greater reduction in symptoms than usual care; this estimate was based on data from three RCTs, all of which were also included in the first systematic review.<sup>2</sup> Subgroup analyses, reported in the first review, indicated that the most effective methods of ERP were those that used therapist-guided exposure and those that combined exposure in vivo with exposure in imagination.<sup>1</sup> Sub-group analysis showed no significant treatment effect when ERP was self-applied.<sup>1</sup> All three of the RCTs included in the second systematic review used therapist-guided interventions.<sup>2</sup> Data from both reviews indicated that ERP had no significant effect on symptoms of anxiety.<sup>1,2</sup>

### ***Authors Conclusions***

One systematic review concluded that both ERP and CR are effective in reducing obsessive-compulsive symptoms in patients with OCD. This review further concluded that the most effective methods of ERP were those that used therapist-guided exposure and those that combined exposure in vivo with exposure in imagination; evidence did not support the effectiveness of self-application of ERP. The second systematic review concluded that psychological treatments derived from cognitive behavioural models are an effective treatment for adult patients with obsessive

compulsive disorder and that more research is needed to assess the effectiveness of behavioural treatments and other psychological approaches.

### ***Reliability of conclusions/Strength of evidence***

Data from one methodologically weak systematic review and one high quality Cochrane systematic review consistently indicated that ERP is likely to be effective in reducing obsessive-compulsive symptoms in adults with OCD. However, there was no evidence to suggest that ERP is effective in reducing anxiety.

### **What do guidelines say?**

Neither National Institute for Health and Care Excellence (NICE) nor Scottish Intercollegiate Guidelines Network (SIGN) guidelines discuss the use of systematic desensitisation or graded exposure for OCD.

**Date question received:** 08/02/2007  
**Date searches conducted:** 24/07/2014, updated from 12/03/2007  
**Date answer completed:** 01/09/2014

### **References**

#### **SRs**

1. Rosa-Alcazar AI, Sanchez-Meca J, Gomez-Conesa A, et al. Psychological treatment of obsessive-compulsive disorder: a meta-analysis. *Clin Psychol Rev* 2008;28:1310–1325.
2. Gava I, Barbui C, Aguglia E, et al. Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD). In: *The Cochrane Library*, Issue 2, 2011. Chichester, UK: John Wiley & Sons, Ltd. Search date 2006.

## Results

### Systematic reviews

Author (year)	Search Date	Inclusion criteria	Number of included studies	Summary of results	Risk of bias
Rosa-Alcazar (2008)	1908-2006	<p><i>Participants:</i> Adults diagnosed with OCD using explicit, standardised criteria (any version of DSM or ICD)</p> <p><i>Intervention:</i> Psychological treatment (Exposure with Response Prevention (ERP), Cognitive Restructuring (CR), or ERP+CR combined)</p> <p><i>Comparator:</i> Placebo or waiting list control</p> <p><i>Outcomes:</i> Not specified; results were reported as 'measures of obsession and compulsion' and 'measures of depression'</p> <p><i>Study design:</i> Any design which included a control group and had at least five participants in each group</p>	<p>19 studies, reporting 24 comparisons (n=752 participants; 431 treatment and 321 control)</p> <p>18 studies reported data on the effectiveness of ERP or ERP+CR</p>	<p>This review aimed to assess the effectiveness of behavioural and cognitive approaches for the treatment of people with OCD.</p> <p>The mean age of study participants ranged from 30 to 39 years, and between 2% and 58% were male. ERP was the most frequently reported psychological intervention technique (21 comparisons). Most methods were based on exposure in vivo (13 comparisons), or a combination exposure in vivo with exposure in imagination (7 comparisons). Seventeen comparisons applied therapist-guided exposure and three applied therapist-assisted self-exposure. The duration of interventions that included ERP ranged from 3 to 20 weeks.</p> <p>ERP improved symptoms of obsessions</p>	<p>No specific objective was stated; some appropriate inclusion criteria were defined, but outcome measures were not pre-specified.</p> <p>The literature search included a range of bibliographic databases, as well as supplementary reference screening. However, inclusion was restricted to studies published in English, French or</p>











			<p>and compulsions, compared to control groups (standardised mean difference (SMD) 1.127 (95% CI: 0.802 to 1.452)), based on 13 comparisons. The effect size was similar for ERP + CR combined (SMD 0.998 (95% CI: 0.559 to 1.437)), based on 8 comparisons.</p> <p>Therapist-guided exposure showed a larger mean effect size than therapist assisted self-exposure (SMD 1.217 (95% CI: 0.910 to 1.524) based on 17 comparisons, versus SMD 0.480 (95% CI: -0.204 to 1.164), based on 3 comparisons). Exposure in vivo combined with exposure in the imagination was more effective than in vivo exposure alone (SMD 1.303 (95% CI: 0.850 to 1.756), based on 7 comparisons, versus SMD 0.976 (95% CI: 0.644 to 1.307), based on 13 comparisons. Group training and individual training were similarly effective. Self-reports gave a smaller mean effect size than clinician assessments. However, these data were for all studies (including any psychological intervention (ERP, CR, or ERP+CR)); stratified data were not</p>	<p>Spanish, raising the possibility that relevant studies may have been omitted.</p> <p>No details of the review process were reported, so that it was not possible to assess the potential for error and/or bias in the study selection a data extraction processes.</p> <p>No formal assessment of the methodological quality of the included studies was reported. The possible effects of some aspects of study design were included in the meta-analysis.</p>
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				<p>reported separately for ERP.</p> <p>Some limited data were reported for measures of general anxiety. For all psychological interventions, the summary effect measure showed borderline statistical significance (SMD 0.674 (95% CI: 0.333 to 1.014), <math>p=0.056</math>), based on 10 comparisons.</p> <p>Data were also reported for depression, social adjustment, 'global results', and 'other outcomes'.</p>	<p>The meta-analytic methods used were broadly appropriate.</p>
Gava 2011	31/10/2006	<p><i>Participants:</i> Adults (16 to 65 years), with a diagnosis of OCD using standard criteria (DSM or ICD), treated in any setting</p> <p><i>Intervention:</i> psychological treatments, grounded within an explicit orientation, structured, delivered on an individual or group basis</p> <p><i>Comparator:</i> Treatment as usual</p> <p><i>Outcomes:</i> The primary outcome was measures of obsessive compulsive symptoms. Secondary outcomes: drop-out rates; depressive symptoms; anxiety symptoms; quality of life; absence of treatment response</p>	8 studies, of which 3 assessed ERP	<p>This review aimed to assess the effectiveness of psychological interventions, compared to treatment as usual, for the treatment of people with OCD.</p> <p>The review included only three studies that assessed the effectiveness of behavioural interventions (ERP), all of which were also included in the Rosa-Alcazar review described above.</p> <p>Meta-analysis, based on these three studies, indicated that ERP significantly reduced obsessive compulsive symptoms compared to usual care</p>	<p>The review stated a clear research question and defined appropriate inclusion criteria.</p> <p>Searches included a range of bibliographic databases and were supplemented by sources for unpublished material. No restrictions on</p>


		<p><i>Study design:</i> Randomised controlled trials (RCTs)</p>		<p>(weighted mean difference (WMD) - 11.73 (95% CI: -14.52 to -8.95)). Analysis, based on two studies, showed no statistically significant effect on anxiety symptoms.</p>	<p>language of publication status were applied.</p> <p>The review process included measures to minimise error and bias (involvement of at least two reviewers throughout).</p> <p>The methodological quality of included studies was assessed and results were reported.</p> <p>The meta-analytic methods used were broadly appropriate.</p>
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
**Risk of bias:**

**SRs**

Author (year)	Risk of bias				
	Inclusion criteria	Searches	Review process	Quality assessment	Synthesis
Rosa-Alcazar (2008)					
Gava (2011)					

 Low Risk

 High Risk

 Unclear Risk



## Search details

Source	Search strategy	Number of hits	Relevant evidence identified
<b>SRs and Guidelines</b>			
NICE	Obsessive-Compulsive Disorder	49	0
DARE	(grade* ADJ2 exposur*) IN DARE WHERE LPD FROM 12/03/2007 TO 24/07/2014 4 Delete 2 MeSH DESCRIPTOR Desensitization, Psychologic EXPLODE ALL TREES 28 Delete 3 (desensitis* OR desensitiz* OR de-sensitiz* OR de-sensitis*) IN DARE WHERE LPD FROM 12/03/2007 TO 24/07/2014 73 Delete 4 #1 OR #2 OR #3 96 Delete 5 (obsess* OR compulsi* OR OCD) IN DARE WHERE LPD FROM 12/03/2007 TO 24/07/2014 87 Delete 6 (panic*) IN DARE WHERE LPD FROM 12/03/2007 TO 24/07/2014 74 Delete 7 (anxiet* OR anxious) IN DARE WHERE LPD FROM 12/03/2007 TO 24/07/2014 862 Delete 8 MeSH DESCRIPTOR Obsessive-Compulsive Disorder EXPLODE ALL TREES 46 Delete 9 MeSH DESCRIPTOR Panic Disorder EXPLODE ALL TREES 50 Delete 10 MeSH DESCRIPTOR Panic EXPLODE ALL TREES 4 Delete 11 MeSH DESCRIPTOR Anxiety EXPLODE ALL TREES 240 Delete 12 MeSH DESCRIPTOR Anxiety Disorders EXPLODE ALL TREES 422 Delete 13 #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 1230 Delete 14 #4 AND #13	43	
<b>Primary studies</b>			
CENTRAL	#1 "obsessive compulsive":ti,ab,kw (Word variations have been searched) 1463 #2 MeSH descriptor: [Obsessive-Compulsive Disorder] explode all trees 649 #3 Enter terms for search #1 or #2#1 or #2 1465 #4 Enter terms for search	8	0

	<p>panicpanic 2229  #5 MeSH descriptor: [Panic Disorder] explode all trees  757  #6 MeSH descriptor: [Panic] explode all trees  258  #7 Enter terms for search  #4 or #5 or #6#4 or #5 or #6 2229  #8 Enter terms for search  exposureexposure 20419  #9 Enter terms for search  desensitization or desensitisationdesensitization or desensitisation 2103  #10 Enter terms for search  "response prevention""response prevention" 135  #11 MeSH descriptor: [Implosive Therapy] explode all trees  147  #12 MeSH descriptor: [Desensitization, Psychologic] explode all trees  471  #13Enter terms for searc{or #8-#12}22145  #14Enter terms for searc#3 and #7 and #13 13</p>		
PsycINFO	<ol style="list-style-type: none"> <li>1. PsycINFO; "obsessive compulsive disorder".ti,ab; 10334 results.</li> <li>2. PsycINFO; OBSESSIVE COMPULSIVE DISORDER/; 10097 results.</li> <li>3. PsycINFO; 1 OR 2; 12526 results.</li> <li>4. PsycINFO; "exposure and response prevention".ti,ab; 601 results.</li> <li>5. PsycINFO; graduated-exposure.ti,ab; 79 results.</li> <li>6. PsycINFO; graded-exposure.ti,ab; 125 results.</li> <li>7. PsycINFO; gradual-exposure.ti,ab; 77 results.</li> <li>8. PsycINFO; response-prevention.ti,ab; 892 results.</li> <li>9. PsycINFO; EXPOSURE THERAPY/; 1512 results.</li> <li>10. PsycINFO; 4 OR 5 OR 6 OR 7 OR 8 OR 9; 2456 results.</li> <li>11. PsycINFO; 3 AND 10; 619 results.</li> <li>12. PsycINFO; PANIC/ OR PANIC ATTACK/ OR PANIC DISORDER/; 8506 results.</li> </ol>	23	0

	<p>13. PsycINFO; panic.ti,ab; 13632 results.</p> <p>46. PsycINFO; (desensitisation OR desensitization).ti,ab; 5080 results.</p> <p>47. PsycINFO; SYSTEMATIC DESENSITIZATION THERAPY/; 1761 results.</p> <p>48. PsycINFO; 4 OR 5 OR 6 OR 7 OR 8 OR 9 OR 46 OR 47; 7820 results.</p> <p>49. PsycINFO; 3 AND 14 AND 48; 23 results.</p>		
Embase	<p>16. EMBASE; "obsessive compulsive disorder".ti,ab; 11114 results.</p> <p>17. EMBASE; OBSESSIVE COMPULSIVE DISORDER/; 15638 results.</p> <p>18. EMBASE; 16 OR 17; 19544 results.</p> <p>19. EMBASE; panic.ti,ab; 15011 results.</p> <p>20. EMBASE; PANIC/; 17606 results.</p> <p>21. EMBASE; 19 OR 20; 20841 results.</p> <p>22. EMBASE; "exposure and response prevention".ti,ab; 435 results.</p> <p>23. EMBASE; graduated-exposure.ti,ab; 49 results.</p> <p>24. EMBASE; graded-exposure.ti,ab; 137 results.</p> <p>25. EMBASE; gradual-exposure.ti,ab; 86 results.</p> <p>26. EMBASE; response-prevention.ti,ab; 590 results.</p> <p>27. EMBASE; "exposure therapy".ti,ab; 1009 results.</p> <p>28. EMBASE; 22 OR 23 OR 24 OR 25 OR 26 OR 27; 1807 results.</p> <p>50. EMBASE; (desensitisation OR desensitization).ti,ab; 22327 results.</p> <p>51. EMBASE; DESENSITIZATION/; 15801 results.</p> <p>52. EMBASE; SYSTEMATIC DESENSITIZATION/; 256 results.</p> <p>53. EMBASE; 50 OR 51 OR 52; 28935 results.</p> <p>54. EMBASE; 28 OR 53; 30683 results.</p> <p>55. EMBASE; 18 AND 21 AND 54; 38 results.</p>	38	0
Cinahl	<p>30. CINAHL; "obsessive compulsive disorder".ti,ab; 958 results.</p> <p>31. CINAHL; OBSESSIVE-COMPULSIVE DISORDER/; 1761 results.</p> <p>32. CINAHL; 30 OR 31; 1977 results.</p> <p>33. CINAHL; panic.ti,ab; 1461 results.</p> <p>34. CINAHL; PANIC DISORDER/; 952 results.</p>	0	0

	<p>35. CINAHL; 33 OR 34; 1831 results.</p> <p>36. CINAHL; "exposure and response prevention".ti,ab; 37 results.</p> <p>37. CINAHL; graduated-exposure.ti,ab; 6 results.</p> <p>38. CINAHL; graded-exposure.ti,ab; 26 results.</p> <p>39. CINAHL; gradual-exposure.ti,ab; 6 results.</p> <p>40. CINAHL; response-prevention.ti,ab; 44 results.</p> <p>41. CINAHL; "exposure therapy".ti,ab; 98 results.</p> <p>42. CINAHL; 36 OR 37 OR 38 OR 39 OR 40 OR 41; 173 results.</p> <p>42. CINAHL; (desensitisation OR desensitization).ti,ab; 612 results.</p> <p>43. CINAHL; DESENSITIZATION, PSYCHOLOGIC/; 212 results.</p> <p>44. CINAHL; 36 OR 37 OR 38 OR 39 OR 40 OR 41 OR 42 OR 43; 780 results.</p> <p>45. CINAHL; 32 AND 35 AND 44; 0 results.</p>		
<b>Summary</b>	<b>NA</b>	<b>NA</b>	

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