Exposure and Response Prevention for Obsessive-Compulsive Disorder

Reviewers: David Tolin, Ph.D.; Tamara Melnyk, Ph.D.; Brian Marx, Ph.D.

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1. Examination of Systematic Research Reviews

Systematic reviews were identified by searching PsycInfo and MedLine databases. The most recently-published review was examined first. When unanswered questions were identified, the next most recently-published review was examined, continuing that process until examination of additional reviews yielded no new information.

1.1. Review(s) used to document efficacy of treatment

Study	Time frame sampled	Number of included samples	Population	Comparison condition	Outcomes	Time point(s)	Setting
Gava et al. (2007)	Up to 10/31/06	3	Adult OCD	Treatment as usual	OCD symptoms, anxiety symptoms, depressive symptoms	Post-treatment	Outpatient
Rosa-Alcazar et al. (2008)	1980-2006	21	Adult OCD	Placebo or wait list	OCD symptoms	Post-treatment	Outpatient
Abramowitz et al. (2002)	1980-2001	8	Adult OCD	Mixed	OCD symptoms	Post-treatment	Outpatient

1.2. Study/studies used to document effectiveness in non-research settings

ID	Population	Number of subjects	Comparison condition	Outcomes	Time point(s)	Setting
Friedman et al.	Adult OCD (mainly	62	None	OCD symptoms,	Post-treatment	Urban outpatient

(2003)	African-American and Carribean-American)	depressive symptoms	clinic

1.3. AMSTAR checklist (duplicate if necessary for multiple research reviews):

Gava et al. (2007)	
1. Was an 'a priori' design provided? The research question and inclusion criteria should be established before the conduct of the review.	YES
2. Was there duplicate study selection and data extraction? There should be at least two independent data extractors and a consensus procedure for disagreements should be in place.	YES
3. Was a comprehensive literature search performed? At least two electronic sources should be searched. The report must include years and databases used (e.g. Central, EMBASE, and MEDLINE). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found.	YES
4. Was the status of publication (i.e. grey literature) used as an inclusion criterion? The authors should state that they searched for reports regardless of their publication type. The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status, language etc.	YES
5. Was a list of studies (included and excluded) provided? A list of included and excluded studies should be provided.	YES
6. Were the characteristics of the included studies provided? In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g. age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported.	YES
7. Was the scientific quality of the included studies assessed and documented? 'A priori' methods of assessment should be provided (e.g., for effectiveness studies if the author(s) chose to include only randomized, double-blind, placebo controlled studies, or allocation concealment as inclusion criteria); for other types of studies alternative items will be	YES

relevant.	
8. Was the scientific quality of the included studies used appropriately in formulating conclusions? The results of the methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations.	YES
9. Were the methods used to combine the findings of studies appropriate? For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e. Chisquared test for homogeneity, I2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e. is it sensible to combine?).	YES
10. Was the likelihood of publication bias assessed? An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test).	YES
11. Was the conflict of interest stated? Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.	NO

Rosa-Alcazar et al. (2008)	
1. Was an 'a priori' design provided? The research question and inclusion criteria should be established before the conduct of the review.	YES
2. Was there duplicate study selection and data extraction? There should be at least two independent data extractors and a consensus procedure for disagreements should be in place.	YES
3. Was a comprehensive literature search performed? At least two electronic sources should be searched. The report must include years and databases used (e.g. Central, EMBASE, and MEDLINE). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found.	NO

4. Was the status of publication (i.e. grey literature) used as an inclusion criterion? The authors should state that they searched for reports regardless of their publication type. The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status, language etc.	NO
5. Was a list of studies (included and excluded) provided? A list of included and excluded studies should be provided.	NO
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7. Was the scientific quality of the included studies assessed and documented? 'A priori' methods of assessment should be provided (e.g., for effectiveness studies if the author(s) chose to include only randomized, double-blind, placebo controlled studies, or allocation concealment as inclusion criteria); for other types of studies alternative items will be relevant.	YES
8. Was the scientific quality of the included studies used appropriately in formulating conclusions? The results of the methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations.	NO
9. Were the methods used to combine the findings of studies appropriate? For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e. Chisquared test for homogeneity, I2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e. is it sensible to combine?).	NO
10. Was the likelihood of publication bias assessed? An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test).	NO
11. Was the conflict of interest stated?	NO

Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.	

Abramowitz et al. (2002)	
1. Was an 'a priori' design provided? The research question and inclusion criteria should be established before the conduct of the review.	YES
2. Was there duplicate study selection and data extraction? There should be at least two independent data extractors and a consensus procedure for disagreements should be in place.	NO
3. Was a comprehensive literature search performed? At least two electronic sources should be searched. The report must include years and databases used (e.g. Central, EMBASE, and MEDLINE). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found.	NO
4. Was the status of publication (i.e. grey literature) used as an inclusion criterion? The authors should state that they searched for reports regardless of their publication type. The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status, language etc.	YES
5. Was a list of studies (included and excluded) provided? A list of included and excluded studies should be provided.	NO
6. Were the characteristics of the included studies provided? In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g. age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported.	NO
7. Was the scientific quality of the included studies assessed and documented? 'A priori' methods of assessment should be provided (e.g., for effectiveness studies if the author(s) chose to include only randomized,	NO

double-blind, placebo controlled studies, or allocation concealment as inclusion criteria); for other types of studies alternative items will be relevant.	
8. Was the scientific quality of the included studies used appropriately in formulating conclusions? The results of the methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations.	NO
9. Were the methods used to combine the findings of studies appropriate? For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e. Chisquared test for homogeneity, I2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e. is it sensible to combine?).	NO
10. Was the likelihood of publication bias assessed? An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test).	NO
11. Was the conflict of interest stated? Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.	NO

1.4. Narrative summary of AMSTAR findings and statement of whether the review is considered adequate for further study:

These three reviews, taken together, are considered adequate for drawing reasonable conclusions. The Gava et al. (2007) review is the strongest of the three. The aims were stated and inclusion criteria defined in terms of participants, intervention and outcomes. Attempts were made to locate unpublished as well as published studies. The methododology of studies was considered systematically, and the relationship between study quality and effect size was examined. Funnel plots were used to examine risk of publication bias. The primary studies are described in detail, and the review considered clinical outcomes, adverse effects, and dropout rates. Two limitations are noted. First, the control conditions were a mix of no treatment, wait list, and usual care. Second, only three studies of exposure and response prevention vs. these control conditions were sampled.

In the Rosa-Alcazar et al (2008) review, the aims were stated and inclusion criteria defined in terms of participants, intervention and outcomes. Methods used to assess and grade study validity were described. However, several limitations were present. No attempt was made to locate unpublished studies, thus raising the possibility of publication bias. Methodological factors such as blinded raters and

randomization were not taken into account when considering results. Statistical heterogeneity was consistently reported, yet this did not appear to be taken into account in the analyses.

In the Abramowitz et al. (2007) review, both published and unpublished studies were sought for inclusion. However, there were several significant limitations of the review. It is not reported that two independent raters extracted the data, and the search terms are not provided. There is fairly minimal information about the included studies and the makeup of the samples. No attempt was made to evaluate the methodological quality of the primary studies, or to take this into account during analyses. Homogeneity and publication bias were not examined.

1.5. Description of aggregate effect size estimates:

Review 1 (Gava et al., 2007)

Immediate post-treatment aggregate effect size(s) of treatment:

- *Vs. Treatment as usual*
  - *Post-treatment*
    - *Symptoms:* Mean difference = 11.73
    - *Functional outcomes:* Not reported
  - *Follow-up*
    - *Symptoms:* Not reported
    - *Functional outcomes:* Not reported
- *Vs. Pill placebo*
  - *Post-treatment*
    - *Symptoms:* Not reported
    - *Functional outcomes:* Not reported
  - *Follow-up*
    - *Symptoms:* Not reported
    - *Functional outcomes:* Not reported
- *Vs. Psychological placebo*
  - *Post-treatment*
    - *Symptoms:* Not reported
    - *Functional outcomes:* Not reported
  - *Follow-up*
    - *Symptoms:* Not reported
    - *Functional outcomes:* Not reported
- *Vs. Alternative psychological treatment*
  - *Post-treatment*
    - *Symptoms:* Not reported
    - *Functional outcomes:* Not reported
  - *Follow-up*
    - *Symptoms:* Not reported
    - *Functional outcomes:* Not reported

Review 2 (Rosa-Alcazar et al., 2008)

Immediate post-treatment aggregate effect size(s) of treatment:

- *Vs. Mix of wait list and placebo*
  - *Post-treatment*
    - *Symptoms: d* = 1.13
    - *Functional outcomes:* 0.76 (this effect was from a mix of exposure and response prevention and cognitive restructuring interventions)
  - *Follow-up*
    - *Symptoms:* Not reported

        - *Functional outcomes:* Not reported
- *Vs. Pill placebo*
    - *Post-treatment*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported
    - *Follow-up*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported
- *Vs. Psychological placebo*
    - *Post-treatment*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported
    - *Follow-up*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported
- *Vs. Alternative psychological treatment*
    - *Post-treatment*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported
    - *Follow-up*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported

Review 3 (Abramowitz et al., 2002)

- *Vs. Mix of control conditions*
    - *Post-treatment*
        - *Symptoms: d* = 1.15
        - *Functional outcomes:* Not reported
    - *Follow-up*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported
- *Vs. Pill placebo*
    - *Post-treatment*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported
    - *Follow-up*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported
- *Vs. Psychological placebo*
    - *Post-treatment*
        - *Symptoms:* Not reported

        - *Functional outcomes:* Not reported
    - *Follow-up*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported
- *Vs. Alternative psychological treatment*
    - *Post-treatment*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported
    - *Follow-up*
        - *Symptoms:* Not reported
        - *Functional outcomes:* Not reported

2. Treatment Recommendation using GRADE

2.1. Judging the quality of the evidence

Check quality:

Quality	
✓ *High quality*	All of the following: • There is a wide range of studies included in the analyses with no major limitations. • There is little variation between studies. • The summary estimate has a narrow confidence interval.
☐ *Moderate quality*	At least one of the following: • There are only a few studies and some have limitations but not major flaws. • There is some variation between studies, or the confidence interval of the summary estimate is wide.
☐ *Low quality*	Any of the following: • The studies have major flaws. • There is important variation between studies. • The confidence interval of the summary estimate is very wide.

2.2. Additional contextual factors that may be considered in increasing or decreasing the GRADE recommendation

Positive	Negative
☐ Treatment appears superior to other established and effective treatment(s)	☐ There are other psychological treatments that have well-documented and much larger effects
☐ The treatment generates an effect that is similar to other well-studied treatments, but requires a very small number of sessions or length of time to generate the same effect at a much lower cost	☐ The treatment generates an effect that is similar to other well-studied treatments, but requires a very large number of sessions or length of time to generate the same effect at a much higher cost
✓ Evidence supports the purported mechanism or active ingredient(s) of treatment	☐ Evidence fails to support the purported mechanism or active ingredient(s) of treatment
✓ Treatment has demonstrated good effects with minority groups	☐ Treatment has demonstrated weak effects with minority groups
✓ Treatment has been studied by a wide array of researchers without strong allegiance to the treatment	☐ Treatment has been studied by a narrow array of researchers with strong allegiance to the treatment
☐ Other:	☐ Other:

2.3. Treatment recommendation

Check recommendation:

Recommendation	
☐ *Very strong recommendation*	All of the following: • There is high-quality evidence that the treatment produces a clinically meaningful effect on symptoms of the disorder being treated • There is high-quality evidence that the treatment produces a clinically meaningful effect on functional outcomes • There is high-quality evidence that the treatment produces a clinically meaningful effect on symptoms and/or functional outcomes at least three months after treatment discontinuation • At least one well-conducted study has demonstrated effectiveness in non-research settings
✓ *Strong recommendation*	At least one of the following: • There is moderate- to high-quality evidence that the treatment produces a clinically meaningful effect on symptoms of the disorder being treated • There is moderate- to high-quality evidence that the treatment produces a clinically meaningful effect on functional outcomes
☐ *Weak recommendation*	Any of the following: • There is only low- or very low-quality evidence that the

	treatment produces a clinically meaningful effect on symptoms of the disorder being treated • There is only low- or very low-quality evidence that the treatment produces a clinically meaningful effect on as well as on functional outcomes • There is moderate- to high-quality evidence that the effect of the treatment, although statistically significant, may not be of a magnitude that is clinically meaningful

Narrative summary of GRADE recommendation, including contextual factors:

There is high-quality evidence that exposure and response prevention produces a clinically meaningful effect on symptoms of OCD, as evidenced by multiple systematic reviews. In addition, the Rosa-Alcazar et al. meta-analysis provides reasonable evidence that exposure and response prevention produces a clinically meaningful effect on the functional outcome of social adjustment, although in that review functional outcomes were not examined for exposure and response prevention in isolation.

At this time, although some clinical trials have demonstrated that exposure and response prevention produces a durable results (i.e., clinically meaningful effect on symptoms and/or functional outcomes at least three months after treatment discontinuation), we did not find a systematic review of the long-term effects of treatment.

The recommendation is further strengthened by:

1. Non-randomized findings of equivalent treatment response among African-American and White patients receiving treatment in an urban clinic.
2. Study by a wide range of researchers without a known strong allegiance to the treatment.
3. Evidence supporting both of the purported active ingredients (exposure and response prevention) (Foa, Steketee, & Milby, 1980)

The current status of the literature merits a Strong recommendation. There is either insufficient evidence from the primary studies, or lack of reporting in the systematic reviews, of outcomes that would merit a Very Strong recommendation. The recommendation could be upgraded to Very Strong with the following:

1. A systematic review showing high-quality evidence that the treatment produces a clinically meaningful effect on symptoms at least three months after treatment discontinuation.
2. A systematic review showing high-quality evidence that the treatment produces a clinically meaningful effect on functional outcomes at post-treatment and/or at least three months after treatment discontinuation.
3. Additional research documenting good effects of the treatment with minority groups and/or in non-research clinical settings.

3. Conflict of interest

Dr. Tolin receives royalties from John Wiley & Sons and conducts workshops on ERP for OCD. Dr. Melnyk and Dr. Marx have no conflicts to disclose.

References

Abramowitz, J. S., Franklin, M. E., & Foa, E. B. (2002). Empirical status of cognitive-behavioral therapy for obsessive-compulsive disorder: A meta-analytic review. *Romanian Journal of Cognitive and Behavioral Psychotherapies, 2*, 89-104.

Foa, E. B., Steketee, G., & Milby, J. B. (1980). Differential effects of exposure and response prevention in obsessive-compulsive washers. *Journal of Consulting and Clinical Psychology, 48*(1), 71-79.

Friedman, S., Smith, L. C., Halpern, B., Levine, C., Paradis, C., Viswanathan, R., . . . Ackerman, R. (2003). Obsessive-compulsive disorder in a multi-ethnic outpatient clinic: Initial presentation and treatment outcome with exposure and ritual prevention. *Behavior Therapy, 34*, 397-410.

Gava, I., Barbui, C., Aguglia, E., Carlino, D., Churchill, R., De Vanna, M., & McGuire, H. F. (2007). Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD). *Cochrane Database Syst Rev*(2), CD005333. doi: 10.1002/14651858.CD005333.pub2

Rosa-Alcazar, A. I., Sanchez-Meca, J., Gomez-Conesa, A., & Marin-Martinez, F. (2008). Psychological treatment of obsessive-compulsive disorder: a meta-analysis. *Clinical Psychology Review, 28*(8), 1310-1325.