

Efficacy of the third wave of behavioral therapies: a systematic review and meta-analysis

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CRD summary

This review concluded that acceptance and commitment therapy and dialectical behaviour therapy showed moderate effects for the primary treatment of psychiatric disorders. The review had a number of methodological problems, including potential for bias, so the authors' conclusions should be interpreted with some caution.

Authors' objectives

To assess the efficacy of third wave treatments (cognitive behavioural therapy) for the primary treatment of psychiatric disorders.

Searching

PsycINFO and MEDLINE were searched from 1985 to 2007 for publications in English. Search terms were reported. References of retrieved articles were searched manually.

Study selection

Randomised controlled trials (RCTs) comparing third wave treatments with a control, or comparing two or more active treatments, were eligible for inclusion.

Included studies were of patients with varying conditions, including borderline personality disorder (BPD), depression, stress or anxiety, psychotic symptoms, eating disorders, substance abuse, epilepsy, diabetes, impulse control disorder and marital discord. Most studies assessed acceptance and commitment therapy (ACT) or dialectical behaviour therapy (DBT). Comparison treatments varied according to the type of disorder. Treatment sessions and durations varied, lasting between one and 52 weeks. Most studies had a larger proportion of females, with some studies being exclusively female. Mean ages ranged between 22.5 and 66 years.

The author did not state how studies were selected for inclusion, or how discrepancies were resolved.

Assessment of study quality

A modified version of a previously published validity rating scale was used to assess 22 items, including: blinding, allocation concealment, treatment adherence and power analysis. Each item was rated as 0 = poor, 1 = fair, 2 = good. Aspects relating to the quality of the intervention, for example therapist training, were also assessed.

The author did not state how many reviewers performed the validity assessment, or how discrepancies were resolved.

Data extraction

Post-treatment intervention and control group means were extracted to calculate effect sizes (Cohen's *d*). Pre- and post-treatment and follow-up means for intervention and control groups were also extracted.

The author did not state how many reviewers extracted the data, or how discrepancies were resolved.

Methods of synthesis

Effect sizes were combined using a fixed-effect model. Trials were weighted using the inverse of the variance. Hedges' *g* was used to correct for small sample size. Mean overall effect sizes were combined for each intervention and by study comparison type. Heterogeneity was assessed using the *Q* statistic and investigated further with moderator analysis. Where heterogeneity was evident, a random-effects model was used to combine effect sizes. A fail-safe *N* was calculated using Orwin's test to test publication bias.

Results of the review

Twenty nine RCTs ($n=2,052$) were included in the review. Sample sizes ranged from 18 to 681 patients (most studies included fewer than 100 patients). The mean score for methodological rating was 19.6 ($SD=4.9$). Some studies did not include follow-up, while others ranged from two to 24 weeks follow-up.

The overall effect size for third wave studies was 0.56 (95% CI: 0.33, 0.79, $p<0.0001$), but there was evidence of significant heterogeneity ($p<0.0001$).

The mean overall effect size was moderate for ACT studies (13 RCTs) at 0.68 (95% CI: 0.42, 0.94, $p<0.0001$) and DBT studies (13 RCTs) at 0.58 (95% CI: 0.38, 0.77, $p<0.0001$), indicating greater treatment effects with interventions compared to controls. Effect sizes by comparison group were reported in the review. There was evidence of significant heterogeneity for ACT studies ($p=0.006$).

No studies on Functional Analytic Psychotherapy (FAP) were identified, and results for cognitive behavioural analysis system of psychotherapy (CBASP) (one RCT) and Integrative Behavioural Couple Therapy (IBCT) (two RCTs) were reported in the review. Fail-safe *N* using Orwin's test reported limited risk of publication bias for ACT and DBT studies.

Authors' conclusions

Third wave treatment with ACT and DBT showed moderate treatment effects, but studies did not fulfill criteria for empirically supported treatments.

CRD commentary

The review question was clear. It was supported by appropriate criteria for study design and broad

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criteria for interventions and comparators. The literature search was limited to two electronic databases and one other appropriate source, hence relevant studies may have been missed. Publications were restricted to the English language, and language bias cannot be ruled out. Validity was assessed, but the quality of the studies was limited. The review process for validity assessment, study selection and data extraction was not reported, but probably only involved one reviewer, which meant that reviewer error and bias could not be ruled out. Given the presence of statistical, methodological and clinical heterogeneity, meta-analysis may not have been inappropriate. Given the limited search, potential problems with bias and the small sample sizes, the authors' conclusions should be interpreted with caution as they may not be reliable.

Implications of the review for practice and research

Practice: The authors did not state any implications for practice.

Research: The authors stated that research should consider the following: compare ACT with CBT for the most common psychiatric disorders; compare DBT with psychodynamic therapy for borderline PD (including male patients), DBT with Fairburn's CBT for eating disorders and CBT or behavioural activation for depression. Future studies should also compare CBASP with CBT for chronic and other forms of depression, undertake RCTs to assess FAP for depression and other common disorders and undertake RCTs to evaluate IBCT by independent researchers. A number of methodological suggestions to improve the quality of the research in this area were also made.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.