

Cognitive Behavioral Therapy (CBT) for Depressed Adolescents

Program description:

Treatments include various components, such as cognitive restructuring, behavioral activation, emotion regulation, communication skills, and problem-solving. Most commonly, studies offering this treatment provided 10-20 therapeutic hours per client in individual or group modality. One well-known example is the Adolescent Coping With Depression (CWD-A) program.

Typical age of primary program participant: 15

Typical age of secondary program participant: N/A

Meta-Analysis of Program Effects

Outcomes Measured	Primary or Secondary Participant	No. of Effect Sizes	Unadjusted Effect Sizes (Random Effects Model)			Adjusted Effect Sizes and Standard Errors Used in the Benefit-Cost Analysis					
			ES	SE	p-value	First time ES is estimated			Second time ES is estimated		
						ES	SE	Age	ES	SE	Age
Major depressive disorder	P	15	-0.30	0.08	0.00	-0.16	0.08	15	-0.07	0.03	20
Externalizing behavior symptoms	P	8	-0.07	0.07	0.27	-0.08	0.07	15	-0.04	0.03	20
Global functioning	P	9	0.16	0.06	0.01	0.09	0.06	15	0.04	0.02	20

Benefit-Cost Summary

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2011). The economic discount rates and other relevant parameters are described in Technical Appendix 2.	Program Benefits					Costs	Summary Statistics			
	Partici-pants	Tax-payers	Other	Other Indirect	Total Benefits		Benefit to Cost Ratio	Return on Invest-ment	Benefits Minus Costs	Probability of a positive net present value

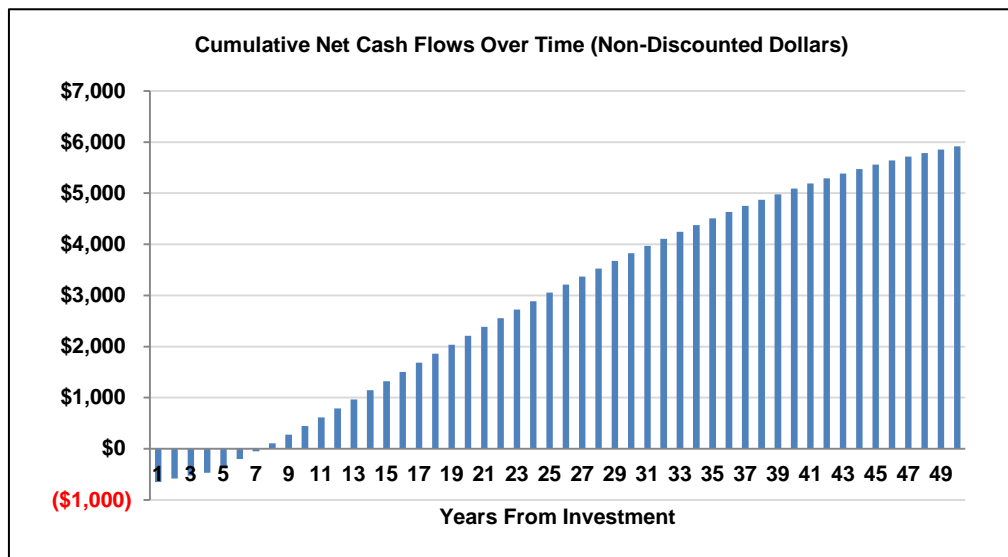
Detailed Monetary Benefit Estimates

Source of Benefits	Benefits to:				
	Partici-pants	Tax-payers	Other	In-direct	Total Benefits
From Primary Participant					
Crime	\$0	\$3	\$12	\$2	\$17
Earnings via depressive disorder	\$1,028	\$378	\$0	\$217	\$1,624
Health care costs via depressive disorder	\$207	\$626	\$616	\$310	\$1,758
Health care costs for disruptive behavior symptoms	\$5	\$15	\$15	\$7	\$42

Detailed Cost Estimates

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The uncertainty range is used in Monte Carlo risk analysis, described in Technical Appendix 2.	Program Costs			Comparison Costs			Summary Statistics	
	Annual Cost	Program Duration	Year Dollars	Annual Cost	Program Duration	Year Dollars	Present Value of Net Program Costs (in 2011 dollars)	Uncertainty (+ or - %)

Source: Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost is based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).



Multiplicative Adjustments Applied to the Meta-Analysis

Type of Adjustment	Multiplier
1- Less well-implemented comparison group or observational study, with some covariates.	1.00
2- Well-implemented comparison group design, often with many statistical controls.	1.00
3- Well-done observational study with many statistical controls (e.g., IV, regression discontinuity).	1.00
4- Random assignment, with some RA implementation issues.	1.00
5- Well-done random assignment study.	1.00
Program developer = researcher	0.42
Unusual (not "real world") setting	1.00
Weak measurement used	1.00

Multiplicative adjustments were generated by examining studies for the treatment of children or adolescents with internalizing problems. Because weak measurement and unusual setting designations were extremely rare among these studies, no adjustments were assigned. Meta-regressions were conducted to test for the impact of different methodological factors on unadjusted effect size. Dummy variables for research design were not significant, indicating that this factor did not impact effect sizes. However, the involvement of program developers in the research was a significant predictor of effect size ($B = -.482, p = .077$), suggesting that such studies have larger effect sizes than studies in which the developer was not involved in the evaluation. The regression coefficient was used to generate the 0.42 multiplier.

Additional Notes

The studies included in this analysis have samples that are both medicated and unmedicated. The effect of CBT may be different depend on whether the adolescents are medicated; however, there are too few studies to draw a definitive conclusion at this time.

Some studies included in this analysis compared the program (CBT) to control conditions that did not consist of an active treatment. Because policymakers in Washington are interested in the impact of this program above and beyond currently implemented treatments (i.e., treatment as usual), we reduced the effect size of studies utilizing a no treatment or waitlist control group in half to reflect a smaller impact that would be expected if these studies compared CBT to treatment as usual.

Studies Used in the Meta-Analysis

Brent, D. A., Emslie, G., Clarke, G., Wagner, K. D., Asarnow, J. R., Keller, M., . . . Zelazny, J. (2008). Switching to another SSRI or to Venlafaxine with or without cognitive behavioral therapy for adolescents with SSRI-resistant depression: The TORDIA randomized controlled trial. *JAMA, 299*(8), 901-913.

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