

Eye Movement Desensitization and Reprocessing (EMDR) for Child Trauma

Program description:

During treatment, clients focus on the traumatic memory for 30 seconds at a time while the therapist provides a stimulus. For most clients, the therapist moves his hand slowly back and forth in front of the client (eye movement); for younger children, the therapist may, instead, tap the child's hand. The client reports on what comes up and clients are guided to refocus on that in the next stimulus session. During therapy visits, clients report on the level of distress they feel. In later phases, a positive thought is emphasized during the stimulus sessions. Afterward, clients are asked to focus on residual physical tensions they may feel in order to enhance relaxation. A more complete description of this therapy is available at: <http://www.emdrnetwork.org/description.html>.

Typical age of primary program participant: 10

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
Post-traumatic stress	P	4	-0.78	0.50	0.12	-0.26	0.50	10	-0.11	0.21	15
Major depressive disorder	P	3	-0.15	0.21	0.46	-0.19	0.21	10	-0.08	0.09	15
Anxiety disorder	P	2	-0.18	0.28	0.74	-0.02	0.41	10	-0.01	0.12	15

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 Investment	Benefits Minus Costs	Probability of a positive net present value
	\$1,543	\$1,815	\$1,397	\$1,049	\$5,804	\$155	n/e	n/e	\$5,959	79%

Detailed Monetary Benefit Estimates

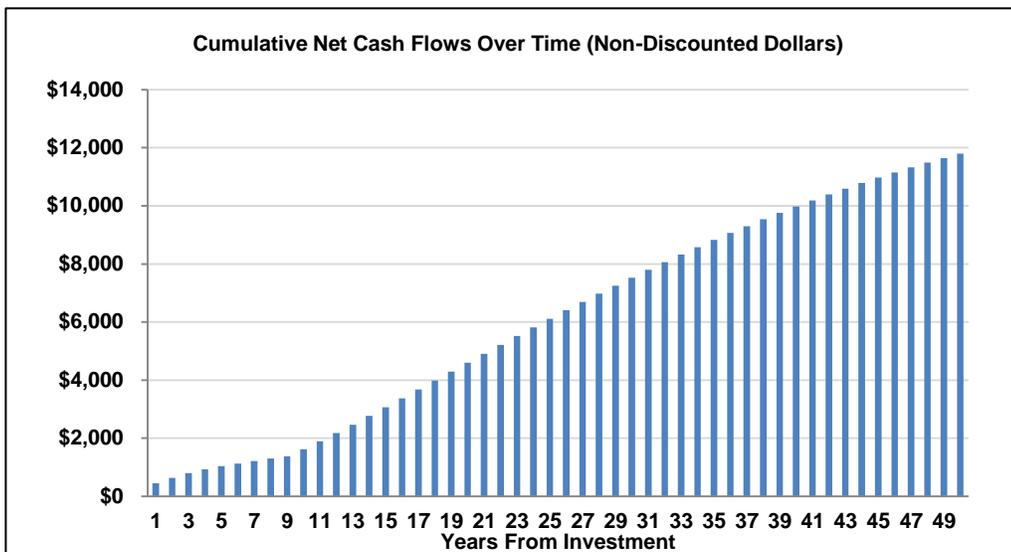
Source of Benefits	Benefits to:				
	Partici-pants	Tax-payers	Other	Other In-direct	Total Benefi-ts
Earnings via post-traumatic stress	\$1,073	\$395	\$0	\$295	\$1,764
Health care costs via post-traumatic stress	\$470	\$1,420	\$1,397	\$754	\$4,040

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 - %)
	\$886	1	2009	\$1,035	1	2009	-\$155	10%

Source: Weighted average cost for this sample of studies, (average hours therapy reported in the studies), times average the RSN costs (for 2009) for individual therapy for child PTSD. (EMDR is always individual therapy.)

Because policymakers in Washington are interested in the impact of this program above and beyond currently implemented treatments (i.e., treatment as usual), we multiplied the effect size of studies utilizing a no treatment or waitlist control group by 0.40 to reflect a smaller impact that would be expected if these studies compared EMDR to treatment as usual.



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	0.74
Unusual (not "real world") setting	0.50
Weak measurement used	0.50

The multiplicative adjustments for these studies are based on our empirical knowledge of the research in a topic area. We performed a multivariate meta-regression analysis of 74 effect sizes from evaluations of cognitive-behavioral therapy for depression or anxiety. The analysis examined the relative magnitude of effect sizes for studies rated a 1, 2, 3, or 4 for research design quality, in comparison with a 5 (see Technical Appendix II for a description of these ratings). We weighted the model using the random effects inverse variance weights for each effect size. The results indicated that research designs 1, 2, and 3 should have a multiplier of approximately 1 and research design 4 should have a multiplier of greater than 1. Using a conservative approach, we set all the multipliers to 1.

In this analysis, we also found that effect sizes were statistically significantly higher when the authors were also the program developer or were also the therapists. Based on regression results, we set the multiplier at 0.74. Regression results also indicated that effect sizes were significantly greater when the comparison group was a wait-list, rather than attention or active treatment. We applied a multiplier of 0.40 to studies with wait-list comparison groups.

Studies Used in the Meta-Analysis

Ahmad, A., Larsson, B., & Sundelin-Wahlsten, V. (2007). EMDR treatment for children with PTSD: results of a randomized controlled trial. *Nordic Journal of Psychiatry*, 61, 5, 349-54.

Chemtob, C. M., Nakashima, J., & Carlson, J. G. (2002). Brief treatment for elementary school children with disaster-related posttraumatic stress disorder: A field study. *Journal of Clinical Psychology*, 58(1), 99-112.

Kemp, M., Drummond, P., & McDermott, B. (2010). A wait-list controlled pilot study of eye movement desensitization and reprocessing (EMDR) for children with post-traumatic stress disorder (PTSD) symptoms from motor vehicle accidents. *Clinical Child Psychology and Psychiatry*, 15, 1, 5-25.

Rubin, A., Bischofshausen, S., Conroy-Moore, K., Dennis, B., Hastie, M., Melnick, L., Reeves, D., ... Smith, T. (2001). The Effectiveness of EMDR in a Child Guidance Center. *Research on Social Work Practice*, 11, 435-457.

Soberman, G.B., R. Greenwald, and D.L. Rule. (2002). A controlled study of eye movement desensitization and reprocessing (EMDR) for boys with conduct problems. *Journal of Aggression, Maltreatment, and Trauma* 6(1): 217-236.