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Cognitive-Behavioral Treatment for Depression in Adolescents

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ABSTRACT

The goal of this article is to briefly review and summarize the rationale and research support for cognitive-behavioral therapy (CBT) as a treatment for depressed adolescents. A primary focus of the paper is on our group CBT treatment for adolescent depression, entitled "The Adolescent Coping with Depression Course". In addition, initial findings from a large, recently-completed study contrasting individual CBT with fluoxetine for depressed adolescents (Treatment of Adolescents with Depression Study) are presented. Although the research support for CBT as a treatment for depressed adolescents is generally encouraging, we need to better understand which depressed adolescents benefit from CBT, how and when to incorporate medication and family-based interventions into CBT treatment, how to treat depressed adolescents with co-morbid psychiatric conditions, and how CBT interventions fare with non-European-American depressed adolescents.

Keywords: Cognitive-Behavioural, Treatment, Depression, Adolescents

Adolescent depression is increasingly recognized as a common and debilitating condition. The point prevalence of major depressive disorder (MDD) in older adolescents is between 2-5% with lifetime prevalence rates approaching 20% (Lewinsohn et al, 1993). Adolescent depressive episodes are often chronic or recurrent, persisting into adulthood (Harrington et al, 1990; Rao et al, 1995). Adolescent depression has serious negative psychosocial consequences, including impaired academic and occupational functioning, high risk sexual activity, teenage pregnancy, social difficulties, and reduced global functioning (Kandel & Davies, 1986; Kovacs et al, 1994; Lewinsohn et al, 2003; Rao et al, 1995). As with depressed adults, the majority of depressed adolescents do not receive treatment (Goodman et al, 1997).

The goal of this article is to briefly describe one of the most empirically-supported treatments for adolescent depression: cognitive-behavioral therapy (CBT). After describing the rationale for the treatment, the available research evaluating the efficacy of CBT for depressed adolescents is reviewed. Since 1982, my colleagues and I have been involved in a major research effort to develop and evaluate a group CBT treatment for adolescent depression, entitled "The Adolescent Coping With Depression Course (CWD-A Course)" (Clarke et al, 1990). Research support for the CWD-A will be discussed. The article concludes with initial findings from a major study contrasting individual CBT with fluoxetine for depressed adolescents (The Treatment of Adolescents with Depression Study, or TADS).

Rationale for CBT of Adolescent Depression

The CBT treatment approach is rooted in behavioral (Ferster, 1966; Lewinsohn et al, 1969), as well as cognitive formulations of depression (Beck, 1967; Ellis & Harper, 1961; Seligman, 1975). The primary goal of behavior therapy for depression is to increase engagement in behaviors that either elicit positive reinforcement or avoid negative reinforcement from the environment. The primary goal of cognitive therapy is to help the depressed client become aware of pessimistic and negative thoughts, depressotypic beliefs, and causal attributions in which the person blames him/herself for failures but does not take credit for successes. Once these depressotypic patterns are recognized, the client is taught how to substitute more constructive cognitions for these destructive ones. CBT interventions for adolescents generally combines cognitive and behavioral strategies aimed at ameliorating the types of problems that commonly characterize depressed individuals (e.g., behavioral activation, social skills training, problem-solving, goal setting, relaxation training, cognitive restructuring etc.). The treatments share additional elements, including the focus on specific and current actions and cognitions as targets for change, structured intervention sessions, repeated practice of skills, use of rewards and contracts, homework assignments, and a relatively small (typically under 20) number of therapy sessions.

Research Support for CBT for Adolescent Depression

The study of psychosocial treatments for depression in adolescents has become an active area of research attention, with over a dozen treatment studies for adolescent depression generally indicating positive results (reviewed by Curry, 2001; Kaslow & Thompson, 1998; Reinecke et al, 1998). CBT has been shown to be superior to wait-list control and often is more efficacious that alternative treatments, including relaxation training, supportive therapy, and traditional counselling (e.g., Kahn et al, 1990; Stark et al, 1987; Vostanis et al, 1996; Wood et al, 1996; Brent et al, 1997). In their meta-analytic review, Reinecke and coworkers (Reinecke et al, 1998) concluded that CBT with depressed adolescents had a large average effect size at post-treatment ($d = 1.02$) and a moderate effect size by follow-up ($d = .61$). Individual CBT was found to be comparable to interpersonal psychotherapy for adolescents and superior to wait-list control in a sample of 71 depressed Puerto Rican adolescents (Rosselló & Bernal, 1999). Brent et al (1997) contrasted individual CBT, systemic behavior family therapy, and individual nondirective supportive therapy in 107 clinically-referred depressed adolescents. CBT showed a lower rate of major depressive disorder (MDD) post-treatment compared to supportive therapy, and higher remission (defined as no MDD and consecutively low Beck Depression Inventory (BDI) (Beck et al, 1961) scores), compared to both of the other two treatments. However, by the end of a two-year follow-up period, no differential effects for the three treatment conditions were evident (Birmaher et al, 2000), with 80% of adolescents in all treatments recovering and 30% experiencing depression recurrence. CBT bibliotherapy has also been shown to be effective, in comparison to wait-list, for adolescents with mild and moderate depressive symptomatology (Ackerson et al, 1998). As summarized below, our own program of research has shown the CWD-A course to be an effective group intervention for treating depression in older adolescents.

The CWD-A Course

The CWD-A course was originally adapted from the adult version of the CWD course (Lewinsohn et al, 1984). In modifying the course for adolescents, in-session material and homework assignments were simplified, experiential learning opportunities (e.g., role plays) were enhanced, and problem-solving skills were added to the curriculum. The CWD-A course consists of 16 two-hour sessions conducted over an eight-week period for mixed-gender groups of up to ten adolescents. To encourage generalization of skills to everyday situations, adolescents are given homework assignments, which are reviewed at the beginning of the subsequent session. From the beginning session, participants are taught to monitor their mood to provide baseline data and a method for demonstrating changes in mood as a result of skills acquisition and practice. Additional sessions focus on (a) increasing pleasant activities, (b) relaxation training involving both progressive muscle relaxation and deep-breathing techniques, (c) reducing depressogenic cognitions by identifying, challenging, and changing negative thoughts and irrational beliefs, (d) communication and problem-solving, and (e) relapse prevention, which focusses on integration of skills, anticipation of future problems, and development of a response plan to future stressors.

Given that parents may contribute positively or negatively to the onset and maintenance of adolescent depression, a parallel group intervention for the parents of depressed adolescents was developed (Lewinsohn et al, 1991). The parent course has two aims: (a) inform parents of the CWD-A material so they may support and reinforce the adolescent's use of skills, and (b) teach parents the same communication and problem-solving skills that are being taught to their son or daughter. Parents meet with a separate therapist weekly for two-hour sessions conducted at the same time as the teen group. Two joint sessions are held in the seventh week during which the adolescents and the parents practice these skills on issues that are salient to each family.

Research Support for the CWD-A Course

Our group began evaluating the CWD-A by conducting two randomized controlled trials (RCTs). In the first (Lewinsohn et al., 1990), 59 adolescents meeting DSM-III (American Psychiatric Association, 1980) criteria for MDD or intermittent depression were randomly assigned to (a) an adolescent group only, (b) the adolescent group with a separate group for parents, or (c) wait-list. Participants and their parents were assessed at intake, post-treatment, and at 1, 6, 12, and 24 months post-treatment. Significant improvement was accounted for by the two active treatment conditions compared to wait-list (BDI effect size d = 1.18). Contrary to expectation, differences between Adolescent Only and Adolescent + Parent conditions were minimal. Forty-six percent of the treated adolescents no longer met diagnostic criteria for depression by the end of treatment (compared with 5% in the wait-list), and 83% had recovered by 6 months post-treatment.

Our second trial replicated our initial design, but involved 96 adolescents meeting DSM-III-R (American Psychiatric Association, 1987) criteria for MDD or dysthymia (Clarke et al., 1999). As in the first trial, recovery rates at post-treatment in the two active treatments were superior to wait-list (BDI d = 0.39), with non-significant differences between the two active treatments. Sixty-seven percent of treated adolescents no longer met criteria at post-treatment versus 48% in the wait-list. By 12 months post-treatment, 81% had

recovered (98% by 24 months). Among those who had recovered, the relapse rate at 12 and 24 months was 9% and 20%, respectively.

Clarke et al (2002) recently conducted an effectiveness trial contrasting the addition of CWD-A relative to treatment as usual in an HMO setting. Eligible adolescents (ages 13 to 18) who met DSM-III-R criteria for MDD or dysthymia were randomly assigned to either usual HMO care (n = 47) or usual care plus the CWD-A course (n = 41). Participants were assessed up to 24 months post-treatment. Using intent-to-treat analyses, the authors were unable to detect any significant advantage of the CBT program over usual care, either for depression diagnoses, continuous depression measures, or functioning outcomes. That is to say, group CBT did not appear to incrementally benefit depressed adolescents who were already receiving the standard care provided in the HMO setting.

Treating Depression in Adolescents with Co-morbidity

Many, if not most, depressed adolescents entering treatment have co-morbid psychiatric conditions. Rohde et al (2001) examined hypotheses concerning the impact of co-morbidity on participation in, and benefit from, the CWD-A using data from the two original trials. Out of the 151 depressed adolescents, 42% had lifetime co-morbidity at intake. Although the total lifetime co-morbidity was unrelated to depression recovery, the presence of lifetime substance abuse/dependence was associated with a slower time to recovery. In addition, participants with a lifetime history of attention-deficit and disruptive behavior disorders at intake were more likely to experience depression recurrence during the two year follow-up period. The presence of co-morbidity, however, was unrelated to therapy participation or group process measures. In conclusion, although some outcomes were worse for some co-morbidities, the reassuring overall conclusion is that the presence of psychiatric co-morbidity was generally not a contraindication for the use of the CWD-A intervention for depressed adolescents.

Our next RCT (Rohde et al, 2004) evaluated the effectiveness of the CWD-A for depressed adolescents with conduct disorder (CD; 72% of whom also had current Substance Use disorder at intake). Between 1998-2001, 93 adolescents (ages 13-17) meeting criteria for MDD/CD, were recruited from a county department of juvenile justice and randomly assigned to the CWD-A or a life skills/tutoring (LS) control group. Participants were assessed post-treatment and at 6- and 12-months follow-up. MDD recovery rates post-treatment were greater in the CWD-A (39%) compared to LS (19%) conditions; OR = 2.66 (95% CI = 1.03-6.85). CWD-A participants also reported greater reductions in Beck Depression Inventory–II (BDI-II) ($d = .48$, $p = .033$) and Hamilton Depression Rating Scale (HDRS) (Hamilton, 1960) ($d = .44$, $p = .039$) scores. Group differences in MDD recovery rates at 6- and 12-month follow-up were non-significant, as were differences in CD, both post-treatment and during follow-up. This study was the first RCT of a psychosocial intervention with depressed-CD adolescents. While the CWD-A appears to be an effective acute treatment for depression in multi-disordered adolescents, findings emphasize the need to improve long-term outcomes for depressed adolescents with co-morbidity and imply that interventions for co-morbid populations should focus directly on each specific disorder.

Individual CBT: Treatment for Adolescents with Depression Study (TADS)

The TADS project is a large, multi-site clinical trial evaluating adolescents with MDD. Depressed adolescents (ages 12-17) in this project were assigned to one of the treatment conditions: individual CBT, fluoxetine, combination CBT/ fluoxetine, and a pill placebo with clinical management. Treatment in TADS consists of three stages, with the initial acute phase of treatment lasting 12 weeks.

Results from the 12-week phase of the project were recently published (Treatment for Adolescents with Depression Study Team, 2004). Using the Children's Depression Rating Scale-Revised (CDRS-R) (Poznanski & Mokros, 1995) as the primary outcome, intent-to-treat random regression analyses indicated a significant advantage for combination treatment compared to pill placebo ($p = .001$), which was not present for either fluoxetine ($p = .10$) or CBT ($p = .40$) monotherapies. Combined treatment also proved superior to fluoxetine ($p = .02$) and to CBT ($p = .01$), while fluoxetine monotherapy was superior to CBT monotherapy ($p = .01$). Using a dichotomous measure of recovery by 12 weeks (Clinical Global Impression Improvement score), the two treatment conditions involving fluoxetine were superior to CBT monotherapy or pill placebo, which did not differ. Rates of response were 71.0% in combination treatment, 60.6% in fluoxetine monotherapy, 43.2% in CBT monotherapy, and 34.8% in pill placebo with clinical management. Rates of harm-related adverse events (all but one of which involved harm to self) were 11.9% in fluoxetine monotherapy, 8.4% in combination therapy, 4.5% in CBT monotherapy, and 5.4% in pill placebo. Odds ratios (95% CI) indicated a significant elevated risk for harm-related adverse events in SSRI treated patients (fluoxetine and combination therapy samples pooled) as contrasted to non-SSRI treated patients (CBT and pill placebo samples pooled); OR = 2.19 (95% CI = 1.03-4.62). Seven patients (1.6%) made a suicide attempt during Stage I; there were no completed suicides. We concluded that combination treatment offered the most favorable tradeoff between benefit and risk for adolescents with MDD.

Obviously, the initial TADS results were disappointing for CBT as a monotherapy. It should be noted, however, that in all but one adult trial (Shea et al, 1992), the comparative strength of CBT for depression has been greater on follow-up than during acute treatment. Data from Stages II-IV for TADS will not be available to us until May 2005. We are currently evaluating the factors that predict which adolescents will positively respond to treatment in general, and CBT treatment in particular.

Future Directions

Although research support for CBT as a treatment for depressed adolescents is generally encouraging, there are several issues that still need to be addressed. First, we need to better understand which depressed adolescents benefit from CBT, how and when to incorporate medication and family-based treatment into CBT, and whether the modality of CBT treatment (group versus individual) effects outcome. My colleagues and I are particularly interested in how to conceptualize and deliver CBT treatment to depressed adolescents with co-morbid conditions. Lastly, given that with only one exception (Rosselló & Bernal, 1999), CBT has been evaluated with predominantly or exclusively

European-American depressed adolescents, this treatment approach needs to be empirically tested and modified for use with other racial and cultural groups.

References

Ackerson, J., Scogin, F., McKendree-Smith, N., & Lyman, R. D. (1998) Cognitive bibliotherapy for mild and moderate adolescent depressive symptomatology. Journal of Consulting and Clinical Psychology, 66, 685-690.

American Psychiatric Association (1980) Diagnostic and statistical manual of mental disorders (3rd edition). Washington, DC: Author.

American Psychiatric Association (1987) Diagnostic and statistical manual of mental disorders (3rd edition, revised). Washington, DC: Author.

Beck, A. T. (1967) Depression: Clinical, experimental, and theoretical aspects. New York: Harper & Row.

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J. E., & Erbaugh, J. K. (1961) An inventory for measuring depression. Archives of General Psychiatry, 4, 561-571.

Birmaher, B., Brent, D.A., Kolko, D., Baugher, M., Bridge, J., Holder, D., Iyengar, S. & Ulloa, R. E. (2000) Clinical outcome after short-term psychotherapy for adolescents with major depressive disorder. Archives of General Psychiatry, 57, 29-36.

Brent, D. A., Holder, D., Kolko, D., Birmaher, B., Baugher, M., Roth, C., Iyengar, S., & Johnson, B. A. (1997) A clinical psychotherapy trial for adolescent depression comparing cognitive, family, and supportive therapy. Archives of General Psychiatry, 54, 877-885.

Clarke, G. N., Hornbrook, M. C., Lynch, F. L., Polen, M. R., Gale, J., O'Connor, E., Seeley, J. R., & DeBar, L. L. (2002) Group cognitive behavioral treatment for depressed adolescent offspring of depressed parents in a HMO. Journal of the American Academy of Child and Adolescent Psychiatry, 41, 305-13.

Clarke, G. N., Lewinsohn, P. M., & Hops, H. (1990) Instructor's manual for the Adolescent Coping with Depression Course. The therapist manual and the adolescent workbook may be downloaded for free from the Internet at http://www.kpchr.org/acwd /acwd.html.

Clarke, G. N., Rohde, P., Lewinsohn, P. M., Hops, H., & Seeley, J. R. (1999) Cognitive-behavioral treatment of adolescent depression: Efficacy of acute group treatment and booster sessions. Journal of the American Academy of Child and Adolescent Psychiatry, 38, 272-279.

Curry, J. (2001) Specific psychotherapies for childhood and adolescent depression. Biological Psychiatry, 49, 1091-1100.

Ellis, A. & Harper, R. A. (1961) A guide to rational living. Hollywood, CA: Wilshire Book.

Ferster, C. B. (1966) Animal behavior and mental illness. Psychological Record, 16, 345-356.

Goodman, S. H., Lahey, B. B., Fielding, B., Dulcan, M., Narrow, W., & Regier, D. (1997) Representatives of clinical samples of youth with mental disorders: A preliminary population-based study. Journal of Abnormal Psychology, 106, 3-14.

Hamilton, M. A. (1960) A rating scale for depression. Journal of Neurology and Neurosurgical Psychiatry, 23, 56-62.

Harrington, R., Fudge, H., Rutter, M., Pickles, A. & Hill, J. (1990) Adult outcomes of childhood and adolescent depression: I. Psychiatric status. Archives of General Psychiatry, 47, 465-473.

Kahn, J., Kehle, T., Jenson, W. & Clark, E. (1990) Comparison of cognitive-behavioral, relaxation, and self-modelling interventions for depression among middle-school students. School Psychology Review, 19, 196-211.

Kandel, D. & Davies, M. (1986) Adult sequelae of adolescent depressive symptoms. Archives of General Psychiatry, 43, 255-262.

Kaslow, N. J. & Thompson, M. P. (1998) Applying the criteria for empirically supported treatments to studies of psychosocial interventions for child and adolescent depression. Journal of Clinical Child Psychology, 27, 146-55.

Lewinsohn, P. M., Antonuccio, D. O., Steinmetz-Breckenridge, J. & Teri, L. (1984) The coping with depression course: A psychoeducational intervention for unipolar depression. Eugene, OR: Castalia Press.

Lewinsohn, P. M., Clarke, G. N., Hops, H., & Andrews, J. (1990) Cognitive-behavioral group treatment of depression in adolescents. Behavior Therapy, 21, 385-401.

Lewinsohn, P. M., Hops, H., Roberts, R. E., Seeley, J. R., & Andrews, J. A. (1993) Adolescent psychopathology: I. Prevalence and incidence of depression and other DSM-III-R disorders in high school students. Journal of Abnormal Psychology, 102, 133-144.

Lewinsohn, P. M., Rohde, P., Hops, H. and Clarke, G. (1991) Leader's manual for parent groups: Adolescent coping with depression course. The therapist manual and the adolescent workbook for this intervention may be downloaded for free from the Internet at http://www.kpchr.org/acwd/acwd.html.

Lewinsohn, P. M., Rohde, P., Seeley, J. R., Klein, D. N., & Gotlib, I. H. (2003) Psychosocial functioning of young adults who have experienced and recovered from major depressive disorder during adolescence. Journal of Abnormal Psychology, 112, 353-363.

Lewinsohn, P. M., Weinstein, M., & Shaw, D. (1969) Depression: A clinical research approach. In R. D. Rubin & C. M. Frank (Eds.), Advances in behavior therapy (pp 231-241). New York: Academic Press.

Poznanski, E., & Mokros, H. (1995) Children's Depression Rating Scale – Revised (CDRS-R). Los Angeles: Western Psychological Services.

Rao, U., Ryan, N. D., Birmaher, B., Dahl, R. E., Williamson, D. E., Kaufman, J., Rao, R., & Nelson, B. (1995) Unipolar depression in adolescents: Clinical outcome in adulthood. Journal of the American Academy of Child and Adolescent Psychiatry, 34, 566-578.

Reinecke, M. A., Ryan, N. E., & DuBois, D. L. (1998) Cognitive-behavioral therapy of depression and depressive symptoms during adolescence: A review and meta-analysis. Journal of the American Academy of Child and Adolescent Psychiatry, 37, 26-34.

Rohde, P., Clarke, G. N., Lewinsohn, P. M., Seeley, J. R., & Kaufman, N. K. (2001) Impact of co-morbidity on a cognitive-behavioral group treatment for adolescent depression. Journal of the American Academy of Child and Adolescent Psychiatry, 40, 795-802.

Rohde, P., Clarke, G., N., Mace, D. E., Jorgensen, J. S., & Seeley, J. R. (2004) An efficacy/effectiveness study of cognitive-behavioral treatment for adolescents with co-morbid major depression and conduct disorder. Journal of the American Academy of Child and Adolescent Psychiatry, 43, 660-668.

Rosselló, J., & Bernal, G. (1999) The efficacy of cognitive-behavioral and interpersonal treatments for depression in Puerto Rican adolescents. Journal of Consulting and Clinical Psychology, 67, 734-745.

Seligman, M. E. P. (1975) Helplessness: On depression, development, and death. San Francisco: Freeman.

Shea, M.T., Elkin, I., Imber, S.D. & Sotsky, S.M., et al (1992) Course of depressive symptoms over follow-up: Findings from the National Institute of Mental Health Treatment of Depression Collaborative Research Program. Archives of General Psychiatry, 49, 782-787.

Stark, K., Reynolds, W., & Kaslow, N. (1987) A comparison of the relative efficacy of self-control therapy and a behavioral problem-solving therapy for depression in children. Journal of Abnormal Child Psychology, 15, 91-113.

Treatment for Adolescents with Depression Study Team (2004) The Treatment for Adolescents with Depression Study (TADS): Short-Term Effectiveness and Safety Outcomes. Journal of the American Medical Association, 292, 807-820.

Vostanis, P., Feehan, C., Grattan, E., & Bickerton, W. (1996) A randomized controlled out-patient trial of cognitive-behavioral treatment for children and adolescents with depression: Nine-month follow-up. Journal of Affective Disorders, 40, 105-116.

Wood, A. Harrington, R., & Moore, A. (1996) Controlled trial of brief cognitive-behavioural intervention in adolescent patients with depressive disorders. Journal of Child Psychology and Psychiatry, 37, 737-746.

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