A Comparison of Cognitive-Behavioral Therapy, Sertraline, and Their Combination for Adolescent Depression

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ABSTRACT

Objective: To evaluate cognitive-behavioral therapy, antidepressant medication alone, and combined CBT and antidepressant medication in the treatment of depressive disorders in adolescents. **Method:** Seventy-three adolescents (ages 12–18 years) with a primary diagnosis of *DSM-IV* major depressive disorder, dysthymic disorder, or depressive disorder not otherwise specified were randomly allocated to one of three treatments. Treatment outcome measures were administered before and after acute treatment, and at a 6-month follow-up. Depression diagnosis was the primary outcome measure; secondary measures were self- and other report and clinician rating of global functioning. The trial was conducted at three community-based clinics between July 2000 and December 2002. Data analyses used an intent-to-treat strategy. **Results:** Following acute treatment, all treatment groups demonstrated statistically significant improvement on outcome measures (depressive diagnosis, Reynolds Adolescent Depression Scale, Revised Children's Manifest Anxiety Scale, Suicidal Ideation Questionnaire), and improvement was maintained at follow-up. Combined cognitive-behavioral therapy and antidepressant medication was not found to be superior to either treatment alone. Compared with antidepressant medication alone, participants receiving cognitive-behavioral therapy alone demonstrated a superior acute treatment response (odds ratio = 6.86; 95% confidence interval 1.12–41.82). Although cognitive-behavioral therapy was found to be superior to antidepressant medication alone for the acute treatment of mild to moderate depression among youth, this may have stemmed from the relatively low dose of sertraline used. **Conclusions:** All treatments led to a reduction in depression, but the advantages of a combined approach were not evident. *J. Am. Acad. Child Adolesc. Psychiatry,* 2006;45(10):1151–1161. **Key Words:** depression, cognitive-behavioral therapy, sertraline.

Depressive disorders occur in ~3% to 8% of adolescents (Lewinsohn et al., 1993). Depressed teenagers experience difficulties in family, social, and academic functioning (Lewinsohn et al., 1998) and are at elevated risk of attempting and completing suicide (Lewinsohn et al., 1994; Shaffer et al., 1996). Timely and effective treatment is highly important. Of the psychological treatments, cognitive-behavioral therapy (CBT) has demonstrated short-term efficacy relative to waitlist (e. g., Clarke et al., 1999; Lewinsohn et al., 1990) and comparison treatments (e.g., Brent et al., 1997). Most studies report outcomes of ≤1 year. Strategies employed to improve CBT response, for example, involving parents (Lewinsohn et al., 1990) or including booster sessions (Clarke et al., 1999), lack empirical support. Of the selective serotonin reuptake inhibitors, fluoxetine is the only medication considered to be of established efficacy for adolescent depression given support from two randomized,

Accepted May 11, 2006.

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This research was supported by grants from beyondblue, Australia's Depression Initiative, Premier's Youth Suicide Taskforce, Department of Human Services Victoria, and Australian Rotary Health Research Fund. Pfizer Pharmaceuticals provided medication free of charge but did not provide other financial support or contribution to the experimental design or study protocol.

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DOI: 10.1097/01.chi.0000233157.21925.71

controlled trials (Emslie et al., 1997, 2002). Single trials support the efficacy of paroxetine (Keller et al., 2001), citalopram (Wagner et al., 2004), and sertraline (Wagner et al., 2003). More recently, concerns have been raised about the emergence of suicidality during antidepressant treatment of pediatric depression.

Although both pharmacological and psychological treatments have been demonstrated to be efficacious, a significant minority of adolescents do not respond to the current best available treatments, and relapse and recurrence are common (Emslie et al., 1998; Vostanis et al., 1998). Hence, a need exists to investigate approaches that may boost treatment response. Combining pharmacological and psychosocial treatments has been demonstrated to be more useful than monotherapy with severely depressed adults (Thase et al., 1997). The first evidence of the efficacy of combined treatments with depressed adolescents was provided by the Treatment for Adolescent Depression Study Team (TADS). They compared fluoxetine, CBT, their combination, and placebo in a sample of 439 adolescents ages 12 to 17 years (Treatment for Adolescents with Depression Study [TADS] Team, 2004). The combined treatment was found to be superior to placebo and CBT treatments on main outcome measures and superior to fluoxetine on some but not all measures. The present study, the Time for a Future—Adolescent Depression Program, aimed to evaluate sertraline, CBT, and their combination for adolescents with depression. Sertraline was chosen at the time because of some evidence of its therapeutic benefit (Ambrosini et al., 1999; McConville et al., 1996) and its relatively wide use in Australia (Hickie et al., 1999). First, it was hypothesized that referred adolescents with a depressive disorder would show remission following treatment with CBT, antidepressant medication alone (MED), or their combination (COMB). Second, those who received COMB were expected to experience significantly greater rates of remission of mood disorders after 3 months of treatment and at a 6-month follow-up than those who received either CBT or MED. Third, those who received COMB were also expected to experience significantly fewer self-reported depressive symptoms after 3 months of treatment and at a 6-month follow-up than those who received CBT or MED. Fourth, it was hypothesized that all adolescents would show general improvement in mental health and functioning as measured by self-reported anxiety, suicidal ideation, self-efficacy, family functioning, and mother-reported problem behaviors.

METHOD

Subjects

Between July 2000 and December 2002, 168 adolescents were referred by physicians or school counselors for assessment of possible depression to one of three clinics (two in suburban Melbourne and one in a regional city of Victoria) colocated with public child and adolescent mental health services. Recruitment was achieved by providing information to physicians and school counselors and inviting them to refer. Telephone screening excluded 66 participants. One hundred two young people and their parents were individually interviewed to determine a *DSM-IV* (American Psychiatric Association, 1994) depressive diagnosis, and they also completed questionnaires. Seventy-three adolescents ages 12 to 18 years were included based on a *DSM-IV* primary diagnosis of major depressive disorder (MDD), dysthymic disorder (DD), or depressive disorder not otherwise specified (DDNOS). The remaining 29 adolescents were excluded because they did not pursue referral, failed to meet diagnostic criteria, were outside the age range (12–18 years), or met other exclusion criteria (major physical illness or epilepsy, bipolar disorder, organic brain syndrome, intellectual disability of sufficient severity to preclude participation in therapy, psychotic disorder, primary diagnosis of substance abuse disorder, active suicidality or other severe psychiatric disturbance that required acute hospital admission, pregnancy or breast-feeding, or current antidepressant or psychotropic medication treatment; Fig.1). The final cohort consisted of 48 females (female-to-male ratio: 2:1). Mean age was 15.3 years (SD = 1.5) and the modal age was 16 years. Sixty-six of the adolescents (90%) were born in Australia, three in the United Kingdom, and one each in Iran, Japan, New Zealand, and Serbia. More than half of the sample of 73 experienced MDD (60.3%), and of these, the majority were diagnosed with either mild (54.5%) or moderate (43.2%) MDD and one case was severe (2.3%) according to *DSM-IV* criteria (American Psychiatric Association, 1994). The remainder of the sample was diagnosed with DD (23.3%) or DDNOS (16.4%). Comorbidity with depression was common; 69% were diagnosed with at least one comorbid disorder or condition, and 22% with between two and four comorbid diagnoses. Ten adolescents, at least 16 years old, did not have parents involved in the program because they lived independently (n = 4), refused parental involvement (n = 4), or parents refused involvement (n = 2; Table 1).

Measures

To determine treatment outcome, multiple outcome measures were administered at pretreatment, immediately following acute treatment, and 6 months following acute treatment. The predetermined primary outcome measure was depressive diagnosis; all other measures were secondary. Measures were chosen given their sound psychometric properties and previous use in similar trials.

Diagnosis. The Schedule for Affective Disorders and Schizophrenia for School Age Children-Lifetime Version was administered to determine a *DSM-IV* (American Psychiatric Association, 1994) depressive diagnosis. The Schedule for Affective Disorders and Schizophrenia for School Age Children has good psychometric