Suicidality and Its Relationship to Treatment Outcome in Depressed Adolescents

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This study investigates the impact of suicidality on treatment outcome in 107 depressed adolescents who participated in a clinical trial, and received either cognitive-behavioral (CBT), systemic-behavioral-family (SBFT), or non-directive-supportive therapy (NST). Suicidal depressed adolescents had a higher dropout rate and were more likely to be depressed at the end of treatment, in large part due to the particularly poor response of suicidal patients to NST. The relationship between suicidality and treatment response was mediated by severity of depression and hopelessness at intake. Hopelessness should be specifically targeted early in treatment. Suicidal depressed adolescents should not receive NST but a specific treatment like CBT.

The link between depression and suicide in adolescence is very strong. On one hand, depression is a common correlate of suicide, suicide attempt, and suicidal ideation. Psychological autopsy studies (Brent, Baugher, Bridge, Chen, & Chiappetta, 1999; Marttunen, Aro, Henriksson, & Lonnqvist, 1991; Shaffer et al., 1996) show up to 60% of adolescent suicide victims have a depressive disorder at the time of death. A similarly high proportion of teens with suicidal ideation or suicide attempt (40–80%) meet the criteria for depression at the time of the attempt (Goldston et al., 1998; Gould et al., 1998; Lewinsohn, Rohde, & Seeley, 1996; Reinherz et al., 1995). Conversely, suicidal ideation and behavior are frequently part of the clinical picture of adolescent depression; in clinically referred samples, up to 85% of patients with major depressive disorder or dysthymia will have suicidal ideation, 32% will make a suicide attempt sometime during adolescence or young adulthood (Kovacs, Goldston, & Gatsonis, 1993), 20% will make more than one attempt (Harrington et al., 1994), and, by young adulthood, 2.5 to 4.4% will commit suicide (Harrington, Fudge,
While previous studies have shown that psychotherapy is efficacious for the treatment of depressed adolescents (Brent et al., 1997; Harrington, Whittaker, & Shoebridge, 1998; Reinecke, Ryan, & DuBois, 1998; Wood, Harrington, & Moore, 1996), we know little about the efficacy of psychosocial treatments for suicidal adolescents, as they are often excluded from clinical trials. Furthermore, most clinical trials of depressed adolescents, whether psychotherapeutic or pharmacological, do not report on how treatment influenced subsequent outcome with respect to suicidal ideation and suicide attempt. Therefore, it is impossible to know to what extent treatments that are efficacious for depressed nonsuicidal adolescents are also efficacious for depressed suicidal adolescents.

Relatively few studies have focused exclusively on young suicidal individuals. Lerner and Clum (1990) randomized suicidal depressed college student volunteers to either a problem-solving group or a supportive therapy group. The problem-solving group was superior to the control treatment with regard to impact on depression, hopelessness, and problem solving, but the two treatments had no differential effect on suicidal ideation. Roth-eram-Borus et al. (1996) randomized 140 Latina adolescent suicide attempters to a brief cognitive behavioral family therapy, either alone or in combination with a specialized emergency room intervention designed to increase compliance. The combination of the emergency room and family intervention, compared to the family intervention alone, resulted in improved compliance, lower maternal depression, improved family interaction, and lower adolescent depression and suicidality. Harrington, Kerfoot, et al. (1998) compared a brief, home-based family intervention to routine care for adolescents who took an overdose. There were no differences between the two treatments with regard to impact on hopelessness, suicidal ideation, rate of subsequent suicide attempts, or changes in the family environment. Post-hoc analyses indicated a significant reduction in suicidal ideation in the non-depressed group only, a group that presented with relatively low severity of suicidal ideation. Wood, Trainor, Rothwell, Moore, & Harrington (2001) randomized 63 adolescents who had made repeated suicide attempts to either a six-session group therapy and routine care or routine care alone. Adolescents who had group therapy were less likely to make repeated suicide attempts than were the adolescents who had routine care. Those who received the group therapy were also less likely to use routine care, had better school attendance, and had a lower rate of behavioral disorder than adolescents given routine care alone. The two interventions did not differ, however, in their effects on depression or global outcome.

These studies suggest that the impact of these treatments on suicidality may be independent of their impact on depression, but do not inform us on the potential impact of suicidality on the treatment outcome of adolescent depression.

In previous research comparing cognitive behavioral therapy (CBT), systemic behavioral family therapy (SBFT), and non-directive supportive therapy (NST) for depressed adolescents we reported that CBT was superior to SBFT and NST in reducing depressive symptomatology (Brent et al., 1997) and we described predictors of depressive and functional outcome (Birmaher et al., 2000; Brent et al., 1998; Brent, Kolko, Birmaher, Baugher, & Bridge, 1999). While we did report that the three treatments were equivalent with regard to reducing suicidality, we have not previously reported on the impact of suicidality on depressive outcome. Given the paucity of treatment studies examining the impact of intervention on depressed suicidal individuals, we report herein on a re-analysis of our clinical trial data examining the impact of suicidality on depressive outcome. Because suicidal ideation often waxes and wanes, we examined both current and lifetime suicidal ideation.

In this study we hypothesized that, at intake, suicidal depressed adolescents compared
to nonsuicidal depressed adolescents will show
greater depressive symptom severity, longer
duration of depression, more frequently oc-
curring comorbid conditions, greater severity
of cognitive distortion, greater hopelessness,
and more severe familial discord. We also hy-
pothesized that suicidal depressed adolescents
will have a poorer outcome with respect to
depression. Finally, we hypothesized that cor-
relates of suicidality, such as symptom severity,
duration of depression, cognitive distortion
and hopelessness, and family discord will me-
diate the observed differences in treatment
response.

**MATERIAL AND METHODS**

**Sample**

As described previously (Birmaher et al., 2000; Brent et al., 1997; Brent et al., 1998; Brent, Kolko et al., 1999; Brent, Birmaher, Kolko, Baugh, & Bridge, 2001; Kolko, Brent, Baugh, Bridge, & Birmaher, 2000; Renaud et al., 1998; Stein et al., 2001), subjects were 13–18 year olds meeting criteria for DSM-
III-R (American Psychiatric Association, 1987) major depressive disorder (MDD) on the Schedule for Affective Disorders and Schizo-
phrenia for School-Age Children, Present Ep-
isode and Epidemiologic versions (K-SADS-
P and E; Chambers et al., 1985; Orvaschel,
Puig-Antich, Chambers, Tabrizi, & Johnson,
1982), and with a Beck Depression Inventory
(BDI; Beck, Steer, & Garbin, 1988) score
greater than or equal to 13. Subjects were
nonpsychotic; nonbipolar; and without obse-
sive-compulsive disorder, eating disorder, sub-
stance abuse, or ongoing physical or sexual
abuse. Approximately one third of the subjects
entering the protocol came via an advertise-
ment (32.7%) and the rest were recruited from
a child psychiatry outpatien clinic in a univer-
sity setting. No differences were noted be-
tween those who responded to an advertise-
ment and those who were clinically referred
with respect to past treatment, demographic,
or clinical variables. Of 122 subjects who were
eligible for the study, 107 (87.7%) agreed to
randomization: 37 were randomly assigned to
cognitive behavior therapy, 35 to systemic be-
avioral family therapy, and 35 to non-direc-
tive supportive therapy.

The median socioeconomic score (SES)
was 40 (class IV) (Hollingshead, 1975) and
75.7% were females. Subjects were moder-
ately depressed, with a mean BDI score of
24.1 (SD = 8.1) and with substantial rates of
comorbid anxiety (31.8%), dysthymic disor-
der (22.4%), and disruptive disorders (20.6%).

**Suicidality**

The presence of clinically significant
current and past suicidality was assessed with
the current and lifetime questions for this do-
main on the K-SADS-P and E, on a scale from
1 (no suicidal ideation) to 7 (suicide attempt with
a high medical lethality). Our cut point was 4
or greater (i.e., at least ideation with a plan).

**Current Clinically Significant Suicidality.**
Of the 107 depressed adolescents randomized,
we had data on current suicidality for 106
adolescents: 14 were “currently suicidal,” mean-
ing that they presented at least suicidal ide-
ation with a plan. The 92 remaining were
considered currently nonsuicidal, although some
did have passive suicidal ideation without a
plan.

**Lifetime Clinically Significant Suicidality.**
Of the 107 depressed adolescents randomized,
40 had a lifetime history of clinically signifi-
cant suicidality, that is, individuals who had
made an unsuccessful suicide attempt in their
life prior to assessment and/or had at least
suicidal ideation with a plan at one point in
their life. The remaining 67 had not had a
history of clinically significant suicidality, even
if at one point they could have had suicidal
ideation but with no plan.

**Randomization**

Once the patient and family had given
written informed consent to the protocol ap-
proved by our institutional review board, they
were randomized to 1 of the 3 treatments,
balancing on sex, number of parents in the
household, and clinically significant suicidality (i.e., ideation with a plan or attempt).

Treatment

Treatment consisted of 12 to 16 sessions delivered in 12 to 16 weeks in each of the three cells by experienced therapists (Brent et al., 1997). Cognitive behavioral therapy was derived from Beck's CBT (Beck, Rush, Shaw, & Emery, 1979). Systemic behavioral family therapy combined functional family therapy (Alexander & Parsons, 1982) and the problem-solving model of Robin and Foster (Robin & Foster, 1989). Non-directive supportive therapy was designed to control for the non-specific effects of psychotherapy and consisted of the provision of support, affect clarification, and active listening. Expert ratings of videotaped sessions demonstrated that the treatments in all three cells were delivered with fidelity and were distinct from each other (Brent et al., 1997). Patients were removed from the protocol and referred to open treatment if they continued to meet criteria for major depression, had a BDI score persistently higher than or equal to 13, and had failed to make symptomatic progress.

Assessment Schedule

Subjects were assessed at intake, at the 6th session, and at the end of treatment (12th to 16th session), with an attempt to interview even those subjects who left the protocol at the time that they would have finished treatment. In addition, a BDI score was obtained at each session. Of the 107 subjects entering the protocol, 94 (87.8%) received a 6-week interview and BDI, 99 (92.5%) received a final interview, and 97 (90.7%) had a final BDI. There were no differences among the cells as to proportions with missing data or protocol violations.

Outcomes

In this article, the primary outcome examined was the presence of DSM-III-R major depressive disorder at the end of treatment, as assessed by a trained interviewer blind to treatment condition, using K-SADS-P and E. In addition, we ascertained for a more stringent outcome, failure to achieve clinical remission, where clinical remission was defined as both the absence of MDD at the end of treatment and a BDI score of less than 9 for at least three consecutive sessions and sustained until the end of treatment. Finally, we examined for the presence of functional impairment, defined as a score of less than 60 on the Children's Global Assessment Scale (C-GAS; Shaffer et al., 1983) at the end of treatment. The same-trained interviewer who completed the K-SADS rated the C-GAS.

Assessments

Demographic Variables. Age, race, sex, referral source, family constellation, and socioeconomic status were ascertained at intake, the latter by means of the Hollingshead Four-Factor Scale for Social Class (Hollingshead, 1975).

Clinical Variables. DSM-III-R diagnoses were rendered using the K-SADS (P and E) (Chambers et al., 1985; Orvaschel et al., 1982). Relevant clinical predictors of outcome included age at onset, duration of depressive episode, comorbid diagnostic conditions, and severity of depression. The latter was assessed by both interviewer-rated depression, using 13 items from the K-SADS-P (DEP13), and self-reported depression, using the BDI. Functional status was ascertained via interview using the C-GAS (Shaffer et al., 1983).

Child Cognitive Variables. The Children's Negative Cognitive Error Questionnaire (CNCEQ; Leitenberg, Yost, & Carroll-Wilson, 1986) is a 24-item self-report questionnaire to survey cognitive distortions related to catastrophization, personalization, overgeneralization, and selective abstraction. The Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974), a 20-item self-report scale, measured hopelessness.

Family-Environmental Variables. Both the child and caretaking parent reported on conflict using the Conflict Behavior Questionnaire (Robin & Foster, 1989), a 20-item self-
report questionnaire designed to tap conflict and negative communication. The desire for relationship change was measured using the Areas of Change Questionnaire (Jacob & Seilhamer, 1985), which evaluates parent-child relationships across specified problem areas using a 32-item child self-report form and a 34-item parent form. Each item is rated from $-3$ (“much less” change) to $+3$ (“much more” change) in Likert format. Family climate was assessed using the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983), a 60-item self-report measure filled out by both the caretaking parent and the patient. There are six specific subscales: Problem-Solving, Communication, Roles, Affective Responsiveness, Affective Involvement, Behavioral Control and General Functioning.

For all the above-noted instruments, adequate internal consistency, reliability, and validity have been documented.

Data Analysis

All group comparisons were made using standard univariate parametric and nonparametric statistics. For dichotomous outcomes, Pearson’s $\chi^2$ was used when sample sizes were moderate or large, and Fisher’s Exact Test (FET) was used when expected cell sizes were less than 5. For continuous outcomes, either a two-sample $t$ test or its nonparametric equivalent, the Mann-Whitney U (MWU) test, was used. Random effects regression analyses (Gibbons et al., 1993) were used to test for suicidality over time during active treatment (i.e., intake, 6-weeks, post treatment) and through the end of the 24-month follow-up (i.e., 3, 6, 9, 12, 24 months after treatment).

Logistic regression analyses were used to test the strength of association between predictors and MDD at the end of treatment (Schleselman, 1982). Log-linear analyses were used to test for the potential interaction of suicidality, treatment, and MDD at the end of treatment. The differential effects of suicidality on the time to remission, using a defined dichotomous endpoint, was assessed by use of survival analysis and the Mantel-Cox log rank test (Mantel, 1966). For all pairwise contrasts, $\alpha$ was set at .05, two-sided.

RESULTS

CURRENT SUICIDALITY

Demographic and Clinical Characteristics at Intake

There were no significant differences in demographic variables between the currently suicidal ($n = 14$) and currently nonsuicidal groups ($n = 92$) (Table 1). In addition, the two groups were similar with respect to psychiatric comorbidity (Table 2). The proportion of subjects with current suicidality did not differ in the three treatment groups (CBT, 16.2% [6/37] vs. SBFT, 14.7% [5/35] vs. NST, 8.6% [3/35], Fisher’s exact test, $p = .63$); however, they did have higher levels of self-reported and interviewer-rated depressive symptomatology, an earlier age of onset of MDD, a longer duration of depression, a more severe functional impairment, and were more likely to have made a past suicide attempt. With respect to cognitive and family variables, currently suicidal subjects had a higher level of hopelessness than currently nonsuicidal subjects (Table 2).

Outcome

Currently suicidal subjects were more likely to be depressed than currently nonsuicidal subjects at the end of treatment (53.8% [$n = 13$] vs. 27.1% [$n = 85$], $\chi^2 = 3.81, p = .05$). Currently suicidal subjects were also more likely to be hopeless than currently non-suicidal subjects at the end of treatment (BHS, 9.5 [6.0] vs. 6.0 [5.4], $t = -2.13, df = 92, p = .036$). There was no group difference in the achievement of remission, defined as the absence of MDD and three consecutive scores on the BDI of less than 9 sustained through remaining sessions. There were no significant treatment × time interactions on the BDI or DEPi3, no group differences in the propor-
### TABLE 1

**Demographic Characteristics (Current Suicidality)**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Currently Suicidal (N = 14)</th>
<th>Currently Nonsuicidal (N = 92)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years M (SD)</td>
<td>15.6 (1.2)</td>
<td>15.6 (1.5)</td>
</tr>
<tr>
<td>Females, %</td>
<td>71.4</td>
<td>77.2</td>
</tr>
<tr>
<td>White, %</td>
<td>92.9</td>
<td>82.6</td>
</tr>
<tr>
<td>SES, M (SD)</td>
<td>38.9 (11.7)</td>
<td>39.7 (13.8)</td>
</tr>
<tr>
<td>SES%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>0.0</td>
<td>9.8</td>
</tr>
<tr>
<td>II</td>
<td>21.4</td>
<td>9.8</td>
</tr>
<tr>
<td>III</td>
<td>28.6</td>
<td>28.3</td>
</tr>
<tr>
<td>IV</td>
<td>42.9</td>
<td>41.3</td>
</tr>
<tr>
<td>V</td>
<td>7.1</td>
<td>10.9</td>
</tr>
<tr>
<td>Recruited by Advertisement, %</td>
<td>21.4</td>
<td>34.8</td>
</tr>
</tbody>
</table>

Note. SES indicates socioeconomic status as measured by Hollingshead (1975).

### TABLE 2

**Clinical Characteristics at Intake (Current Suicidality)**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Currently Suicidal (N = 14)</th>
<th>Currently Nonsuicidal (N = 92)</th>
<th>STAT</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comorbid diagnoses, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dysthymic disorder</td>
<td>14.3</td>
<td>23.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety disorder</td>
<td>21.4</td>
<td>33.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct disorder</td>
<td>0.0</td>
<td>3.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of MDD, M (SD)</td>
<td>24.5 (27.0)</td>
<td>10.2 (14.6)</td>
<td>MWU = 425.5</td>
<td>.04</td>
<td></td>
</tr>
<tr>
<td>Age of onset of MDD, M (SD)</td>
<td>13.2 (2.5)</td>
<td>14.7 (1.7)</td>
<td>MWU = 854.0</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>BDI, M (SD)</td>
<td>28.1 (8.9)</td>
<td>23.5 (7.9)</td>
<td><em>t</em> = 2.01</td>
<td>104</td>
<td>.05</td>
</tr>
<tr>
<td>DEP13, M (SD)</td>
<td>3.1 (0.4)</td>
<td>2.8 (0.5)</td>
<td><em>t</em> = 2.92</td>
<td>104</td>
<td>.004</td>
</tr>
<tr>
<td>History of suicide attempt, %</td>
<td>28.6</td>
<td>7.6</td>
<td>FET</td>
<td></td>
<td>.04</td>
</tr>
<tr>
<td>Lifetime Sexual Abuse, %</td>
<td>7.1</td>
<td>10.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifetime Physical Abuse, %</td>
<td>15.4</td>
<td>2.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CGAS &lt; 60, %, M</td>
<td>92.9</td>
<td>50.0</td>
<td><em>χ²</em> = 9.04</td>
<td></td>
<td>.003</td>
</tr>
</tbody>
</table>

**Cognitive Variables**

| BHS, M (SD) | 15.5 (3.2) | 11.2 (5.7) | MWU = 335.5 | .006 |
| CNCEQ–Tot, M (SD) | 73.5 (22.0) | 82.0 (19.3) | *t* = 1.51 | 101 | .13 |

**Family Variables**

| CBQ, M (SD) | 9.5 (6.5) | 9.6 (6.3) | *t* = 0.06 | 100 | .95 |
| ACQ, M (SD) | 34.4 (17.0) | 33.8 (19.3) | *t* = 0.12 | 101 | .91 |
| FAD–GF, M (SD) | 2.8 (0.6) | 2.6 (0.5) | *t* = 1.13 | 101 | .26 |

FET indicates Fisher’s exact test; M, mean; SD, standard deviation; MWU, Mann–Whitney U; BDI, Beck Depression Inventory (Beck, Steer, & Garbin, 1988); DEP13, 13 depression items from the School Age Schedule for Affective Disorders and Schizophrenia, Present and Lifetime versions (Chambers et al., 1985); CGAS, Children’s Global Assessment Schedule (Shaffer et al., 1983); BHS, Beck Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974); CNCEQ–tot, Children’s Negative Cognitive Errors Questionnaire–Total Score (Leitenberg, Yost, & Carroll-Wilson, 1986); CBQ, Conflict Behavior Questionnaire (Robin & Foster, 1989); ACQ, Areas of Change Questionnaire (Jacob & Seilhamer, 1985); FAD–GF, Family Assessment Device–Global Functioning (Epstein, Baldwin, & Bishop, 1983).
tion of subjects with a CGAS < 60 at the end of treatment (38.5% vs. 29.4%, ns), or in the proportion of subjects with significant suicidality (7.7% vs. 1.2%, ns) at the end of treatment.

We conducted a logistic regression analysis to estimate the risk of MDD at the end of treatment in currently suicidal versus currently nonsuicidal subjects, controlling for differences at intake (Table 3). While suicidality and MDD at the end of treatment were associated in univariate analyses, after controlling for hopelessness and duration of depression at intake, this relationship was no longer significant. Therefore the relationship between current suicidality and depression at the end of the treatment was mediated by hopelessness and longer duration of depression in the currently suicidal subjects.

**Dropout and Referral to Open Treatment During Acute Phase**

Currently suicidal subjects were more likely to drop out of the study during active treatment than currently nonsuicidal subjects (28.6% [n = 14] vs. 4.3% [n = 92], Fisher’s exact test, p = .01). The three treatment groups were similar with respect to rates of dropout during active treatment (CBT, 8.1% [3/37] vs. SBFT, 5.7% [2/35], vs. NST, 8.6% [3/35], Fisher’s exact test, p = 1.00). There was no effect of suicidality on rates of referral to open treatment (0.0% for suicidal vs. 7.6% for nonsuicidal).

**LIFETIME SUICIDALITY**

Analyses were repeated for subjects with a lifetime history of suicidality (n = 40) compared with those without a lifetime history of suicidality (n = 67). As lifetime suicidality was part of the randomization the proportion of subjects with lifetime suicidality did not differ in the three treatment groups (CBT, 35.1% [13/37] vs. SBFT, 37.1% [13/35] vs. NST, 40.0% [14/35], χ² = 0.18, p = .91). In general, the pattern of findings was similar to those examining the effects of current suicidality. At intake, lifetime suicidal, compared with lifetime nonsuicidal subjects, had higher levels of self-reported depressive symptomatology (BDI, 27.6 [8.8] vs. 22.1 [6.8], t = 3.64, df = 105, p = .0004), an earlier age of onset of MDD (13.9 [2.0] vs. 14.8 [1.8] years, t = 2.36, df = 105, p = .02), and greater hopelessness (14.1 [4.6] vs. 10.3 [5.7], t = 3.64, df = 102, p = .0004).

Lifetime suicidal subjects had higher rates of MDD at the end of treatment than did lifetime nonsuicidal subjects (42.1% [n = 38] vs. 23.0% [n = 61], χ² = 4.07, df = 1, p = .04); however, suicidal subjects were similar to lifetime nonsuicidal subjects with respect to outcome on the BDI, DEP13, BHS, and CGAS measures during active treatment, and in the achievement of remission defined by the absence of MDD and three consecutive scores on the BDI of less than 9 sustained through remaining sessions. In the logistic regression analysis, lifetime suicidality was not associated with MDD at the end of treatment (AOR = 1.51, 95% CI = 0.53–4.32), after controlling for hopelessness (AOR = 1.13, 95% CI = 1.01–1.27), self-reported depressive symptomatology (BDI, AOR = 1.00, ns), and age of onset of MDD (AOR = 0.80, ns), supporting

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Suicidality</td>
<td>1.43</td>
<td>0.32–6.43</td>
</tr>
<tr>
<td>Beck Hopelessness Scale</td>
<td>1.12</td>
<td>1.00–1.26</td>
</tr>
<tr>
<td>Beck Depression Inventory</td>
<td>1.01</td>
<td>0.94–1.08</td>
</tr>
<tr>
<td>DEP13</td>
<td>1.08</td>
<td>0.34–3.38</td>
</tr>
<tr>
<td>CGAS</td>
<td>1.08</td>
<td>0.36–3.23</td>
</tr>
<tr>
<td>Age of Onset</td>
<td>0.96</td>
<td>0.69–1.33</td>
</tr>
<tr>
<td>Duration</td>
<td>1.03</td>
<td>1.00–1.07</td>
</tr>
</tbody>
</table>

MDD indicates major depressive disorder; OR, odds ratio; CI, confidence interval; Beck Hopelessness Scale (Beck, Steer, Kovacs, & Garrison, 1985); Beck Depression Inventory (Beck, Steer, & Garbin, 1988); DEP13, 13 depression items from the School Age Schedule for Affective Disorders and Schizophrenia, Present and Lifetime versions (Chambers et al., 1985); CGAS, Children’s Global Assessment Schedule (Shaffer et al., 1983).
mediation of the relationship between suicidality at intake and depression at outcome by hopelessness.

Lifetime suicidal subjects were more likely to drop out of the study during active treatment than lifetime nonsuicidal subjects (15.0% \( n = 40 \) vs. 3.0% \( n = 67 \), Fisher’s exact test, \( p = .05 \)). There was no group difference in rates of referral to open treatment (10.0% for suicidal vs. 4.5% for nonsuicidal).

**Outcome of Depression Between Suicidal and Nonsuicidal Groups as a Function of Treatment Group**

The overall treatment with respect to lifetime suicidality and MDD interaction was not significant \( (\chi^2 = 1.87, df = 2, p = 0.39, \Delta = .5 \text{ added}) \). Inspection of Figure 1, which presents the rate of MDD at the end of treatment as a function of treatment and lifetime suicidality, shows that there were no differences within either the CBT or the SBFT groups; however, within the NST group, lifetime suicidal subjects, compared with lifetime nonsuicidal subjects, were more likely to meet the criteria for MDD at the end of treatment (64.3% \( n = 14 \) vs. 26.3% \( n = 19 \), \( \chi^2 = 4.76, p = .03 \)).

**Follow-Up**

There were no effects of current and lifetime suicidality with regard to BDI, DEP13, CGAS, rates of MDD, or suicidality over the 2-year follow-up.

**DISCUSSION**

In this report, the impact of current and lifetime suicidality on the outcome of depressed adolescents who participated in a clinical psychotherapy trial was examined. Both current and lifetime suicidality were associated with greater severity of depression and impairment at intake and also with dropout from the treatment. Their response to treatment depends on the treatment they received: For CBT and SBFT lifetime suicidality did not moderate treatment response, but for NST the response of subjects with suicidal history was much less favorable than for nonsuicidal subjects. This poorer response of suicidal subjects to treatment was mediated by a key correlate of suicidality, hopelessness. There were no effects of suicidality with regard to outcome over follow-up. These findings will be

![Figure 1. Overall and by treatment group MDD rate (%) at the end of the treatment.](image_url)

**Note:** MDD = major depressive disorder; CBT = cognitive behavioral therapy; SBFT = systemic-behavioral-family therapy; NST = non-directive supportive therapy
discussed in the context of the extant literature and implications for clinical care, after discussing the limitations of the study.

**Limitations**

While this sample is large by the standards of adolescent clinical trials of psychotherapy, it is small to detect the combined factors of treatment, risk factor, and outcome interactions. Because of the entry criteria that excluded those on antidepressant medication, with comorbid substance abuse, or with ongoing physical or sexual abuse, some of the more acutely suicidal individuals may have been excluded. Additionally, depressed adolescents who made suicide attempts were hospitalized and then placed on antidepressant medication, thus excluding them from this study. This limits our ability to generalize our findings to the treatment of more seriously suicidal patients. Finally, the small number of males and those who were from ethnic minorities limits our ability to generalize results beyond Caucasian females.

Consistent with previous reports (Goldston et al., 1996; Goldston et al., 1998; Larson & Ivarsson, 1998), our study supported that suicidality in depressed adolescents was associated with more prolonged and severe depression, and an history of suicide attempt. As expected and described by other authors, those with both current and lifetime suicidality were also more hopeless (Beck, Steer, Kovacs, & Garrison, 1985; Beck, Steer, Beck, & Newman, 1993; Brown, Beck, Steer, & Grisham, 2000; Van Gastel, Schotte, & Maes, 1997) and dropped out more frequently from treatment (Trautman, Stewart, & Morishima, 1993). However, comorbidity and familial discord were not related to current and lifetime suicidality, possibly because subjects with comorbid substance abuse and primary conduct disorder were excluded.

Both current and lifetime suicidality conveyed a poorer prognosis for depression in the study sample as a whole. Closer scrutiny reveals that this is largely accounted for by the much poorer response of suicidal subjects randomized to supportive therapy. In contrast, suicidality did not convey a differential response for either CBT or to family treatment. Previously we reported that in NST there was a slower clinical response of patients’ depressive symptoms (Brent et al., 1997), and that those who were more severely depressed and those who did not respond right away had a poorer outcome in NST (Renaud et al., 1998). CBT and SBFT target risk factors for suicide behavior in a structured manner, not like NST; therefore, a treatment like NST with little structure and a slower response appears not to be the appropriate treatment for hopeless suicidal individuals.

The finding that differences, on the depressive outcome, between suicidal and non-suicidal subjects seem to have disappeared at follow-up could be explained by the fact, as we reported previously, that most of the subjects in the study received additional treatment during the 24-month follow-up phase (Brent, Kolko, et al., 1999).

The relationship between suicidality and depressive outcome was in part mediated by hopelessness. Both lifetime and current suicidality were associated with increased hopelessness, in keeping with the view that the tendency to pessimism is trait-like, albeit under the influence of current mood. Greater hopelessness was also related to a propensity to drop out of treatment and to a poor response to treatment in the total sample, as has been noted previously (Brent et al., 1998). Hopelessness is a powerful predictor of suicide in patients with mood disorders (Keller & Woltersdorf, 1993). For these reasons, it is critical to attend to hopelessness early in treatment, especially hopelessness about treatment in depressed adolescents.

**Clinical Implications**

Both current and lifetime suicidality may convey increased risk for poor outcome in depressed patients, mediated in part by greater hopelessness. Therefore, attendance to hopelessness is a critical component of treatment of depressed suicidal adolescents. Supportive treatment, even delivered by highly skilled therapists, is inadequate to treat adolescents...
with depression and a lifetime history of suicidality. CBT represents one empirically supported treatment for adolescent depression that appears to be useful even for those with current or lifetime suicidality; however, more clinical trials are needed to evaluate the treatment of suicidal teens.

REFERENCES


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