Suicidal Adolescents After Hospitalization: Parent and Family Impacts on Treatment Follow-Through

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ABSTRACT

Objective: To help determine optimal strategies for treating suicidal adolescents, the authors studied family predictors of compliance with recommended psychotropic medication monitoring, individual therapy, and parent guidance/family therapy sessions. **Method:** Sixty-six hospitalized, suicidal adolescents participated in a comprehensive diagnostic evaluation and depression/suicidality assessment. Family/parental assessment measures were the Family Assessment Device, Social Adjustment Inventory for Children and Adolescents (parent-adolescent subscales), Symptom Checklist-90-Revised, and Social Adjustment Scale-Self Report. Follow-up evaluation, 6 months posthospitalization, consisted of structured telephone interviews assessing treatment follow-through. **Results:** Compliance with recommended medication follow-up (66.7%) and individual therapy (50.8%) was better than compliance with parent guidance/family therapy (33.3%) sessions. The most dysfunctional families and those with the least involved/affectionate father–adolescent relationships had the poorest follow-through with parent guidance/family therapy. Mothers' depressive and paranoid symptoms were linked with less adolescent individual therapy and family therapy follow-through. Mothers' hostility was associated with less medication follow-up. **Conclusions:** Follow-through was best for medication and individual therapy. Multiple family/parental predictors of poor follow-through suggest the need for alternative or supplemental treatment strategies. *J. Am. Acad. Child Adolesc. Psychiatry,* 1997, 36(1):85–93. **Key Words:** suicide risk, adolescents, treatment compliance.

Despite the presence of serious, identifiable psychiatric disorder in most suicidal adolescents who are undergoing psychiatric hospitalization (Brent et al., 1993; King et al., 1995; Pfeffer et al., 1991), there is a paucity of research—prospective and retrospective—on predictors of posthospitalization treatment follow-through among these adolescents.

Adolescents who make known suicide attempts or who are identified as being at imminent risk for doing so may be brought into the mental health service

delivery system for inpatient stabilization and comprehensive evaluation. Because of the high acuity associated with suicidal crises, this is a period, albeit brief, of close control and monitoring by mental health professionals. In fact, inpatient evaluations generally result in carefully considered treatment recommendations. Little is known, however, about which patients actually obtain which recommended treatments after brief inpatient hospitalizations. The relatively low rate of treatment compliance previously documented among adolescent suicide attempters (e.g., Spirito et al., 1989) suggests that the existing array of recommended treatments, or the way in which they are delivered, may not match the needs or resources of many suicidal adolescents and their families.

Spirito et al. (1992) documented substantial dropout rates for psychotherapy among adolescent suicide attempters. At 3-month follow-up, they noted that 9% of suicidal adolescents initially treated in a psychiatric hospital failed to participate in any outpatient treatment. Only 59% of the suicidal adolescents in their

psychiatric hospital sample were participating in "psychotherapy visits" on a regular basis at 3-month follow-up. In another follow-up study of children and adolescents approximately 18 months after hospital discharge, Cohen-Sandler et al. (1982) found that 16% of suicidal children received no treatment after discharge. The majority of children in their sample (68%) participated in individual or group therapy "at some time after discharge." Families reportedly were involved in the aftercare treatment of almost 50% of their sample; however, information about extent of follow-through was not reported. This is critical given that the initial posthospitalization compliance rate can be quite high for suicidal adolescents (King et al., 1995).

Rapid dropout from treatment may be the rule rather than the exception for suicidal adolescents. Trautman et al. (1993) studied the "outpatient clinic attendance patterns" of 112 suicide attempters (10- to 18-year-olds) referred for follow-up services during an 18-month period. They reported an overall dropout rate of 77%. This dropout was found to occur quite rapidly, with a median survival before treatment dropout of only three visits. It is clear that a small subset of suicidal adolescents obtain no treatment after hospital discharge. A larger subset begins in treatment and then drops out or discontinues within a relatively short period of time.

An improved understanding of family and parental predictors of treatment follow-through would assist us in designing and delivering treatments in a manner that maximizes follow-through. Previous findings highlight the importance of the family system. In a baseline study of hospitalized suicidal adolescents, King et al. (1993) demonstrated that fathers of suicidal adolescents with mood disorders reported more depressive symptoms and family adjustment problems than did fathers of nonsuicidal adolescents with mood disorders. Other studies have documented increased rates of conflict, violence, and general family dysfunction within the families of suicidal adolescents (e.g., King et al., 1995; Pfeffer et al., 1988).

Because family dynamics are woven into the matrix of risk for adolescent suicidal behavior, family factors can be expected to have an impact on extent of follow-through with treatments designed to alter such behavior. Family systems are known to function in ways that maintain homeostasis, or states of equilibrium

(e.g., Minuchin and Fishman, 1981). Treatment interventions with adolescents are aimed at change. They generally focus on changing maladaptive patterns of interaction within families and/or the functioning of one or more individual family members. Any such change alters the existing equilibrium, and the anticipation of change alone could be experienced as threatening by one or more family members. Even when requested and desired, the "work" of changing can result in many and varied treatment impasses and barriers, "resistances," and "reasons" for treatment discontinuation.

The present study was designed to identify family predictors of suicidal adolescents' posthospitalization follow-through with recommended psychopharmacological, individual therapy, and parent guidance/family therapy interventions. Components of the family system studied were socioeconomic status, family caregiving structure, adolescents' perceptions of family functioning, mother–adolescent and father–adolescent relationships, parental psychopathology, and parental psychosocial functioning.

METHOD

Subjects

Subjects were 66 adolescents, 13 to 17 years old, who had been hospitalized on an adolescent psychiatry inpatient unit with significant suicidal thoughts, intents, or behaviors. We included all adolescents hospitalized for suicide risk because of the continuity that has been documented between suicidal ideation and attempts in follow-up studies of suicidal adolescents (Brent et al., 1993; King et al., 1995) and longitudinal community-based studies (Lewinsohn et al., 1996). History of suicidality was determined at the time of hospitalization by scores on the Spectrum of Suicidal Behavior Scale (Pfeffer, 1986), a 5-point scale indicating severity of suicidal behavior. This was completed by a clinical research nurse after a focused patient interview and review of admission records.

The sample included 44 girls and 22 boys with a mean age of 15.0 years (SD = 1.4). The sample racial composition was 86.4% Caucasian, 9.1% African-American, and 4.5% other racial/ethnic groups. Socioeconomic status (Hollingshead and Redlich, 1958), determined by the employment and education of the parent contributing most to family finances, was distributed across levels (I: 13.1%; II: 14.8%; III: 23.0%; IV: 34.4%; V: 14.8%). Parent/guardian written informed consent and subject assent were obtained.

Only subjects with baseline (hospitalization) and 6-month follow-up data were included in this sample. Follow-up data were available for 83.5% (66/79) of the total baseline evaluation sample. (The baseline evaluation sample, in turn, consisted of 79 of 85 consecutively hospitalized adolescents (93%) meeting study criteria.) Follow-up participants did not differ from nonparticipants in age, gender, socioeconomic status, or racial/ethnic group. They did, however, vary in family caregiving situation ($\chi^2[3] = 11.54$, $p <$

.01). Among the 13 subjects missing follow-up data, 53.8% (versus 24.2% of those with data) were in single-parent homes and 38.5% (versus 16.7%) lived either in a home without a parent or in out-of-home placements.

Diagnoses were established according to *DSM-III-R* (American Psychiatric Association, 1987) with consensus of the attending psychiatrist and psychologist. Diagnostic information included clinical admission interviews and independent parent and adolescent responses to the computerized version of the Diagnostic Interview Schedule for Children, Version DISC-2.3 (Costello et al., 1985; Fisher et al., 1993). Most subjects had mood disorders: major depressive disorder (n = 48; 72.7%), bipolar disorder (n = 4; 6.1%), depressive disorder not otherwise specified (n = 1; 1.5%), and dysthymia (n = 15; 22.7%). Behavioral and substance use disorders were also common: alcohol use disorder (n = 12; 18.2%), other substance use disorder (n = 10; 15.2%), conduct disorder (n = 16; 24.2%), attention-deficit hyperactivity disorder (n = 9; 13.6%), and oppositional defiant disorder (n = 7; 10.6%). Other disorders evident in more than four subjects included eating disorders (n = 7; 10.5%), social phobia (n = 10; 15.2%), generalized anxiety disorder (n = 8; 12.1%), separation anxiety disorder (n = 6; 9.1%), and posttraumatic stress disorder (n = 6; 9.1%).

Baseline Evaluation

Baseline evaluations were completed during the first week of hospitalization (mean length of hospitalization = 22.6 days, SD = 12.4 days).

The Reynolds Adolescent Depression Scale (Reynolds, 1987) is a 38-item questionnaire assessing presence and severity of depressive symptoms. It has shown high internal consistency in diverse samples, high test-retest reliability, and well-documented concurrent validity (Reynolds, 1987). The Suicidal Ideation Questionnaire-Junior is a 15-item self-report questionnaire that assesses the frequency of a wide range of suicidal thoughts. The total score has excellent, well-documented psychometric properties (Reynolds, 1988, 1992).

The General Functioning subscale of the Family Assessment Device (FAD) (Epstein et al., 1983) was used to assess adolescents' perceptions of family functioning. This self-report subscale consists of 12 statements that respondents endorse in terms of how well each statement describes their family. Items are scored on a 4-point scale from "strongly agree" to "strongly disagree." The FAD has demonstrated adequate internal consistency, construct validity, and test-retest reliability (e.g., Halvorsen, 1991).

The Social Adjustment Inventory for Children and Adolescents (SAICA) (John et al., 1987) is a semistructured interview that assesses parental perceptions of adolescents' functioning in family, school, peer, and spare-time domains during the previous 6 months. This study used subjects' mean scores on three subscales: Relationship With Mother, Relationship With Father, and Parent–Adolescent Conflict. Interrater agreement for SAICA subscale items, assessed using κ coefficients, was previously found to range between .85 and 1.00 (King et al., 1993).

Parental psychopathology and adaptive functioning were assessed with the Symptom Checklist-90-Revised (SCL-90-R) (Derogatis, 1977) and the Social Adjustment Scale-Self Report form (SAS-SR) (Weissman and Bothwell, 1976). The SCL-90-R includes 90 psychiatric symptoms that parents rated on a 5-point scale according to severity within the previous 2 weeks. Study variables were the total score and four subscale scores (Depression, Hostile, Anxiety, and Paranoid). The SAS-SR includes 42 items describing adjustment in the social-interpersonal role areas of work, social/leisure, extended family, marriage, parent, family unit, and economic. For each item, parents chose one of five statements that best describe their adjustment.

Follow-up Evaluation

Structured telephone interviews were conducted 6 to 8 months after hospital discharge (mean = 30.5 weeks; SD = 6.3). Complete parent/guardian and/or adolescent interviews were conducted with 62 of the 66 subjects. Parent/guardian and adolescent interviews were conducted for 84% of subjects, only parent/guardian interviews for 8% of subjects, and only adolescent interviews for 5% of subjects. For the remaining 3%, follow-up interviews were conducted with another adult (Department of Social Services staff person, grandmother).

The follow-up evaluation included a structured interview assessing follow-through with treatment recommendations. (It also included assessments of adolescent functioning at follow-up. Baseline and treatment follow-through predictors of functioning will be reported separately.) This was a revised version of the interview used in a pilot follow-up study (King et al., 1995). Treatment follow-through was coded for recommended psychotropic medication follow-up, individual therapy, and parent guidance/family therapy services as follows: none/minimal (0 or one contact), some (more than one contact, but discontinued without professional recommendation), and complete. The decision to use these three categories was made after reviewing sample distributions. There were naturally occurring breaks in these distributions with a subset of subjects that failed to get started in any sustained manner (none or only one session), a subset that started but discontinued prematurely, and a subset that remained in treatment as recommended.

Type of medication and nature of individual and parent guidance/family therapy were uncontrolled in this naturalistic outcome study. Most subjects were given multimodal treatment recommendations (medication: 82%; individual therapy: 98%; parent guidance/family therapy: 100%), reflecting the participating inpatient program's standard of practice for severely disturbed, suicidal adolescents.

Data Analyses

McNemar χ^2 tests were used to determine whether or not extent of treatment follow-through differed by recommended treatment (medication, individual therapy, parent guidance/family therapy). We used χ^2 and Fisher Exact Tests (Monte Carlo Estimate for three-by-three table) to assess follow-through group differences (none/minimal, some, complete) related to caregiving structure and socioeconomic status (SES), respectively. Univariate and multivariate analyses of variance and covariance (taking into account baseline depression severity) were used to assess differences in family and parental functioning among treatment follow-through subgroups. Additional analyses consisted of two-tailed t tests to determine location of subgroup differences. Due to the smaller number of participating fathers, father subscale scores were analyzed in relation to only two follow-through categories (none/minimal/some, complete).

RESULTS

Baseline Data

Adolescent Suicidality/Depression. Nineteen subjects (28.8%) had made serious suicide attempts, 12 subjects

(18.2%) had made mild suicide attempts or gestures, 22 subjects (33.3%) were hospitalized with serious suicidal intent, and 13 (19.7%) expressed significant suicidal ideation at the time of hospitalization. Mean Suicidal Ideation Questionnaire-Junior and Reynolds Adolescent Depression Scale scores were 32.7 (SD = 24.2) and 73.4 (SD = 17.4), respectively.

Family/Parental Functioning. The mean score on the FAD General Functioning subscale was 2.44 (SD = 0.40). Mean scores for SAICA subscales were as follows: Relationship With Mother (mean = 2.22, SD = 0.85), Relationship With Father (mean = 2.61, SD = 0.72), and Parent–Adolescent Conflict (mean = 2.03, SD = 0.92).

Mothers' and fathers' SCL-90-R total and subscale scores (means, standard deviations) are presented with SAS-SR scores in Table 1.

Treatment Follow-Through

Medication. Psychoactive medication was a recommended treatment for 51 subjects. Among these adolescents, the mean number of medication management sessions after hospitalization was 5.7 (SD = 7.5). Approximately 14% (n = 7) showed no posthospitalization

TABLE 1
Parents' Self-Reported Psychiatric Symptoms (SCL-90-R) and Social Adjustment (SAS-SR)

	Mother		Father	
Measure	Mean	SD	Mean	SD
SCL-90-R				
Depression	1.00	0.78	0.69	0.67
Anxiety	0.50	0.48	0.40	0.37
Hostile	0.47	0.48	0.36	0.54
Paranoid	0.34	0.43	0.36	0.44
SAS-SR				
Total score	1.96	0.31	1.87	0.30
Work	1.99	1.06	1.64	0.83
Social/leisure	2.13	0.52	2.18	0.42
Extended family	1.60	0.34	1.57	0.48
Marriage	2.09	0.60	1.88	0.47
Parent	1.90	0.70	1.96	0.65
Family unit	2.33	0.83	2.00	0.78
Economics	1.84	1.21	1.71	1.16

Note: SCL-90-R = Symptom Checklist-90-Revised; SAS-SR = Social Adjustment Scale-Self Report. SCL-90-R scores range between 0 and 4; SAS-SR scores range between 1 and 5. Actual n's vary as follows: mother SCL-90-R, n = 40; father SCL-90-R, n = 30; mother SAS-SR subscales, n = 33 to 43; father SAS-SR subscales, n = 28 to 31.

medication follow-through, 5.9% (n = 3) showed minimal follow-through (only 1 outpatient contact after hospital discharge), 13.7% (n = 7) showed some follow-through (discontinued without physician recommendation), and 66.7% (n = 34) showed complete follow-through. Thus, two thirds of all subjects for whom a medication was recommended at hospital discharge reported complete follow-through.

The mean numbers of sessions for the Medication-Some (Med-SOME), and Medication-Complete (Med-COMPLETE) subgroups were 2.86 (SD = 1.46) and 7.79 (SD = 8.42), respectively.

Individual Therapy. Individual psychotherapy was a recommended treatment for 61 subjects. Among these subjects, the mean number of sessions attended was 15.2 (SD = 11.8). Thirteen percent of adolescents (n = 8) were in the Individual Therapy-None/Minimal subgroup (Ind-NONE). They either attended none or only one individual therapy session after hospitalization. Approximately 36% of adolescents (n = 22) were in the Individual Therapy-Some subgroup (Ind-SOME), and 51% were in the Individual Therapy-Complete subgroup (Ind-COMPLETE). The mean numbers of sessions attended for the Ind-SOME and Ind-COMPLETE subgroups were 11.0 (SD = 8.3) and 22.0 (SD = 10.6), respectively.

Family Therapy. Among the 62 subjects for whom parent guidance/family therapy was recommended, the mean number of sessions attended was 6.61 (SD = 8.12). Follow-through levels were as follows: Fam-NONE (31.7%; n = 19), Fam-SOME (discontinued without professional recommendation; 35.0%; n = 21), Fam-COMPLETE (33.3%; n = 20). Among the Fam-SOME and Fam-COMPLETE subgroups, the mean numbers of sessions were 6.65 (SD = 5.73) and 12.65 (SD = 9.41), respectively.

Differential Follow-Through. Follow-through with medication recommendations was significantly better than was follow-through with parent guidance/family therapy. Among the 32 adolescents in the Med-COMPLETE subgroup, 17 (53%) reported less than complete follow-through for recommended parent guidance/family therapy. The opposite was not true. Only one adolescent in the Fam-COMPLETE subgroup reported less than complete follow-through for medication (binomial, $p \leq .0001$).

Follow-through with recommended individual therapy also was better than follow-through with parent

guidance/family therapy. Among the 26 adolescents in the Ind-COMPLETE subgroup, 10 adolescents (38%) did not show complete follow-through with recommended parent guidance/family therapy. All subjects who reported incomplete follow-through with individual therapy also reported incomplete follow-through with parent guidance/family therapy (binomial, two-tailed $p \le .002$). There was no significant difference in follow-through for medication and individual therapy.

Family Predictors of Treatment Follow-Through

Socioeconomic Status/Family Caregivers. There was no relationship between SES and follow-through with individual therapy or parent guidance/family therapy recommendations. SES was related to medication follow-through (Fisher's Exact Test [Monte Carlo Estimate] = 8.32, $p = .051$). Statistical trends suggested that lower and lower-middle SES families, in comparison with other families, had higher rates of complete follow-through with medication (82.6% versus 54.2%; $\chi^2[2] = 5.18$, $p = .075$) and individual therapy (66.7% versus 36.7%; $\chi^2[2] = 5.25$, $p = .073$).

Family caregiver structure was unrelated to treatment follow-through. Subjects who resided with two biological (or early adoptive) parents, a single parent, a biological parent and stepparent, or neither parent had comparable levels of follow-through.

Family Functioning. As indicated in Table 2, FAD scores varied for parent guidance/family therapy follow-through subgroups. This difference remained significant when adolescent depression severity was included as a covariate ($F[2,46] = 6.07$, $p < .01$). The Fam-NONE subgroup reported the most family dysfunction. They had higher FAD Global Functioning scores than did Fam-SOME ($t[32] = 2.66$, $p = .012$) and Fam-COMPLETE ($t[31] = 2.78$, $p = .009$) subgroups. Although similar patterns appear evident for follow-through with medication and individual therapy, these were not significant.

SAICA Father Relationship scores differentiated medication follow-through subgroups ($F[2,31] = 3.90$, $p = .031$) and parent/family therapy follow-through subgroups ($F[2,38] = 4.80$, $p = .014$). These associations remained significant after accounting for adolescents' baseline depression severity ($F[2,30] = 4.17$, $p < .03$ and $F[2,37] = 5.25$, $p = .01$). Subjects in the Med-SOME subgroup had higher SAICA Father Relationship scores, indicative of less active/affectionate relationships, than did subjects in the Med-COMPLETE subgroup. Similarly, subjects in the Fam-NONE subgroup had higher SAICA Father Relationship scores than did those in Fam-SOME and Fam-COMPLETE subgroups ($t[25] = 2.76$, $p = .011$, and $t[24] = 2.72$, $p = .012$, respectively).

TABLE 2
Suicidal Adolescents After Hospitalization: Family Functioning (Means, Standard Deviations) and Treatment Follow-Through

Measure	Recommended Treatments and Follow-Through								
	Medication			Individual			Parent/Family		
	None	Some	Complete	None	Some	Complete	None	Some	Complete
FAD Global Scale[a]	2.66	2.48	2.38	2.62	2.48	2.37	2.67	2.31	2.36
	(0.35)	(0.35)	(0.37)	(0.29)	(0.32)	(0.44)	(0.32)	(0.45)	(0.32)
SAICA									
Mother relationship	2.15	2.47	2.22	2.19	2.19	2.17	2.00	2.18	2.40
	(0.75)	(0.61)	(0.89)	(0.96)	(0.77)	(0.88)	(0.81)	(0.86)	(0.84)
Father relationship[b]	2.61	3.40	2.45	2.81	2.69	2.48	3.11	2.33	2.50
	(0.85)	(0.55)	(0.67)	(0.81)	(0.78)	(0.68)	(0.59)	(0.82)	(0.55)
Parental conflict	2.50	2.35	1.93	2.68	2.06	1.78	2.23	2.13	1.66
	(1.03)	(0.38)	(0.99)	(0.86)	(0.74)	(1.00)	(0.86)	(1.03)	(0.82)

Note: FAD = Family Assessment Device; SAICA = Social Adjustment Inventory for Children and Adolescents. FAD and SAICA scores range between 1 and 4. Higher FAD scores indicate more dysfunction; higher SAICA scores indicate a less active/involved relationship. Sample sizes vary from 34 (SAICA father, medication) to 52 (FAD, individual).
[a] FAD scores differed for family therapy subgroups ($F[2,48] = 4.57$, $p = 0.015$).
[b] SAICA father relationship scores differed for medication and family therapy subgroups ($F[2,31] = 3.901$, $p = 0.031$, and $F[2,38] = 4.8$, $p = 0.014$, respectively).

TABLE 3
Mothers' Self-Reported Symptoms (Means, Standard Deviations) and Treatment Follow-Through

| | Recommended Treatments and Follow-Through | | | | | | | | |
| | Medication | | | Individual | | | Parent/Family | | |
SCL-90-R Subscale	None $(n = 7)$	Some $(n = 5)$	Complete $(n = 20)$	None $(n = 6)$	Some $(n = 16)$	Complete $(n = 18)$	None $(n = 13)$	Some $(n = 15)$	Complete $(n = 12)$
Depression[a]	1.10	1.00	0.97	1.73	0.86	0.88	1.38	0.57	1.13
	(0.71)	(0.84)	(0.89)	(0.98)	(0.69)	(0.69)	(0.95)	(0.45)	(0.69)
Anxiety	0.54	0.46	0.56	0.75	0.45	0.46	0.58	0.32	0.64
	(0.51)	(0.34)	(0.60)	(0.62)	(0.42)	(0.49)	(0.56)	(0.35)	(0.50)
Hostile[b]	0.67	0.76	0.29	0.78	0.43	0.42	0.60	0.32	0.53
	(0.51)	(0.44)	(0.25)	(0.33)	(0.44)	(0.54)	(0.49)	(0.31)	(0.61)
Paranoid[c]	0.36	0.47	0.25	0.75	0.33	0.21	0.65	0.17	0.22
	(0.45)	(0.46)	(0.38)	(0.50)	(0.43)	(0.34)	(0.50)	(0.27)	(0.35)

Note: SCL-90-R = Symptom Checklist-90-Revised.

[a] Depression scores differed for individual therapy (F [2,37] = 3.477, p = 0.041) and family therapy subgroups (F [2,37] = 4.692, p = 0.015).

[b] Hostile scores differed for medication subgroups (F [2,29] = 5.447, p = 0.01).

[c] Paranoid scores differed for individual therapy (F [2,37] = 4.021, p = 0.026), and parent/family therapy subgroups (F [2,37] = 6.473, p = 0.004).

Parental Functioning. Table 3 presents mother SCL-90-R scores for medication, individual treatment, and parent/family treatment follow-through subgroups. Higher scores reflect more psychopathology.

Mothers' SCL-90-R Depression and Paranoid subscale scores were related to follow-through with individual therapy, even after accounting for adolescent depression severity (F[2,34] = 3.29, $p < .05$; F[2,34] = 3.66, $p < .04$, respectively). The Ind-NONE subgroup had higher maternal Depression subscale scores than did those in Ind-SOME and Ind-COMPLETE subgroups (t[22] = 2.35, p = .028, and t[20] = 2.35, p = .029, respectively). The Ind-NONE subgroup had higher maternal Paranoid subscale scores than did the Ind-COMPLETE subgroup (t[22] = 3.00, p = .007).

Mothers' Depression and Paranoid subscale scores also were related to parent guidance/family therapy follow-through after accounting for adolescent depression severity (F[2,34] = 3.61, $p < .04$; F[2,34] = 5.36, $p < .01$, respectively). The Fam-NONE subgroup had higher maternal Depression subscale scores than did those in the Fam-SOME subgroup (t[26] = 2.93, p = .007). The Fam-NONE subgroup had higher maternal Paranoid scores than the Fam-SOME (t[26] = 3.25, p = .003) and Fam-COMPLETE subgroups (t[23] = 2.48, p = .021).

Mothers' SCL-90-R Hostile subscale scores were related to follow-through with medication recommendations after taking into account adolescent depression severity (F[2,26] = 4.55, p = .02). The Med-NONE subgroup had higher maternal SCL-90-R Hostile subscale scores than did the Med-COMPLETE subgroup (t[23] = 2.57, $p < .02$). Those in the MED-SOME subgroup had higher SCL-90-R Hostile subscale scores than did those in the MED-COMPLETE subgroup (t[23] = 3.23, p = .004).

There were no follow-through differences related to parental social adjustment, mothers' SCL-90-R Anxiety scores, or fathers' SCL-90-R subscale scores.

Depressive Disorders, History of Suicidality, and Treatment Follow-Through

Extent of follow-through with recommended medication follow-up, individual therapy, and parent guidance/family therapy sessions did not differ for subgroups defined by the presence or absence of depressive disorders or for subgroups defined according to the severity of past suicidality (Spectrum of Suicidal Behavior Scale scores). Among the 43 adolescents with depressive disorders, the extent of follow-through with medication and parent/family therapy did not differ for subgroups with and without comorbid substance use/behavioral disorders. Individual therapy follow-through, however, did differ for these subgroups (χ^2[2] = 8.92, $p < .02$). Only 31% of those with comorbid substance/use behavioral disorders reported complete individual therapy follow-through, in comparison with 59% of those without such comorbidity.

DISCUSSION

This study revealed substantial variability in suicidal adolescents' (and their families) follow-through with different types of treatment after hospitalization. Follow-through with recommended medication and individual therapy was substantially better than was follow-through with recommended parent guidance/family therapy interventions. Other studies have documented and discussed extent of treatment follow-through among suicidal adolescents and their families (e.g., Spirito et al., 1989, 1992; Trautman et al., 1993); however, to our knowledge this is the first study to address parental and family predictors of specific types of treatment follow-through.

Previous studies are consistent with our finding that many suicidal adolescents fail to obtain continuing treatment after hospitalization (Spirito et al., 1989; Trautman et al., 1993). We found that two thirds of suicidal adolescents and their parents/guardians reported complete follow-through with recommended medication follow-up sessions, one half reported complete follow-through with recommended individual therapy, and only one third reported complete follow-through with recommended parent guidance/family therapy. Are there particular treatments or combinations of treatments that are most effective and palatable for continued participation? This question cannot be addressed adequately without further research. We do know, however, that the family system is relevant to the well-being of depressed adolescents. Previous research clearly indicates that not all moderately and severely depressed adolescents are suicidal (e.g., Myers et al., 1991). Even when we consider additional risk factors such as chronicity of depression and presence of comorbid disorders (Brent et al., 1990; Kovacs et al., 1993; Pfeffer et al., 1991), there is no direct—necessary and sufficient—link to suicidality. Multiple factors, including family functioning, are important (Cohen-Sandler et al., 1982; King et al., 1993, 1995).

There are several ways in which general family dysfunction, the quality of parent–adolescent relationships, and maternal psychopathology could have an impact on follow-through. One simple and seemingly compelling explanation is that greater complexity is associated with less follow-through. One could argue that it is easier to take a pill than it is to travel to an office and discuss personal matters. Both of these

endeavors, however, are arguably easier than getting an entire family group to travel somewhere together and agree to discuss "tough" issues. This may be particularly true in families with a high level of general dysfunction, a depressed parent, or an estranged father–adolescent relationship.

A related explanation takes into account family members' attributions for adolescents' difficulties. The medication intervention is often interpreted to suggest an "illness" within the adolescent. It may be easier to participate in this form of treatment, attributing problems to the adolescent's illness, than it is to address broader issues and shared responsibilities. In a similar vein, individual therapy suggests adolescent responsibility whereas the basic assumptions of a family therapy approach move at least some of the responsibility to the entire family system. Maternal paranoid and depressive symptoms could have an impact on a mother's willingness to accept some responsibility for difficulties and work on family issues. Feelings of hostility may interfere with some mothers' ability to trust the physician provider and develop a strong parent–physician alliance.

Family caregiving structure was unrelated to follow-through in our sample. This may reflect partially the greater number of adolescents in single-parent homes for whom follow-up data were unavailable. One might expect it to be more difficult for a single parent, with sole responsibility for follow-through, to manage the logistic requirements of attendance at therapy sessions. Present findings do suggest, however, that at least some parents without interfering psychopathology can overcome structural hurdles to follow-through.

On a more general note, follow-through with parent guidance/family therapy may have been lower because of a difference in perceived quality or actual effectiveness. It may be that medication provides the most prompt relief and, therefore, is most likely to be continued. In addition, each daily dose of medication does not involve the many interpersonal nuances of physician–patient or therapist–patient–family contacts—certainly not to the extent involved in lengthy family therapy sessions. Thus, clinician styles or skills may have less impact on medication follow-through than they do on individual and family therapy.

The beliefs and persuasiveness of the hospital treatment team also may have an impact on treatment follow-through. Given the medical setting and the high

rate at which psychotropic medications are prescribed, it is possible that the medication intervention was highlighted as being especially important to subjects in this study. This could be particularly true if a prolonged period of physician persuasion accompanied the parental medication consent process.

Research Limitations and Directions for Future Research

The generalizability of findings is limited by the predominantly Caucasian composition of our sample and our inability to locate approximately 20% of the original sample of hospitalized adolescents. In addition, although our overall sample was of moderate size, we had relatively small numbers of subjects for some analyses (e.g., father psychiatric symptoms in relation to medication follow-through subgroups). Thus, these detailed follow-up analyses must be considered preliminary. It also should be noted that we did not use a standardized measure of treatment follow-through. In future studies, it would be helpful to obtain external validation data concerning extent of follow-through with recommended treatments.

Identified predictors of treatment follow-through may or may not be specific to suicidal adolescents. Because our primary interest was in understanding variable follow-through among suicidal adolescents and their families, we did not design this study to determine whether and how predictors vary for other adolescents undergoing psychiatric hospitalization. Future research with psychiatric comparison groups could address this issue. Length of hospital stay also deserves further consideration. The average length of stay in the current study (22.6 days) is relatively long by current standards. As lengths of stay continue to decrease, it behooves us to determine how this affects treatment follow-through or the predictors of such follow-through.

Clinical Implications

It is critical that we understand how to "reach" and work with suicidal adolescents and their families after the crisis is over and hospital discharge has occurred. In the present study, adolescents, mothers, and fathers independently reported information relevant to our understanding of follow-through with individual and parent guidance/family therapy recommendations. We documented an inverse relationship between adolescent reports of impaired family functioning and follow-through. In addition, follow-through was less likely in

families with mothers who reported more depressive and paranoid symptoms and in families with less active and affectionate father–adolescent relationships. These data help us understand some of the hurdles in the way of follow-through that we need to address and "work through." Parent psychiatric evaluations may be essential to our work with suicidal adolescents. Information from these evaluations would enable us to make realistic treatment recommendations that take into account what parents and families need to maximize treatment follow-through. For instance, recommendations for parental medication or individual treatment could be prioritized if warranted. It is notable that mothers' depressive and paranoid symptoms were related to adolescents' individual therapy follow-through as well, suggesting the strong impact that a parent has on maintenance of treatment at follow-up.

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