Although anxiety disorders are common in childhood (Bernstein and Borchardt, 1991; Costello and Angold, 1995; Costello et al., 1996), only a few studies have investigated the longitudinal course of these disorders. In one such study, Cohen and colleagues (1993) prospectively followed an epidemiological sample of 734 children and adolescents aged 9 to 18 years. Six DSM-III-R diagnoses were assessed in the study, including one anxiety disorder—overanxious disorder. Close to half with severe overanxious disorder had the same disorder at 2½-year follow-up.

In another prospective study, 776 adolescents were evaluated with structured diagnostic interviews at baseline, and 2 and 9 years later (Pine et al., 1998). Adolescents who had anxiety and depressive disorders were two to three times more likely than others to have anxiety or depressive disorders in early adulthood. Although the majority of adolescent anxiety disorders had remitted by early adulthood, most adult disorders were preceded by similar disorders in adolescence. The study also demonstrated specificity of anxiety disorders, with social phobia at baseline predicting social phobia at follow-up and simple phobia predicting simple phobia.

A high remission rate for child and adolescent anxiety disorders was reported by Last and colleagues (1996). Their 3- to 4-year longitudinal study followed 102 children with anxiety disorders. Of the 84 children with anxiety disorders who returned for interviews, 81.7% recovered from their anxiety disorders during the follow-up period. Early age of onset and older age at intake predicted slower recovery. During the follow-up period, 67.5% received at least one psychotropic medication trial and 77.5% had outpatient therapy. Higher level of somatic complaints on the Anxiety Rating for Children-Revised Physiological subscale at baseline predicted more severe depression on the Children's Depression Rating Scale-Revised at follow-up (p = .029).

In this naturalistic follow-up study, there was high utilization of mental health interventions. In addition, a substantial number of subjects met criteria for anxiety and/or depressive disorders 1 year after treatment. Investigation of duration of acute treatments and evaluation of maintenance treatments for school refusal is needed. J. Am. Acad. Child Adolesc. Psychiatry, 2001, 40(2):206–213. Key Words: anxiety, depression, follow-up, school refusal.
study, 35 subjects treated for school phobia at ages 7 to 12 years were compared with 35 age- and gender-matched control individuals (Flakierska et al., 1988). It was found that the school-phobic subjects had sought outpatient adult psychiatric care more often than the comparison group. Twenty to 29 years after treatment, a second follow-up study compared the same 35 school-phobic subjects with 35 age- and gender-matched non-school-phobic psychiatric patients and 35 individuals from the general population (Flakierska-Praquin et al., 1997). Again, the individuals with school phobia had received more psychiatric intervention. Continued study of the longitudinal course of this syndrome is warranted.

The purpose of this follow-up study was to investigate further the course of anxiety and depressive disorders in adolescents with school refusal. School refusal subjects were evaluated approximately 1 year after participating in an 8-week treatment study with respect to diagnoses and types of mental health interventions used. Predictors of outcome at follow-up were also tested.

METHOD

SUBJECTS

This was a 1-year follow-up study of school-refusing adolescents with comorbid anxiety disorders and major depression who participated in an 8-week controlled clinical trial of imipramine plus cognitive-behavioral therapy (CBT) versus placebo plus CBT (Bernstein et al., 2000). In the clinical trial, imipramine dosage was titrated to 3 mg/kg per day by the end of week 2 and, on the basis of imipramine levels, subsequently adjusted to aim for values in the therapeutic range. Weekly CBT was manual-based and focused on graduated in vivo exposure to school and coping self-statement training (Last et al., 1998). Each subject received weekly exposure homework assignments based on an individualized fear and avoidance hierarchy. Rewards for completion of homework assignments served to enhance CBT compliance.

The imipramine plus CBT group showed significant improvement in school attendance rate over the course of the study (z = 4.36, p < .001), while the placebo plus CBT group did not (z = 1.26, not significant) (Bernstein et al., 2000). The mean attendance rate during the eighth week was 70% for the imipramine group and 28% for the placebo group (z < .001). While both groups improved on the Children's Depression Rating Scale-Revised (CDRS-R) (Poznanski et al., 1985), the imipramine group improved at a significantly faster rate than the placebo group (z = 2.08, p = .037). All subjects who participated in the study were invited back for the follow-up appointment.

Forty-one adolescents (25 females and 16 males) returned for follow-up. This was 65.1% (41 of 63) of the original randomized sample and included 35 completers and 6 dropouts. Racial composition of the follow-up sample was 92.7% (n = 38) white and 7.3% (n = 3) African American. Follow-up interviews were conducted 14.2 ± 2.8 months (minimum of 12 months) after completion of the treatment study. The mean age at follow-up was 15.8 ± 1.4 years.

PROCEDURE

Prior to starting the 8-week treatment study, participants and their parents signed an informed consent form which included a statement that they would be contacted 1 year after the study for a follow-up interview. At the end of the 8-week study, all subjects were tapered off the study medication over a 10- to 16-day period (depending on dosage) prior to discontinuing the study medication. Beginning in the second year of the treatment study, subjects and their parents had access to the information regarding whether they had received imipramine or placebo during the study by contacting a psychiatrist who was not blind to medication assignment. All other members of the treatment study team remained blind to subjects' medication status. Breaking of the blind for participants allowed subjects and their parents to use this information in making decisions about possible future medication trials. Families were given names of psychiatrists and therapists for follow-up treatment, as needed. Thus, this is a naturalistic follow-up study.

At follow-up, information was obtained through the semistructured psychiatric interview, Diagnostic Interview for Children and Adolescents-Revised, Adolescent (DICA-R-A) and Parent (DICA-R-P) versions (Reich and Welner, 1990). The DICA-R-A and DICA-R-P were simultaneously administered to the subjects and parents, respectively, by two trained research assistants. The social phobia, agoraphobia, and panic disorder sections of the National Institute of Mental Health (NIMH) Diagnostic Interview Schedule for Children-Child Form (DISC-C) and Parent Form (DISC-P) (Shaffer et al., 1996) were also administered to subjects and parents, respectively, by trained research assistants. The clinician rating scales, the Anxiety Rating for Children-Revised (ARC-R) (Bernstein et al., 1996b), and the CDRS-R were administered to the subjects by a child and adolescent psychiatrist. Parents completed the Child Behavior Checklist (CBCL) (Achenbach, 1991). Parents and adolescents completed a self-report scale of family functioning, the Family Adaptability and Cohesion Evaluation Scale II (FACES II) (Olson et al., 1982). Parents and adolescents also completed a follow-up questionnaire, developed by the first author for the study, which included questions about interim treatments and school programs.

INSTRUMENTS

Diagnostic Interviews

Diagnostic Interview for Children and Adolescents-Revised, Adolescent and Parent Versions. The DICA-R is a semistructured diagnostic interview which assesses psychiatric disorders according to DSM-III-R criteria (Reich and Welner, 1990). It has good agreement between child and adolescent psychiatrists and trained lay interviewers administering the interview and adequate test-retest reliability (Boyle et al., 1993).

NIMH Diagnostic Interview Schedule for Children Version 2.3, Child and Parent Forms. The DISC-2.3 is a structured psychiatric interview which evaluates DSM-III-R diagnoses and has been demonstrated to be a reliable measure for assessing childhood psychiatric disorders (Shaffer et al., 1996).

Clinician Rating Scales

Anxiety Rating for Children-Revised. This instrument consists of two subscales, the Physiological subscale and the Anxiety subscale. The instrument discriminates between children with and without an anxiety disorder and has high test-retest reliability (Bernstein et al., 1996b).
The Children’s Depression Rating Scale-Revised (CDRS-R) differentiates between children with and without depression and has good reliability (Poznanski et al., 1984).

Self-Report Measures

Family Adaptability and Cohesion Evaluation Scale II (FACES II) measures family cohesion and adaptability dimensions. Cohesion and adaptability raw scores are translated into linear scores which define family type, ranging from balanced to extreme. This instrument has good test-retest reliability, internal consistency (Olson et al., 1983), and concurrent validity (Hampson et al., 1991).

Child Behavior Checklist, Parent Version (CBCL) consists of eight subscales (Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems, Attention Problems, Delinquent Behavior, and Aggressive Behavior) and measures a wide range of internalizing and externalizing symptoms. This instrument has been demonstrated to be sensitive to change with treatment (Achenbach, 1991). Test-retest reliability is 0.70 to 0.90 (Greenhill et al., 1998).

Statistical Analyses

Descriptive statistics, primarily relative frequencies, were examined for each follow-up variable. In some cases, t tests and \( \chi^2 \) tests were used to test for differences between treatment groups. Multiple regression analyses were used to test several predictors of outcome at follow-up. For all inferential analyses, an \( \alpha \) level of 0.05 was used. Because of missing data on some instruments, sample size for analyses varied from 38 to 40.

Results

To evaluate for selective attrition, subjects who participated in follow-up (\( n = 41 \)) were compared with those who did not participate (\( n = 22 \)). There were no significant differences on demographics or scores on anxiety and depression at the end of the 8-week study between these two groups. However, there was significantly better school attendance at the end of the 8-week study (measured in percentage of hours attended per week) for those who participated in the follow-up (60.4% ± 38.7%) compared with those who did not participate (30.5% ± 32.9%) (\( t = -2.47, df = 46, p = .017 \)). In addition, a greater percentage of subjects who received imipramine during the 8-week treatment study (80.6%, 25 of 31) participated in the follow-up than those who received placebo (50%, 16 of 32) (\( \chi^2 = 6.51, df = 1, p = .011 \)).

Prevalence, Remission, and Acquisition Rates

At follow-up, the DISC-R and DISC were administered separately to parents and adolescents; all but one of the adolescents and two of the parents completed the instruments. A particular DSM-III-R diagnosis was considered present if diagnostic criteria were fulfilled on either the parent or adolescent interviews. Prevalence rates for specific anxiety and depressive disorders at follow-up are shown in Table 1. There were 39 subjects with both adolescent and parent interviews. This included one subject who had follow-up data but no baseline data. The most common anxiety disorder at follow-up was overanxious disorder (38.5%; \( n = 15 \)), followed by social phobia (31.6%; \( n = 12 \)) and avoidant disorder (30.8%; \( n = 12 \)). With respect to depressive disorders, 28.2% (\( n = 11 \)) of subjects met criteria for dysthymia and 15.4% (\( n = 6 \)) met criteria for major depression. Overall, 64.1% (\( n = 25 \)) met

<table>
<thead>
<tr>
<th>DSM-III-R</th>
<th>Baseline</th>
<th>Remission</th>
<th>Retention</th>
<th>Acquisition</th>
<th>Prevalence</th>
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<tr>
<td></td>
<td>( n )</td>
<td>( %^a )</td>
<td>( n )</td>
<td>( %^b )</td>
<td>( n )</td>
</tr>
<tr>
<td><strong>Anxiety disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agoraphobia</td>
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<td>71.4</td>
<td>4</td>
</tr>
<tr>
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</tr>
<tr>
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<tr>
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<td>0</td>
<td>0.0</td>
<td>1</td>
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<tr>
<td><strong>Depressive disorders</strong></td>
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<td></td>
<td></td>
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<td>100.0</td>
<td>32</td>
<td>84.2</td>
<td>6</td>
</tr>
<tr>
<td>Dysthymia</td>
<td>24</td>
<td>63.2</td>
<td>15</td>
<td>62.5</td>
<td>9</td>
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</tbody>
</table>

\( ^a \) of total number with completed assessments at baseline from both adolescent and parent (\( N = 38 \), except \( N = 29 \) for agoraphobia and panic and \( N = 30 \) for social phobia).

\( ^b \) of total number with the disorder at baseline.

\( ^c \) of total number without the disorder at baseline.

\( ^d \) of total number with completed assessments at follow-up from both adolescent and parent (\( N = 39 \), except \( N = 37 \) for agoraphobia and panic and \( N = 38 \) for social phobia).
criteria for at least one anxiety disorder and 33.3% (n = 13) met criteria for dysthymia and/or major depression. In addition, 71.8% (n = 28) had an anxiety and/or depressive disorder, but only 25.6% (n = 10) had both types of disorders. At follow-up, there were no significant differences between the imipramine plus CBT group and placebo plus CBT group in prevalence rates of anxiety or depressive diagnoses.

Excluding panic disorder, with only one case at baseline, remission rates at follow-up for anxiety disorders ranged from 50% to 72.7%; the highest rates were in agoraphobia and separation anxiety disorder (Table 1). For depressive disorders, remission rates were 84.2% for major depression and 62.5% for dysthymia. Rates of acquisition of new anxiety and/or depressive disorders over the follow-up period ranged from 0% for agoraphobia and separation anxiety disorder to 33.3% for overanxious disorder (Table 1).

Severity of Anxiety and Depression at Follow-up

Over the course of the 8-week treatment study, the imipramine plus CBT group improved significantly faster than the placebo plus CBT group on depressive symptoms, as measured with the CDRS-R (Bernstein et al., 2000). However, at follow-up, there was no significant group difference between the original treatment groups on the CDRS-R. The mean raw CDRS-R score of subjects returning for follow-up was 37.0 ± 13.9 (range 22–72). This suggests the average depression level was mild to moderate, with a wide range in scores. The group mean ARC-R score at follow-up was 8.3 ± 5.7 (range 0–22), indicating mild anxiety and variability among subjects.

Predictors of Outcome at Follow-up

Multiple regression analyses were conducted to identify which of several factors at the beginning of the 8-week imipramine versus placebo treatment study would predict outcome at 1-year follow-up as measured by the CDRS-R and ARC-R, while controlling for initial baseline scores and group assignment. Logistic regression analyses were also conducted to test predictors of the presence of any depressive diagnosis or any anxiety diagnosis at follow-up, based on the parent or adolescent report on the DICA-R or DISC. School attendance data were not collected at follow-up so it was not possible to use attendance to evaluate outcome at 1-year follow-up. In all analyses, three sets of predictors were evaluated: (1) school attendance during the final week of the acute treatment study; (2) cohesion, adaptability, and family type on FACES II at baseline; and (3) somatic complaints as measured by the Somatic Complaints scale of the CBCL and the Physiological subscale of the ARC-R at baseline.

More extreme family type, as indicated by low scores on the adolescent-rated FACES II, was a marginally significant predictor of elevated levels of depression on the CDRS-R at follow-up (β = –.30, p = .063), and a greater level of somatic symptoms on the ARC-R Physiological subscale significantly predicted increased depression on the CDRS-R at follow-up (β = .43, p = .029). None of the hypothesized predictors were significant in the regressions of ARC-R anxiety scores and DICA-R or DISC diagnoses at follow-up.

Interim Treatments

Of 41 subjects and/or parents, 40 completed the follow-up questionnaire. Therefore, the percentages in the interim treatments and interim school programs sections are based on a sample size of 40. During the follow-up period, 67.5% (n = 27) of the follow-up sample had at least one trial of psychotropic medication (Table 2). Table 2 lists the percentage and number of subjects receiving specific medications. Of the 10 subjects who received an imipramine trial during the follow-up period, 6 received imipramine and 4 received placebo during the 8-week study.

Approximately three fourths of the sample received outpatient therapy and one fifth received in-home therapy (Table 2). Regarding types of outpatient therapy, 62.5% (n = 25) of the follow-up sample had individual therapy, 42.5% (n = 17) had family therapy, and 10% (n = 4) par-

<table>
<thead>
<tr>
<th>TABLE 2</th>
<th>Interim Treatments</th>
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<tbody>
<tr>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Psychotropic medication trials*</td>
<td></td>
</tr>
<tr>
<td>1 Trial</td>
<td>13</td>
</tr>
<tr>
<td>2 Trials</td>
<td>12</td>
</tr>
<tr>
<td>3 Trials</td>
<td>2</td>
</tr>
<tr>
<td>Therapy</td>
<td></td>
</tr>
<tr>
<td>Outpatient therapy</td>
<td>31</td>
</tr>
<tr>
<td>In-home therapy</td>
<td>8</td>
</tr>
<tr>
<td>Other interventions</td>
<td></td>
</tr>
<tr>
<td>Hospitalization*</td>
<td>8</td>
</tr>
<tr>
<td>Out-of-home placement</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Based on 40 subjects.
* 40% (n = 16) received selective serotonin reuptake inhibitors, 25% (n = 10) imipramine, 7.5% (n = 3) bupropion, 7.5% (n = 3) buprione, 7.5% (n = 3) lithium, 7.5% (n = 3) nefazodone, 5% (n = 2) benzodiazepine, and 5% (n = 2) trazodone.
* Average length of stay: 11.5 ± 7.2 days.
ticipated in group therapy. These values are overlapping because some subjects had more than one type of therapy. The most prevalent combination of outpatient therapies was individual therapy plus family therapy (27.5%; \(n = 11\)). Other interventions included inpatient hospitalization (20%) and out-of-home placement (15%). School attendance rate at the end of the 8-week treatment study was not significantly related to the type of interim treatment received.

Most students attended school during the interim year; 37.5% \((n = 15)\) were in a public school setting, 27.5% \((n = 11)\) were in both public and alternative schools, 10% \((n = 4)\) were in an alternative school setting, 10% \((n = 4)\) were home-schooled, 5% \((n = 2)\) attended both private and alternative schools, 5% \((n = 2)\) received a general equivalency diploma, 2.5% \((n = 1)\) attended private school, and only 2.5% \((n = 1)\) dropped out of school.

**DISCUSSION**

At 1-year follow-up, close to two thirds of the subjects met criteria for an anxiety disorder and one third of subjects met criteria for a current depressive disorder (major depression and/or dysthymia). Since all subjects in this study started out with both anxiety and depressive disorders, this suggests that some anxiety disorders may persist longer than depressive disorders. Child and adolescent major depressive episodes have a mean duration of 7 to 9 months (Kovacs et al., 1984; Lewinsohn et al., 1994). Previous studies show that anxiety disorders tend to predate depressive disorders in childhood and increase the risk for the development of depression (Breier et al., 1984; Kovacs et al., 1994). Our data suggest that once the depression remits, many adolescents continue to struggle with anxiety.

In a cross-sectional study evaluating the children of adults with affective disorder, 14% (38 of 275) had a history of an anxiety disorder (Keller et al., 1992). Children with anxiety disorders had symptoms for an average of 4 years at the time of diagnosis. Three-fourths had not received any intervention. Furthermore, it was projected that 46% of the children with an anxiety disorder would still be affected 8 years after onset. These results indicate that anxiety disorders of childhood may be chronic.

Separation anxiety disorder had a 71% remission rate, and no new cases, which may reflect, in part, a developmental phenomenon in that it becomes less common as children and adolescents get older. In a following a clinic sample of children and adolescents with anxiety disorders, Last and colleagues (1996) found the highest remission rate for separation anxiety disorder. In our study, agoraphobia also had a high remission rate (73%). Perhaps the specific targeting of the CBT to agoraphobic and separation anxiety symptoms (by focusing on exposure to the school situation) contributed to higher remission rates for those particular disorders. There were only 2 cases of panic disorder in this sample: one subject had the disorder at baseline and it was retained at follow-up; the other case was acquired during the follow-up period. This seems surprising given the severe anxiety and depressive disorders these subjects suffered from. The low rate may reflect developmental issues; panic disorder becomes more common in later adolescence (von Korff et al., 1985) and more common with higher pubertal (Tanner) stage (Hayward et al., 1992).

The most persistent of the specific disorders in this study were avoidant disorder and social phobia, with 50% of subjects retaining these diagnoses. It is interesting that these two disorders had the same retention rates and similar rates of acquisition at follow-up (there was one new case of social phobia and two new cases of avoidant disorder). These similar data are consistent with the view that avoidant disorder (DSM-III-R) and social phobia (DSM-III-R and DSM-IV) represent the same disorder on a developmental continuum (Bernstein et al., 1996a).

Other diagnoses with high retention rates were overanxious disorder (40%) and dysthymia (38%). Cohen and colleagues (1993) demonstrated that almost 50% of children and adolescents with severe overanxious disorder had this disorder diagnosed again 21/2 years later. In our study, overanxious disorder was the most prevalent diagnosis at follow-up.

Baseline characteristics that predicted higher depression scores on the CDRS-R at follow-up were more extreme family type as rated by the adolescent on the FACES II and greater level of somatic symptoms on the ARC-R. Other studies have found a relationship between depression and family dysfunction. For example, Hammen et al. (1999) found that the mothers of depressed children were less likely to be currently married to the child’s father and rated themselves as having significantly lower marital or nonmarital relationship satisfaction than a normative sample. A prospective study of expressed emotion in the families of hospitalized, depressed children found that high expressed emotion predicted persistence of depression at 1-year follow-up, and recovery was predicted by low expressed emotion (Asarnow et al., 1993). Physical symptoms are a...
common manifestation of underlying anxiety and/or depression in school-refusing adolescents (Bernstein et al., 1997). Other studies have demonstrated the association between somatic complaints and depression (Jolly et al., 1994; McCauley et al., 1991).

In this naturalistic follow-up study, there was high utilization of mental health treatments. Overall, a substantial percentage of the subjects received psychotropic medications and/or psychotherapy in the follow-up period. Approximately two thirds of subjects were treated with medication (more than half of these subjects received two or three medication trials) and about three fourths received outpatient psychotherapy. Selective serotonin reuptake inhibitors (SSRIs) were the most commonly prescribed medications during the follow-up period. The use of SSRIs is supported by data suggesting efficacy of this class of medications for treating children and adolescents with anxiety disorders in open-label trials (Birmaher et al., 1994; Dummitt et al., 1996; Fairbanks et al., 1997) and in a small controlled trial (Black and Uhde, 1994). A randomized, double-blind, controlled study of 128 youths (aged 6–17) with generalized anxiety disorder, social phobia, or separation anxiety disorder demonstrated that 8 weeks of fluvoxamine (up to 300 mg/day) is more efficacious than 8 weeks of placebo (Research Units of Pediatric Psychopharmacology, Anxiety Study Group, 2000). The rate of treatment response, defined as Clinical Global Impressions score of much improved or better, was 76% in the fluvoxamine group compared with 29% in the placebo group. In addition, a randomized, double-blind, placebo-controlled study demonstrated the efficacy of fluoxetine for treating major depression in 96 children and adolescents (Emslie et al., 1997). Imipramine was the second most common medication trial in this sample. This is not surprising because some of the subjects who benefited from imipramine during the 8-week study may have chosen to continue the drug. Subjects who had been randomly assigned to placebo may have requested a trial of imipramine.

Although we do not have rates of school attendance, it is promising that virtually all the subjects attended school during the follow-up year. Only one subject reported dropping out. However, some subjects had severe refractory symptoms as illustrated by a hospitalization rate of 20% and an out-of-home placement rate of 15%. School refusers with comorbid anxiety disorders and major depression have more severe symptoms than school refusers in other diagnostic categories (Bernstein, 1991). In a comparison of matched groups of inpatients and outpatients with school refusal, the inpatients had more severe symptoms and a significantly higher rate of major depressive disorder (Borchardt et al., 1994).

In the 20- to 29-year follow-up study by Flakierska-Praquin et al. (1997), the school-phobic group had a significantly higher rate of adult psychiatric outpatient care than the general population group. In the school phobia group, the most prevalent treatment issues related to anxiety disorders and relationship problems. Fourteen percent of that group (mean age 34 years) were still living with their parents, and they had significantly fewer children than subjects in the other two comparison groups. In a 5-year follow-up of adolescents with school refusal, it was found that a “rather high” percentage of subjects were residing with their parents and many were socially isolated (Buitelaar et al., 1994, p. 252). These findings indicate there may be significant long-term effects in adulthood for children with school refusal.

Subjects who participated in the 1-year follow-up compared with those who did not participate had a notably higher school attendance rate at the end of the medication study. It is not unexpected that subjects with the most favorable short-term outcome were the ones who participated in the follow-up, as more severe anxiety symptoms may impair a subject’s ability to come to the clinic, just as they impair school attendance. The results of this study may be biased in favor of more favorable outcomes at follow-up because the more successful subjects (with respect to school attendance) chose to participate in follow-up.

There were significant treatment effects at the end of the 8-week study, with imipramine in combination with CBT significantly more efficacious than placebo in combination with CBT in improving school attendance and depression (Bernstein et al., 2000). However, at the 1-year follow-up, there were no differences between the two original treatment groups in severity of depression on the CDRS-R or in prevalence rates of anxiety or depressive disorders. The lack of differences between groups is most likely explained by the intervening treatments (e.g., medication trials, therapy, hospitalization) that occurred during the naturalistic follow-up period. Furthermore, there was selective attrition, with overrepresentation of subjects randomly assigned to imipramine returning for follow-up and overrepresentation of subjects with good outcomes returning. In addition, there were no school attendance data to evaluate from the year after the 8-week study. School attendance (based on hours attended each week) was the
most sensitive indicator of treatment efficacy in the original study. These factors make it difficult to assess longer-term benefits from the initial 8-week interventions. This underscores the need to study optimal duration of acute treatments (medication and/or CBT) and the necessity to investigate maintenance treatments for school refusal.

Strengths of this investigation include the gathering of follow-up data from multiple informants (parent, adolescent, and clinician), use of standardized instruments, and gathering of interim data about types of interventions and school programs used.

Limitations

Shortcomings of this study include the fact that approximately one third of the original randomized sample did not return for follow-up despite several attempts to contact them and invite them to participate. In addition, as noted earlier, there was selective attrition. Also, there was no control group.

Clinical Implications

There continues to be a great deal of psychiatric illness in this group of school refusers who had comorbid anxiety disorders and major depression at baseline. Many of the adolescents were still struggling with depressive and/or anxiety disorders despite the fact that half had received 8 weeks of imipramine plus CBT, half had received 8 weeks of placebo plus CBT, subsequently the majority had at least one trial of psychotropic medication, and many had participated in psychotherapy during the year after completion of the original study. The results of this study point to the seriousness of the problem and the importance of aggressive treatment for this condition. For many adolescents, 8 weeks of medication in combination with 8 weeks of CBT is probably not adequate treatment for school refusers with comorbid anxiety and depressive disorders. There is a great need for studies of optimal duration of acute treatments and for investigation of maintenance treatments for school refusal and anxiety and depressive disorders of childhood and adolescence. Future treatment studies of children and adolescents with school refusal should also continue to follow subjects prospectively to determine the longitudinal course of this syndrome.

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