As national attention begins to focus on racial disparities in health care (U.S. Department of Health and Human Services, 2000), the Surgeon General has raised concerns about access to mental health services for ethnic minority children (U.S. Public Health Service, 2000). One growing population in the United States at particular risk for not receiving specialty mental health care is Latino children (Kataoka et al., 2002). Latinos have been found to be less likely than others to receive health care services because of such factors as disproportionate numbers without health insurance, parental preferences and help-seeking patterns, and an unrecognized need for services (Flores and Vega, 1998; Guarnaccia, 1997; McMiller and Weisz, 1996; Organista, 2000). Although this underserved group has been found to consistently underutilize mental health care (Bui and Takeuchi, 1992; McCabe et al., 1999; Vega et al., 1999), there has been little effort in developing and evaluating accessible and evidence-based interventions specifically for Latino children.

Delivering mental health services through the school system can address key financial and structural barriers that often prevent Latinos from receiving needed services (Flores and Vega, 1998). Schools have long been identified as an ideal entry point for improving access to mental health services for children (Allensworth et al., 1997). However, few programs have been rigorously evaluated in the real-world setting of schools (Hoagwood and Erwin, 1997), and even fewer are designed specifically for ethnic minority children.

A School-Based Mental Health Program for Traumatized Latino Immigrant Children

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ABSTRACT

Objective: To pilot-test a school mental health program for Latino immigrant students who have been exposed to community violence. Method: In this quasi-experimental study conducted from January through June 2000, 198 students in third through eighth grade with trauma-related depression and/or posttraumatic stress disorder symptoms were compared after receiving an intervention or being on a waitlist. The intervention consisted of a manual-based, eight-session, group cognitive-behavioral therapy (CBT) delivered in Spanish by bilingual, bicultural school social workers. Parents and teachers were eligible to receive psychoeducation and support services. Results: Students in the intervention group (n = 152) had significantly greater improvement in posttraumatic stress disorder and depressive symptoms compared with those on the waitlist (n = 47) at 3-month follow-up, adjusting for relevant covariates. Conclusions: A collaborative research team of school clinicians, educators, and researchers developed this trauma-focused CBT program for Latino immigrant students and their families. This pilot test demonstrated that this program for traumatized youths, designed for delivery on school campuses by school clinicians, can be implemented and evaluated in the school setting and is associated with a modest decline in trauma-related mental health problems. J. Am. Acad. Child Adolesc. Psychiatry, 2003, 42(3):311–318. Key Words: posttraumatic stress disorder, treatment, cognitive-behavioral therapy, Latinos, trauma, violence.
Although the prevalence of trauma-related mental health problems in Latino children remains unclear, youths who have been exposed to violence have been found to be more likely to develop psychological problems and have poor functioning at home and school (Cohen, 1998; Pynoos et al., 1995; Richters and Martinez, 1993). Recent studies have shown that about one third of children exposed to community violence develop posttraumatic stress disorder (PTSD) (Berman et al., 1996; Fitzpatrick and Boldizar, 1993). Youths exposed to trauma also can develop depression, other anxiety disorders, substance abuse, and problems with school performance (Brent et al., 1995; Clarke et al., 1995; Saigh et al., 1997; Singer et al., 1995; Weine et al., 1995).

In an earlier study, we found that 49% of predominantly poor immigrant students in our sample reported violent victimization in the previous year and 32% had clinical levels of PTSD symptoms, with symptoms being predicted by level of violence exposure (Jaycox et al., 2002). Given this high level of exposure to violence and subsequent trauma-related mental health problems, the Los Angeles Unified School District (LAUSD) developed the Mental Health for Immigrants Program (MHIP), a trauma-focused and culturally sensitive program for the District's large immigrant student body. In developing this program, a collaborative partnership was formed between clinicians from the School Mental Health Unit, educational specialists from the Emergency Immigrant Education Program (EIEP), and research clinicians at local academic institutions (Stein et al., 2002). We chose an intervention that uses cognitive-behavioral therapy (CBT), as recommended for the treatment of youth PTSD (Cohen, 1998) and depression (Brent et al., 1997; Kaslow and Thompson, 1998; Lewinsohn et al., 1990). Such therapies have been shown to be effective for children with a history of sexual abuse (Deblinger and Heflin, 1996; King et al., 2000) and single-incident trauma (March et al., 1998). In addition to child-focused trauma treatment, psychoeducation for parents about their child's PTSD symptoms has also been recommended (Rigamer, 1986) and thus incorporated into the MHIP intervention.

This article will describe the development and preliminary results of this program. Although the MHIP was offered to a multiethnic group, this report will focus on the Latino children, who comprised the majority of the participants.

**METHOD**

**Mental Health for Immigrants Program**

The MHIP was developed in the context of an ecological framework (Belsky, 1980; Cicchetti and Lynch, 1993; Trickett and Birman, 1989), specific to both cultural and school ecologies. As part of the wide variety of supportive services offered to newly immigrant children in LAUSD through the EIEP (orientation classes, medical and dental screening, language classes, and tutoring), the MHIP addressed some of the mental health needs of the traumatized immigrant students.

The MHIP child intervention was an eight-session CBT group based on the Cognitive-Behavioral Intervention for Trauma in Schools (L.H. Jaycox, Ph.D., unpublished, 2000), which was designed for use in an inner-city school mental health clinic with a multicultural student population (Table 1). The CBITS incorporates standard CBT skills in a group format (five to eight students per group) to address PTSD, anxiety, and depression symptoms related to community violence exposure. Generally, in each session a new set of techniques was introduced by a mixture of didactic presentation, use of age-appropriate cartoons and games to solidify concepts, and individual work on worksheets in session and between sessions. This program emphasized generalization of techniques, and “homework assignments” were collaboratively developed between child and clinician in each session and reviewed at the beginning of the next session. Although clinicians followed a treatment manual for consistency of administration, they had some flexibility to meet the specific needs of children in the group. Techniques in the CBITS are similar to those used in other CBT groups for individuals with PTSD (March et al., 1998). The CBITS was pilot-tested for feasibility and acceptability, but this particular manual and format was untested prior to this study.

**TABLE 1**

Cognitive-Behavioral Intervention for Trauma in Schools

<table>
<thead>
<tr>
<th>Session</th>
<th>Session Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction of group members, confidentiality, and group procedures</td>
</tr>
<tr>
<td></td>
<td>Explanation of treatment using stories</td>
</tr>
<tr>
<td></td>
<td>Discussion of reasons for participation (types of trauma)</td>
</tr>
<tr>
<td>2</td>
<td>Education about common reactions to trauma</td>
</tr>
<tr>
<td></td>
<td>Relaxation training to combat anxiety</td>
</tr>
<tr>
<td>3</td>
<td>Thoughts and Feelings (introduction to cognitive therapy)</td>
</tr>
<tr>
<td></td>
<td>Fear Thermometer</td>
</tr>
<tr>
<td></td>
<td>Linkage between thoughts and feelings</td>
</tr>
<tr>
<td></td>
<td>Introduction of idea of combating erroneous negative thoughts</td>
</tr>
<tr>
<td>4</td>
<td>Avoidance and coping (introduction to in vivo exposure)</td>
</tr>
<tr>
<td></td>
<td>Construction of fear hierarchy</td>
</tr>
<tr>
<td>5</td>
<td>Social problem-solving (Stop, Think, What’s Your Goal?)</td>
</tr>
<tr>
<td>6</td>
<td>Exposure to trauma memory through drawing/writing</td>
</tr>
<tr>
<td>7</td>
<td>Exposure to trauma memory through drawing/writing</td>
</tr>
<tr>
<td>8</td>
<td>Relapse prevention and graduation ceremony</td>
</tr>
</tbody>
</table>
As has been noted in other adult and child studies (Cohen, 1998; Foa and Rothbaum, 1998), psychoeducation was an integral part of the MHIP. The CBT intervention included relaxation training, cognitive therapy, exposure, and social problem-solving. Based on work by March and colleagues (1998), imaginal exposure occurred first in a private individual session with the clinician and then through drawings and descriptions of the event in the group. When appropriate, this was followed by in vivo exposure. All exposures were paced according to the needs of the individual child, to avoid making children feel overwhelmed or overly upset when they worked on this exercise.

For parents, the MHIP included four 2-hour optional multifamily group sessions designed to complement the child treatment. Parents and clinicians discussed the effects of trauma on children and the types of techniques that the children would be learning, which is similar to psychoeducation described by others (Cohen, 1998). Based on our clinical experience with Latino immigrant families and descriptions by others (Azocar et al., 1996), the parent sessions included support around common experiences of loss and separation that many had experienced during the immigration process. Finally, these sessions also included parenting techniques, a commonly requested topic.

Clinicians offered all teachers at the participating schools an in-service training on the effects of trauma on children and what symptoms can be related to emotional problems warranting further evaluation. In addition, the clinicians developed relationships with key administrators and liaison staff at the schools. Clinicians minimized missed class time by offering a brief intervention lasting 8 weeks on average, with each session duration the equivalent of one school period. Sessions were given at flexible times during the school day, depending on the school’s preference. The program was also designed to be consistent with the school culture, which incorporated CBT lessons and homework assignments, helping to demystify this mental health program for school staff. Neither the parent nor teacher MHIP components have been evaluated for effectiveness.

The MHIP clinicians were master’s-level school psychiatric social workers and employees of the school district. They received 16 hours of initial training on the MHIP intervention and 2 hours per week of ongoing supervision by a psychologist (L.H.J.). In addition, they received 1 hour per week of general school social work supervision by their on-site clinical supervisor (C.Z.). They used a detailed treatment manual and could refer to a videotape of the initial training.

Participants and Procedures

Eleven public elementary and middle schools with high immigrant enrollment and involvement in the EIEP were invited to participate in the MHIP. Nine schools agreed to participate. Administrators at the two nonparticipating schools expressed concern that students would be missing class to attend the group.

Eligibility criteria for the MHIP screening included being in the third to eighth grade, attending one of the nine participating schools, being foreign-born and having immigrated to the United States within the past 3 years (an eligibility criterion for the EIEP), and speaking Spanish. MHIP staff presented information about the screening process to all eligible students during meetings for new immigrant students. They were told that a questionnaire would be given to them to determine whether they would qualify to be in a program for immigrant students with stress related to violence. Students were informed that the survey was completely voluntary and would be kept confidential. A letter with similar information was sent to their parents with instructions on how to decline participation. Approximately 970 students were eligible for the screening, and although we did not systematically track refusals or the reasons for refusal (since this was a naturalistic study and screening was conducted by school staff as part of their program), they represented fewer than 10% of those eligible for screening.

A total of 879 students completed a self-report questionnaire regarding exposure to violence and symptoms. The questionnaire was administered in groups of 20 to 30 students. Students sat sufficiently far apart from one another to allow privacy within the constraints of the group setting.

Of those students screened, 276 (31%) reported exposure to violence and clinically significant symptoms of PTSD and/or depression and were recruited for participation in the MHIP; 229 (83%) gave informed written parental consent and child assent. We found no significant differences between those who consented to participate and those who did not in terms of sociodemographic characteristics (age, gender, grade, school location, country of origin), level of violence exposure, or symptoms (depression or PTSD symptom levels). We asked that the parent or guardian “most knowledgeable about the child” complete a self-report questionnaire.

Seventy-two percent of those eligible to participate in the program (n = 198) were available to complete the follow-up evaluation at 3 months. Those who completed the program did not differ from those who did not complete the program in baseline levels of depression or PTSD symptoms, level of violence exposure, gender, or ethnicity. However, noncompleters were older than those who completed the program (mean age of completers = 11.3 years, SD = 1.7; noncompleters = 12.5 years, SD = 1.4; t = 3.8, p < .001).

Early in the school year, eligible students were randomly assigned to either the intervention or a waitlist comparison group. For those assigned to waitlist, clinicians gave parents specific Spanish-language referrals to community mental health agencies in their neighborhoods and gave them the option of being placed on the waitlist for the MHIP.

Of the 198 who completed the program, 67 youths received the intervention immediately and 46 students were randomized to the waitlist group during the randomization period. When possible, children were randomized at the individual level. At year-round schools, children are assigned at random by the school district to one of three tracks. At these schools, program participants were randomized by track to either immediate treatment or waitlist. Late in the school year, to ensure that all eligible students would have the opportunity to receive the MHIP treatment before the end of the school year, 85 eligible students were assigned to the intervention condition. The randomized and nonrandomized children did not differ at baseline on violence exposure, symptom levels, or sociodemographic characteristics except for a significant difference in parental education (parental education in the randomized group was 3.7 years compared with 6.1 years in the nonrandomized group, t = 4.9, p < .001). The main analysis reported in this article includes all 152 intervention and 46 waitlist children.

All parents of children in the intervention group were offered the parent groups; 37% of parents attended at least one group. At the end of the intervention period, all teachers at each school were offered the educational teacher session. This voluntary activity was not part of the randomized design.

Measures

We measured exposure to community violence with a modified version of the Life Events Scale (Singer et al., 1995, 1999), a 34-item measure that asks the frequency of several types of violence (threats, slapping/hitting/punching, beatings, knife attacks, and shootings) in multiple locations over the past year and lifetime. These items include violence that was directed toward the respondent or directly witnessed. Exposure to media or other indirect violence was specifically excluded. For example, students were asked about violence directed toward them in such questions as, “How often over the past year have you been beaten up at school?” Students were also asked whether they had been...
beaten up in their neighborhood or anywhere else. One of the items that elicited witnessed violence was the following: “How often over the past year have you seen someone else getting beaten up at school?”

A 4-point Likert scale ranging from 0 to 3 points (“never” to “almost every day”) was used; a total violence score was calculated by summing the lifetime and current violence exposure scores for a total possible score of 102. The Life Events Scale has been shown to have acceptable reliability in elementary school, middle school, and high school in multicultural inner-city populations (Singer et al., 1995, 1999). Program eligibility criteria for violence exposure were met if the summed score was greater than 6 (consistent with exposure to greater than three or more violent events) or if the child reported being a victim of or witness to any violence involving a knife or gun. We also defined weapon-related violence as any violence involving a knife or a gun; non–weapon-related violence as any violence involving threats, slapping, hitting, punching, or beating; and threats as any violence involving threats directed toward or witnessed by the subject.

Symptoms of PTSD in the past month were measured with the Child PTSD Symptom Scale (CPSS), the child version of the Posttraumatic Diagnostic Scale for Adults (Foa et al., 2001). This measure has been used in school-age children as young as 8 and has shown good convergent and discriminant validity and high reliability (Foa et al., 2001). In this sample, scale internal consistency was high (Cronbach $\alpha = .89$). A cutoff score of 11 was used to determine eligibility for participation in the intervention, consistent with moderate clinical levels of PTSD symptoms.

The Children’s Depression Inventory (CDI) (Kovacs, 1992) was used to measure depressive symptoms in the past 2 weeks. The CDI is a widely used measure with good test-retest reliability and validity in clinical and community-based samples. The school mental health staff chose to not include the suicidal ideation item. A cutoff score of 18 was used to determine eligibility for participation in the intervention, which corresponds to clinically significant depressive symptoms. The cutoff score was not adjusted to account for the dropped suicide item. In this sample, scale reliability was high (Cronbach $\alpha = .82$). The parent-report questionnaire consisted of sociodemographic questions such as age, ethnicity, number of years of education, marital status, and employment status.

All measures were translated from English to Spanish by the school district’s Translation Unit, and translations were reviewed by multiple bilingual/bicultural clinicians to verify accuracy and appropriateness of the translation. Measures were pretested in a similar population of Latino immigrant children, and cognitive interviews were conducted to test the respondents’ comprehension and interpretation of the questions. Minor modifications were made to the measures in response to this feedback. Despite careful work to ensure that the measures were comprehensible to Spanish-speaking children, we note that these scales have not been validated in Latino immigrant child populations.

Analysis

The data were analyzed for all 198 subjects for whom there was baseline and 3-month follow-up information available. Child age, baseline PTSD and depression scores, baseline total violence score, and parent education were analyzed as continuous variables. The following were analyzed as categorical variables: group indicator (treatment versus waitlist), child gender, school (total of nine schools), child country of origin (Mexico, El Salvador, Guatemala, and other Latin American countries), parent marital status (married versus other), and parent employment status (employed versus nonemployed). All these variables were considered as clinically relevant covariates in prediction of follow-up PTSD and depression scores.

We performed comparisons of continuous data between baseline and follow-up scores and between the treatment and waitlist groups using a two-tailed Student $t$ test. We compared categorical data by using the $\chi^2$ statistic. A $p$ value of .05 or less indicated statistical significance. Bivariate and multivariate relationships of outcome variables (follow-up CPSS score for PTSD and CDI score for depression) were examined with linear regression. We chose covariates for each multivariate regression model based on their clinical significance and relationship to the outcome variable in bivariate regression analysis (at $p < .2$). To obtain robust estimates of the standard errors, we adjusted for clustering to account for the different assignment strategies and analyzed them by strata. By doing so, we were able to take into account potential school effects as well as any systematic differences in school demographics.

We examined the impact of the intervention for the entire group (those with symptoms of all severity), and again in the subset of children with symptoms in the clinical range on the symptom measures, to ensure that inclusion of the less symptomatic children did not wash out real intervention effects. Statistical analyses were conducted with STATA, version 7.0 (Stata Corp, 2001).

RESULTS

Sample Characteristics

Table 2 describes the sample characteristics for students by treatment assignment. Participants had a mean age of 11 years, with two thirds of the students in middle school ($n = 156, 68\%$). Half of the students were female ($n = 114, 50\%$), and more than half were born in Mexico ($n = 131, 57\%$). The mean parental education level was less than 5 years, and the majority of parents were married (162, 71%). There were no significant differences in demographic characteristics between those who received the immediate intervention compared with waitlist, with the exception of parental education (lower in the waitlist group, $t = 3.04, p < .01$).

Almost all children in the program had clinical levels of PTSD symptoms ($n = 207, 90\%$); one third of youths had comorbid PTSD and depressive symptoms in the clinical range ($n = 73, 32\%$), and 10% ($n = 22$) of students had clinical levels of depression only. Exposure to weapon-related violence involving a knife or gun was common, with two thirds of children reporting exposure to this type of life-threatening violence ($n = 157, 69\%$). The mean score on the Life Events Scale was 18, which represents a high frequency of multiple violent events; for example, a score of 18 could represent six types of violent experiences occurring almost every day. Immediate intervention and waitlist groups did not differ by violence exposure or clinical characteristics.
Intervention Outcomes

Table 3 shows the mean baseline and follow-up scores for depression and PTSD symptoms in the intervention and waitlist groups. Depressive symptoms in the intervention group decreased from a mean CDI score of 16 to 14 ($t = 5.1$, $p < .001$) but remained 16 in the waitlist group ($t = 0.1$, $p > .05$). The CPSS mean scores for PTSD symptoms decreased from 19 to 13 in the intervention group ($t = 7.5$, $p < .001$) and 18 to 16 in the waitlist ($t = 1.3$, $p > .05$).

In bivariate regression analyses, adjusting for baseline scores, intervention participants had significantly lower follow-up CDI scores than those in the waitlist ($\beta = -2.7$, $SE = 1.1$, $p < .05$). In a similar analysis for PTSD symptoms, we found a nonsignificant trend for CPSS mean scores improving more in the intervention than waitlist group ($\beta = 2.86$, $SE = 1.5$, $p = .06$).

Because the sample included children with a broad range of symptom severity, we examined the subset of children with scores in the clinical range on symptom

Table 3

Within-Group Comparisons Between Baseline and Follow-up ($n = 198$), 1999–2000

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Follow-up*</th>
<th>t Test</th>
<th>$p$ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Intervention ($n = 152$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDI*</td>
<td>16.3</td>
<td>6.9</td>
<td>13.5</td>
<td>7.5</td>
</tr>
<tr>
<td>CPSS*</td>
<td>18.8</td>
<td>7.7</td>
<td>13.0</td>
<td>7.6</td>
</tr>
<tr>
<td>Waitlist ($n = 46$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDI*</td>
<td>16.3</td>
<td>7.7</td>
<td>16.2</td>
<td>9.9</td>
</tr>
<tr>
<td>CPSS*</td>
<td>18.1</td>
<td>8.0</td>
<td>15.7</td>
<td>13.2</td>
</tr>
</tbody>
</table>

* Approximately 3 months after baseline.

* CDI = Children’s Depression Inventory (Kovacs, 1992).

* CPSS = Child PTSD Symptom Scale (Foa et al., 2001).

* NS = not significant.
measures to examine the intervention effect more carefully. In subsample analyses, we evaluated only those children who had baseline symptoms in the clinical range for depression and PTSD. Of the 83 students who had clinical levels of depressive symptoms (CDI ≥ 18) at baseline, mean CDI scores in the intervention group decreased from 23 to 18 compared with 24 to 23 in the waitlist group (β = –4.9, SE = 2.1, p < .05). One hundred eighty children had clinically significant PTSD symptoms at baseline (CPSS > 11), with mean scores declining from 20 to 13 in the treatment group and 19 to 16 in the waitlist (β = –3.2, SE = 1.5, p < .05).

Of the 47 children on the waitlist, 5 (11%) received traditional mental health services and another 14 (30%) reported seeking help from a spiritual leader, healer, or friend or family.

Multivariate Analyses

We conducted multivariate regression analyses, with relevant covariates for each of the two main outcome variables, CDI and CPSS follow-up scores. Table 4 shows that the intervention group had lower follow-up CDI scores compared with the waitlist group (β = –3.1, SE = 1.1, p < .01), controlling for baseline CDI score, age, gender, country of origin, parent education level, and parent marital status (F_9,66 = 26.2, p < .001, R^2 = 0.43). In addition to the main effect, boys, those from “other” Latin American countries compared with Mexico, and those with nonmarried parents had lower follow-up CDI scores than their peers, controlling for other covariates.

In evaluating follow-up PTSD symptoms (Table 5), we found that the intervention group had a lower CPSS score than did the waitlist group (β = –3.9, SE = 1.6, p < .05), controlling for baseline CPSS score, age, gender, baseline total violence score, country of origin, and parent employment status (F_9,68 = 9.36, p < .001, R^2 = 0.22). In addition, boys, those from El Salvador compared with Mexico, those from “other” Latin American countries compared with Mexico, and those with lower baseline violence exposure had lower follow-up CPSS scores when controlling for other covariates.

**DISCUSSION**

These results provide evidence that this school-based, trauma-focused, CBT intervention for Latino immigrant students is associated with modest reduction in symptoms of PTSD and depression. Further investigation is needed to determine whether symptoms continue to diminish to nonclinical ranges over time. Nonetheless, these results are encouraging and suggest that CBT can be effectively delivered by school clinicians to treat children exposed to a wide range of community violence. The translation of guideline-based trauma care to community settings such as schools has significant implications for decreasing the high level of unmet need for mental health care that exists, especially for underserved populations such as Latino immigrant children.

Because this program was developed in the context of existing school services that support immigrants, students and parents identified the MHIP as an extension of this support structure. Anecdotal comments from participants suggest that stigma usually associated with mental health services was minimized in this program. However, qualitative studies that investigate immigrant Latino student and family perceptions and attitudes toward school-based mental health services are needed to further improve programs such as this one. For example, we found differ-

**TABLE 4**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient ± SE</th>
<th>t</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention group</td>
<td>–3.06 ± 1.1</td>
<td>–2.77</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Baseline CDI</td>
<td>0.61 ± 0.06</td>
<td>10.25</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Age</td>
<td>0.00 ± 0.32</td>
<td>0.01</td>
<td>NS</td>
</tr>
<tr>
<td>Female</td>
<td>1.98 ± 0.75</td>
<td>2.65</td>
<td>NS</td>
</tr>
<tr>
<td>El Salvador</td>
<td>–1.77 ± 1.39</td>
<td>–1.27</td>
<td>NS</td>
</tr>
<tr>
<td>Guatemala</td>
<td>–0.81 ± 1.0</td>
<td>–0.81</td>
<td>NS</td>
</tr>
<tr>
<td>Other</td>
<td>–3.9 ± 1.24</td>
<td>–3.15</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Parent education</td>
<td>–0.21 ± 0.11</td>
<td>–2.00</td>
<td>NS</td>
</tr>
<tr>
<td>Parent married</td>
<td>2.09 ± 0.68</td>
<td>3.08</td>
<td>&lt;.01</td>
</tr>
</tbody>
</table>

*Note: CDI = Children’s Depression Inventory; NS = not significant.*

**TABLE 5**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient ± SE</th>
<th>t</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention group</td>
<td>–3.87 ± 1.6</td>
<td>–2.39</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Baseline CPSS score</td>
<td>0.14 ± 0.07</td>
<td>1.93</td>
<td>NS</td>
</tr>
<tr>
<td>Age</td>
<td>0.52 ± 0.39</td>
<td>1.35</td>
<td>NS</td>
</tr>
<tr>
<td>Female</td>
<td>3.90 ± 1.13</td>
<td>3.47</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>El Salvador</td>
<td>–3.33 ± 1.64</td>
<td>–2.02</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Guatemala</td>
<td>0.83 ± 1.6</td>
<td>0.52</td>
<td>NS</td>
</tr>
<tr>
<td>Other</td>
<td>–7.07 ± 1.47</td>
<td>–4.81</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Total violence score</td>
<td>0.12 ± 0.06</td>
<td>2.07</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Parent employed</td>
<td>–2.08 ± 1.22</td>
<td>–1.71</td>
<td>NS</td>
</tr>
</tbody>
</table>

*Note: CPSS = Child PTSD Symptom Scale; NS = not significant.*
ences across Latino subgroups in follow-up symptom scores controlling for treatment condition and other covariates, which suggests that treatment may need to be tailored for specific ethnic groups, as has been recommended by others (Lopez and Guarnaccia, 2000; U.S. Department of Health and Human Services, 2001).

In addition to certain ethnic groups having higher symptom levels, we also found that girls appear to have greater PTSD and depression symptoms than boys at follow-up, irrespective of treatment condition and after adjusting for covariates. In an earlier study examining symptomatology of this sample at baseline, we found that PTSD symptoms were not predicted by gender when we controlled for depressive symptoms, but gender did predict depressive symptoms (Jaycox et al., 2002). However, even when we control for depressive symptoms in the present study, girls continue to have greater PTSD symptoms at follow-up than boys ($\beta = 3.4$, SE = 1.1, $p < .001$; not shown). Others have hypothesized that female coping strategies in response to stressful events may influence treatment for depression in women (Gillespie and Eisler, 1992). Whether gender-specific strategies should be incorporated into interventions for youths exposed to community violence needs further exploration.

Limitations

Several limitations of this study are worth noting. Symptom changes were modest and on average remained in the clinical range at short-term follow-up. Further research is needed to determine whether modifications to the intervention such as a longer treatment period or booster sessions improve outcomes. Given that this is a vulnerable population that rarely receives services, there were design compromises made during this program to ensure that all children who wanted to receive the intervention could do so in a timely manner. Therefore, we randomized only a portion of the participants. The differential attrition across treatment groups makes comparison between groups more tenuous, although we found no important differences in dropouts compared with completers of the study. By using a waitlist comparison group, the program was compared with usual care (of which most subjects did not follow up; not shown). Others have hypothesized that female coping strategies in response to stressful events may influence treatment for depression in women (Gillespie and Eisler, 1992). Whether gender-specific strategies should be incorporated into interventions for youths exposed to community violence needs further exploration.

Clinical Implications

It has been documented that the majority of mental health care for children is delivered in schools (Burns et al., 1995), yet little is known about how to deliver effective care in this setting. One recommendation from the Surgeon General’s Conference on Children’s Mental Health is to improve the quality of mental health services in various sectors of care such as schools (U.S. Public Health Service, 2000). The MHIP provides one example of how treatment for trauma-related emotional problems can be developed, implemented, and evaluated in the context of schools. Further research is needed to determine how schools can replicate and sustain such programs as the MHIP in ways that not only meet the clinical needs of students but also use the resources available at schools and in neighboring communities. Collaborations between nontraditional mental health delivery settings such as schools and mental health services researchers can result in programs that are evidence-based, effective, and utilized by ethnic minority children and their families.

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