Knowledge Gains Following a Child Sexual Abuse Prevention Program Among Urban Students: A Cluster-Randomized Evaluation

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Objectives. We evaluated a school-based child sexual abuse (CSA) prevention program, Safe Touches, in a low–socioeconomic status, racially diverse sample.

Methods. Participants were 492 second- and third-grade students at 6 public elementary schools in New York City. The study period spanned fall 2012 through summer 2014. We cluster-randomized classrooms to the Safe Touches intervention or control groups and assessed outcomes with the Children's Knowledge of Abuse Questionnaire. Hierarchical models tested change in children's knowledge of inappropriate and appropriate touch.

Results. The intervention group showed significantly greater improvement than the control group on knowledge of inappropriate touch. Children in second grade and children in schools with a greater proportion of students in general (vs special) education showed greater gains than other participants in knowledge of inappropriate touch. We observed no significant change in knowledge of appropriate touch among control or intervention groups.

Conclusions. Young children benefited from a school-based, 1-time CSA prevention program. Future research should explore the efficacy of CSA prevention programs with children before the second grade to determine optimal age for participation. (*Am J Public Health.* 2015;105:1344–1350. doi:10.2105/AJPH.2015.302594)

Child sexual abuse (CSA) is a public health problem of epidemic proportions worldwide.[1] In the United States, approximately 1 in 10 children reports having experienced sexual victimization,[2] and approximately 15% to 32% of women and 5% to 16% of men report being sexually abused as children.[3–5] Among US children, the incidence rate of sexual abuse was 24% in 2009,[6] and in 2012, 62 936 cases of CSA were substantiated nationwide.[7] In addition, authorities suspect that large numbers go unreported.[8]

More than 2 decades of research has linked CSA to negative outcomes, such as increased rates of pregnancy, promiscuity, depression, substance abuse, and identifiable permanent changes in brain structure and stress hormone function.[8] CSA is significantly associated with failure to achieve the minimum qualifications to enter high school, graduate from high school, and attend and graduate from college, thus limiting lifetime income.[9] Adult victims of CSA are at increased risk for sexual revictimization and high-risk sexual activity.[10] CSA has been shown to affect mental health through adulthood, with reported evidence of low self-esteem, obesity, anxiety, depression, anger and aggression, posttraumatic stress, dissociation, substance abuse, sexual difficulties, sexually transmitted diseases, and self-injurious behavior.[11–13]

CSA prevention efforts have largely consisted of school-based programs. Almost 90% of elementary school districts in the United States offer prevention training,[14] and more than 85% conducted programs in the past year.[15] About two thirds of American children have had some exposure to these programs. Despite the prevalence of these programs, there is a dearth of rigorous research evaluating their efficacy. Although most studies have been limited by a lack of randomization and control groups, the few randomized trials generally found increased knowledge of CSA prevention concepts in children who received interventions[16–18]; however, most studies included only White, middle-class children. An international meta-analysis of randomized controlled trials and quasi-randomized controlled trials (in which participants were allocated to intervention or control groups by day of the week, alphabetical order, or other sequential allocation such as class or school) found that children who participated in a school-based CSA program were 7 times as likely to show self-protective behavior in simulated situations as children who did not attend a program.[19] Overall, most studies did not adhere to the intent-to-treat principle, failed to account for nonindependence of students within classrooms, and used small samples that were racially homogeneous.

We used the Children's Knowledge of Abuse Questionnaire (CKAQ)[20] to rigorously evaluate the CSA prevention program Safe Touches: Personal Safety Training for Children in a lower-income multiracial population. We hypothesized that the intervention group would show significantly greater changes than the control group on the Inappropriate Touch Scale on the CKAQ from pretest to posttest. We built on previous research by using a large, racially and ethnically diverse, low–socioeconomic status urban sample in the context of a cluster-randomized design.

METHODS

Public elementary schools in New York City were eligible if they met the following criteria: (1) 75% or more of the students received free lunch, (2) 25% or fewer of the students were White, (3) school location was within 1 hour's travel time from The New York Society for The Prevention of Cruelty to Children's office to the schools for clinicians and research staff, and (4) 2 second- or third-grade classrooms that were not exclusively special education were

available for randomization. Review of the New York City Department of Education's Web site identified 101 eligible schools. Outreach included informational packets mailed to guidance counselors and principals, phone calls, e-mails, drop-in visits, and scheduled meetings. Of the 101 eligible schools, we contacted 60% by mail, 18% by phone, 16% in person, and 6% by e-mail. Outreach efforts yielded no response from 76% of the schools contacted. Of the 24 schools that responded, 11 declined, 3 had already seen Safe Touches, and 4 had insufficient eligible classrooms. Six schools agreed to participate and met full study eligibility criteria. Demographic characteristics of the 6 schools are shown in Table 1. These 6 schools were similar demographically to the 95 schools that were contacted but did not participate.

TABLE 1—Child-Level and School-Level Demographic Characteristics for the Total Sample and by Group for the Safe Touches Intervention for Child Sexual Abuse Prevention: New York City, 2012–2014

Characteristic	Intervention (n = 195), Mean ±SD, %, or Proportion (SD)	Control (n = 242), Mean ±SD, %, or Proportion (SD)	Total Sample (n = 437), Mean ±SD, %, or Proportion (SD)
	Children		
Age,[a] y	8.26 ±0.90	8.41 ±0.72	8.34 ±0.81
Male	55.4	56.2	55.8
Grade 2	53.9	44.2	48.5
Pretest			
Inappropriate touch score	13.30 ±3.84	12.75 ±3.75	12.997 ±3.79
Appropriate touch score	6.46 ±1.72	6.23 ±1.84	6.33 ±1.79
	Schools		
Enrollment[b]	636.47 ±180.80	622.44 ±185.30	628.70 ±183.23
Male	0.51 (0.03)	0.50 (0.03)	0.50 (0.03)
Free lunch	0.97 (0.03)	0.96 (0.05)	0.96 (0.04)
Race/ethnicity			
Hispanic	0.71 (0.22)	0.68 (0.24)	0.70 (0.23)
Native American	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Pacific Islander	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Asian	0.02 (0.01)	0.02 (0.02)	0.02 (0.01)
African American	0.22 (0.19)	0.24 (0.21)	0.23 (0.20)
White	0.03 (0.02)	0.03 (0.03)	0.03 (0.03)
Multiracial	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
English language learners	0.16 (0.06)	0.15 (0.06)	0.15 (0.06)
Classroom types			
General education	0.81 (0.05)	0.81 (0.06)	0.81 (0.06)
Least-restrictive special education	0.14 (0.07)	0.15 (0.07)	0.15 (0.07)
Most-restrictive special education	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)

Note. School-level means were weighted by the number of children in the group.
[a]Intervention group, n = 188; control group, n = 222.
[b]Total number of students enrolled in the school.

Participant Recruitment

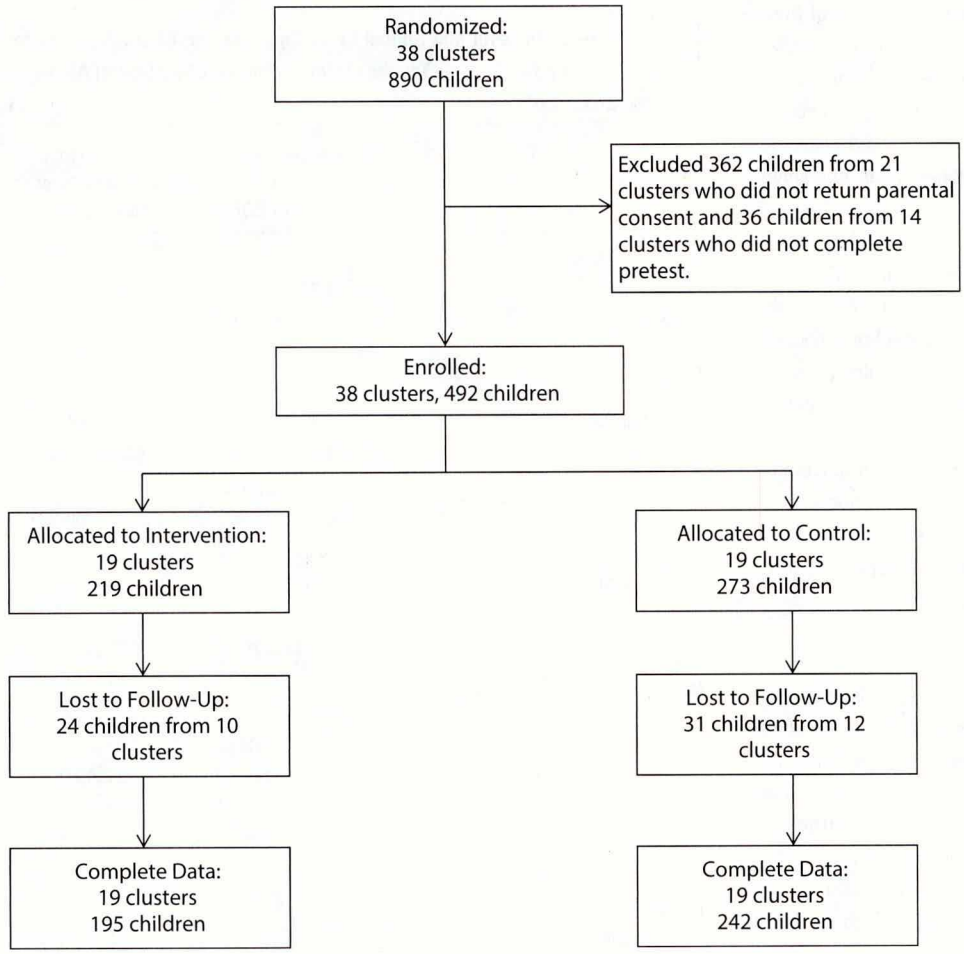
Students at participating schools were eligible to enroll in the study if they (1) were at least 7 years old and in second or third grade, (2) were enrolled in one of the participating classrooms, and (3) had not previously participated in Safe Touches. Exclusion criteria were (1) a major physical, cognitive, or emotional impairment that would affect the child's ability or safety in participating in the study; (2) being in a self-contained special education classroom; and (3) no parental consent or child's assent.

One month prior to study initiation, research staff introduced the study to teachers and students in their classrooms and sent home English and Spanish versions of the parental consent form. Research staff distributed multiple rounds of consents on brightly colored paper to attract parents' attention and followed up weekly with teachers to collect signed consents. Of the 890 eligible children (second grade, n = 437; third grade, n = 453), 59% (n = 528) returned signed parental consents. The rate of parental consent ranged from 46% to 67% across schools and was not significantly different between second and third grades. Of the 528 children who returned signed parental consent forms, 492 (93%) assented, completed the pretest, and enrolled in the study. Reasons for not completing the pretest (n = 36) were absence from school (50%), refusal (11%), and other issues (39%), such as behavior that precluded testing, parental withdrawal of consent, and errors on class rosters. Figure 1 presents the Consolidated Standards of Reporting Trials diagram, showing participant flow from randomization to completion. Study outreach began in spring 2012, and on-site implementation spanned fall 2012 through summer 2014.

Intervention

Safe Touches is a classroom-based CSA prevention curriculum designed for children in kindergarten through third grade that has been implemented in the New York City public schools since 2007. The curriculum was developed by a New York City nonprofit organization dedicated to improving the lives of maltreated and at-risk children through research, education, advocacy, and direct services. The intervention involves a 50-minute interactive workshop in which racially ambiguous puppets are used to role-play scenarios that help children learn and practice safety concepts. Children are also given an age-appropriate activity book on body safety to complete at home with caregivers.[21]

Key concepts covered in the workshop are the private parts of the body, the difference between safe and not-safe touches, secrets versus surprises, and the information that not-safe touches can be given by someone the child knows, that children should keep telling an adult until they are believed, and that the child is not to blame for receiving a not-safe



Note. CONSORT = Consolidated Standards of Reporting Trials.

FIGURE 1—CONSORT diagram of Safe Touches intervention for child sexual abuse prevention.

touch. Facilitators guide the children in making a list of what to do if they experience a not-safe touch and whom to tell, as well as in practicing the assertive language skills needed to express discomfort and to talk with a trusted adult about a not-safe touch. Concepts related to stranger danger are not covered in the workshop, because more than 80% of CSA incidents are perpetrated by someone the child knows.[4]

Two master's-level clinical social workers or mental health counselors facilitated each workshop. The Safe Touches program has a standard protocol for following up with children who make statements suggestive of possible sexual abuse during or after the workshop. The protocol calls for a minimal-facts interview with the child in a private space, involvement of appropriate school personnel, and calls to the State Central Register or police as needed.

Children in the control group participated in regular school activities while the children in the intervention group received Safe Touches. Following completion of the posttest, children in the control group received the workshop.

We stratified classrooms within schools according to grade level and then randomly assigned them to intervention or control groups within stratum with a random number table. We did not conduct random assignment at the individual child level because (1) children returning to a classroom where some of their peers had participated in the workshop would increase the chances of contamination,[22] and (2) it would have been logistically difficult.

Data

We assessed outcomes with the CKAQ,[20] a validated measure of children's knowledge about CSA concepts and prevention skills. The CKAQ is among the most widely used outcome measures in CSA prevention research and has been used in urban, multicultural samples.[23,24] The CKAQ consists of 33 items scored true, false, or don't know and yields total scores on 2 subscales measuring knowledge of inappropriate touch and of appropriate touch. Higher scores reflect greater knowledge. The 24-item validated inappropriate touch subscale measures children's ability to recognize not-safe touches, situations, and people and acquisition of self-protective skills; change in inappropriate touch scores from baseline to follow-up was our primary outcome. Internal consistency and test–retest reliability of the

inappropriate touch score are reported in other studies as 0.87 and 0.76, respectively.[20] We examined change in the 9-item appropriate touch subscale, designed to measure potential adverse reactions to appropriate touches in the form of overgeneralization of safety concepts learned, as a secondary outcome with no significant change expected.[17,20]

Intervention and control groups completed the CKAQ at pretest (prior to the intervention) and again at posttest (1 week later, immediately after the intervention group received the intervention). A research staff member who was not a workshop facilitator verbally administered the CKAQ to enrolled children in groups of 3 or 4, taking approximately 15 to 20 minutes per group. Multiple groups were tested simultaneously, with 1 staff member leading each group. On occasion, we administered the CKAQ individually, if needed because of behavioral issues. We administered different versions of the CKAQ, with questions sorted in random order, at the 2 time points, to prevent recall bias.

We established a Data and Safety Monitoring Board to review accrual of schools and children and to monitor incidence of adverse reactions, including withdrawals. The board comprised 3 individuals with expertise in child abuse and neglect and program evaluation methods. In addition, the board defined what would constitute an adverse event, because the literature on CSA did not provide definitions. We did not plan an interim analysis because we designed the trial with a delayed intervention for control participants, no adverse reactions occurred in the pilot study, and assumptions of equal sample sizes among classrooms during early accrual were largely met.

We designed a fidelity checklist to track whether the Safe Touches workshop was administered according to the protocol. A workshop facilitator (n = 14) or independent observer (n = 3) completed checklists for all but 2 workshops. We achieved more than 90% fidelity for number of facilitators, distribution of preworkshop handout, adherence to workshop script, use of props, and distribution of activity books.

Analyses

We derived our sample size from a 2010 pilot study conducted in 1 school from the same recruitment pool as the larger study. The pilot study comprised 61 second graders from 8 classrooms; 43% were female, 88% Hispanic, 5% African American, 3% Asian/Pacific Islander, 2% White, and 2% bicultural. Pilot data yielded a mean change in inappropriate touch of 0.71 (SD = 3.4) for intervention children and −0.36 (SD = 1.4) for control participants. We estimated that 15 children would consent from a typical classroom of 28 to 30 children. Without clustering, the sample size was 93 per group for a 2-tailed test with $\alpha = 0.05$ and $\beta = 0.20$. Thus, 9 clusters were required per group, with a design effect of 1.45, to yield 80% power for a 2-tailed test with $\alpha = 0.05$ (n = 270).[25] With a projected attrition rate of 15%, 320 participants were required (5–6 schools; 22 clusters; Figure 1).

We used hierarchical models to test the difference between intervention and control groups on change in inappropriate touch and appropriate touch scores from pretest to posttest. Hierarchical models were needed to account for repeated measurements over time per child, nonindependence caused by clustering within classrooms and schools, and child- and school-level covariates. Child-level covariates were grade (second vs third) and gender. School-level covariates were race/ethnicity (proportion of students in the school who were White, African American, Hispanic–Latino, Asian, Native American, Pacific Islander, and multiracial), proportion of students in the school receiving free lunch, proportion of students in the school who were English language learners, and proportion of students in the school who were in general education (vs special education).

We attempted to make compound symmetry and unstructured covariance structures with Kenward–Roger adjustments because of the fixed time points. Because the trial had only 2 time points, the first model included only data from children with both time points, in accordance with a modified intention-to-treat analysis. This model yielded valid estimates conditional on the few variables we included in the model (other variables might be associated with missingness, and the missingness mechanism was independent of outcome).

We reported a second model, which incorporated data from all children, regardless of whether they had the intervention or provided postintervention assessments. In addition, we used the Wilcoxon rank sum test to compare children with complete data to those missing outcomes for baseline inappropriate touch and appropriate touch scores and found no significant differences.

Because we observed correlations among potential school-level covariates, we conducted an iterative modeling process in which we entered covariates individually to determine their unique association with change in the dependent variable. We then incorporated significant covariates in the final hierarchical model. Least squares means, standard deviations, and differences between intervention and control groups are presented along with their 95% confidence intervals. We conducted analyses with SAS version 9.3 (SAS Institute Inc, Cary, NC). In addition, we explored the assumption of heterogeneity of pair mean differences in change in inappropriate touch from pre- to posttest with a forest plot for visual clarity and I^2 statistic derived with MIX 2.0 Pro[26]; results indicated that assumptions of homogeneity were largely met (not shown). Finally, intracluster correlation coefficients are presented for clusters by group.

RESULTS

As shown in Figure 1, 492 children enrolled in the trial and completed the pretest. Of these, 55 children did not complete the posttest because of absence from school (76%), absence from the classroom during the workshop (15%), refusal (2%), moving away (2%), or other reasons (5%). Thus, the analysis sample comprised 437 children with complete data for the pre- and posttest (intervention group, n = 195; control group, n = 242). Table 1 presents demographics and baseline inappropriate touch and appropriate touch scores for the total sample and separately for intervention and control groups. We observed no notable baseline differences between intervention and control groups or between those with complete data and the 55 without postintervention data (not shown). Table 2 presents pretest inappropriate touch mean scores by randomized cluster pair; we observed no notable differences between intervention and control groups.

We ran hierarchical models for inappropriate touch scores twice, once with data from

TABLE 2—Descriptive Statistics for Baseline Inappropriate Touch Scores by Randomized-Cluster Pair and by Grade for the Safe Touches Intervention for Child Sexual Abuse Prevention: New York City, 2012–2014

		Intervention Group			Control Group		
School Location[a]	Grade	Participants With Pretest Scores, No.	Participants With Pre- and Posttest Scores, No.	Inappropriate Touch Score, Mean ±SD	Participants With Pretest Scores, No.	Participants With Pre- and Posttest Scores, No.	Inappropriate Touch Score, Mean ±SD
Brooklyn[1]	3	16	14	12.21 ±5.22	15	14	13.43 ±3.25
Brooklyn[1]	3	12	11	13.82 ±2.52	11	11	13.27 ±3.50
Brooklyn[1]	2	22	22	13.82 ±3.58	19	18	10.09 ±3.30
Brooklyn[1]	2	16	13	12.31 ±4.63	15	12	8.50 ±2.65
Brooklyn[1]	2	12	7	10.86 ±3.13	21	17	11.53 ±2.87
Brooklyn[1]	2	14	11	12.00 ±1.61	19	19	11.37 ±2.95
Manhattan[2]	2	18	17	12.65 ±2.42	12	10	10.40 ±2.41
Manhattan[2]	3	7	7	14.14 ±4.06	14	14	12.14 ±3.23
Manhattan[3]	2	6	6	10.83 ±3.19	8	7	11.29 ±3.64
Manhattan[3]	3	11	9	13.67 ±3.46	15	14	13.71 ±3.47
Manhattan[4]	2	9	8	10.88 ±3.31	6	4	13.00 ±4.32
Manhattan[4]	3	7	5	16.00 ±3.16	8	7	13.14 ±2.48
Manhattan[4]	3	5	5	12.20 ±3.19	20	18	15.17 ±3.93
Bronx[5]	2	12	12	11.92 ±2.91	5	4	10.00 ±2.83
Bronx[5]	2	11	9	11.44 ±3.17	19	16	12.19 ±4.09
Bronx[5]	3	15	13	15.23 ±3.79	21	14	14.07 ±2.97
Bronx[5]	3	11	11	14.09 ±3.81	18	17	14.18 ±3.30
Brooklyn[6]	3	9	9	17.56 ±4.50	17	17	16.41 ±3.28
Brooklyn[6]	3	6	6	18.33 ±1.63	10	9	15.78 ±2.44
Total[b]		219	195	13.29 ±3.84	273	242	12.75 ±3.75
Grade 2		120	105	12.01 ±3.34	124	107	11.12 ±3.55
Grade 3		99	90	14.26 ±4.09	149	135	14.13 ±3.47

[a]Numbers refer to the different schools within each borough (6 schools total) where the Safe Touches program was implemented.
[b]Not adjusted for cluster.

all children who completed the pretest, regardless of whether they completed the posttest, and again with only children with both pre- and posttest data (Table 3). Results of the 2 sets of analyses were similar; thus we discuss only the results from the model with children with complete data. We found a significant difference between groups: the intervention group had significantly greater improvement in knowledge of inappropriate touch than the control group ($P<.001$). Children in the intervention group increased their inappropriate touch score significantly, by an average of 1.85 points (SE = 0.26; 95% CI = 1.32, 2.37) from pre- to posttest ($P<.001$). Mean change in inappropriate touch among children in the control group was not significant. Covariates significant in the final inappropriate touch model were grade and percentage in general education in the school.

Gains in inappropriate touch scores relative to control students were significantly greater among children in second than in third grade who attended workshops (intervention group: second grade, mean = 2.50; SD = 3.17; third grade, mean = 1.33; SD = 3.40; control group: second grade, mean = 0.47; SD = 2.94; third grade, mean = 0.01; SD = 2.90). In addition, we found greater relative gains in inappropriate touch scores in intervention students attending workshops in schools with more than 80% of children in general education (intervention group, mean = 2.27; SD = 3.30; control group, mean = 0.50, SD = 2.98) than in intervention students in schools with fewer than 80% of students in general education (intervention group, mean = 0.42; SD = 3.01; control group, mean = −0.86; SD = 2.42). Intracluster correlation coefficients for change in inappropriate touch within clusters were 0.12 and 0.05 for the intervention and control groups, respectively.[27]

Because the inappropriate touch scale included 6 items that addressed stranger danger, which was not covered by Safe Touches, we reran the last hierarchical model testing change in inappropriate touch, with adjustment for grade and general education and with only the 18 items that addressed content specifically covered in the workshop. Excluding items not covered yielded a significant difference between groups ($P<.001$), with a slightly larger average gain in inappropriate touch score for the intervention group (mean = 1.99; SE = 0.24; 95% CI = 1.51, 2.48; $P<.001$) than in previous models. The hierarchical model examining the difference between groups on change in appropriate touch score found no significant difference ($P=.08$) and no significant covariates.

DISCUSSION

Our cluster-randomized controlled trial of Safe Touches furthers the CSA prevention evidence through the use of rigorous research methods and the expansion of CSA research to a large, multiracial, low–socioeconomic status urban population of children. The intervention resulted in a significant increase in the inappropriate touch score not found in the control group. We found no significant differences in change in appropriate touch scores between and within groups, by contrast with Tutty[17] and Baker et al.,[23] who found an improvement in knowledge of appropriate touch following workshops. However, neither of these studies had a similar population of children.

Our results showed a 1.85-point mean increase in knowledge of inappropriate touch in the intervention group and virtually no change in the control group. This difference is consistent with previous studies measuring knowledge gains following school-based CSA programs.[16,17,23,28–30] Other researchers have suggested that more intensive programs that

TABLE 3—Least Squares Means for Change in Total Inappropriate Touch Scores by Group and Differences Between Groups for the Safe Touches Intervention for Child Sexual Abuse Prevention: New York City, 2012–2014

Group	Change From Baseline, Mean ±SE (95% CI)	*P*
Final sample (n = 437)		
Intervention (n = 195)	1.85 ±0.26 (1.32, 2.37)	< .001
Control (n = 242)	0.26 ±0.24 (-0.24, 0.76)	.292
Difference[a]	1.58 ±0.36 (0.86, 2.31)	.001
Total sample (n = 492): difference[a]	1.34 ±0.47 (0.38, 2.30)	< .001

Note. CI = confidence interval.
[a]Difference between intervention and control groups calculated after adjustment for clusters, grade, and percentage in general (vs special) education.

provide multiple sessions and continued exposure to the material may be needed to achieve greater knowledge gains.[17] Safe Touches is a 1-time, 50-minute workshop. Development of ongoing and comprehensive CSA prevention programs in every school system could build on these initial changes in children's increased awareness of CSA.

Children in second grade attained significantly larger increases on the inappropriate touch score from pre- to posttest than children in third grade. An explanation may be that third-grade students' pretest inappropriate touch scores were higher, demonstrating greater baseline knowledge of inappropriate touch concepts. Also, children from schools with a higher proportion of general education students showed greater knowledge gains than children from schools with a lower proportion of general education students.

Our results suggest that Safe Touches is effective for children from racially/ethnically diverse low-income families; this contrasts with previous studies that showed mixed results for knowledge gain by children from low-income families.[31,32] We did not ascertain individual students' family income, making it difficult to explain this contrast further.

Our research methods improved on those of previous studies.[15,31] We used pilot study data from similar populations to adequately power our cluster-randomized controlled trial. The high response rate and resulting large sample size were notable strengths. We randomized classrooms in schools prior to collecting parental consents and student assents, reducing the risk of selection bias.[31,33] Risk of bias was further reduced by the clustering of classrooms within schools, rather than clustering of schools.[34] In addition, use of both pre- and posttest measures[15] and evaluation of program implementation fidelity[31] improved methodology.

Limitations

The small number of schools from a single city may not be representative of all urban schools, limiting generalizability. As with previous studies evaluating knowledge gains from CSA prevention interventions, it cannot be assumed that gains in knowledge after participating in Safe Touches led to behavioral changes and risk reduction for CSA.[16,17] Despite this limitation, evaluating knowledge gains remains an important first step in CSA prevention.

Important child-level data were not accessible. It was not possible to obtain race, ethnicity, family income, or special education data because of Department of Education regulations. However, our research clearly advances the existing literature, which is largely limited to White, middle-class samples. The CKAQ measure did not perfectly fit concepts taught in the Safe Touches program. The CKAQ included several items pertaining to stranger danger, a concept that was purposely excluded from the Safe Touches curriculum because the majority of CSA is perpetrated by someone the child knows.[4] Time constraints for testing students enrolled in New York City public schools required us to use a single measure of CKAQ, which may limit reliability of results. Finally, despite observed knowledge gains, retention of these gains cannot be ensured over time.

Conclusions

Our methodology and findings fill several gaps in the CSA prevention research literature. The methodology improves the research rigor applied to evaluation of a school-based CSA prevention program. The findings add an intervention to the field of CSA prevention that shows promise for increasing the CSA prevention knowledge of multiracial children attending schools serving low-income families. Implications of our observed differences are unclear until our study is replicated, with longer follow-up. Future analyses will be conducted to identify which CSA prevention concepts were easiest and most difficult for students to absorb, along with strategies for improving information delivery. Additional research that evaluates CSA beliefs and attitudes held by parents and school personnel is needed to better understand the broader impact of school-based CSA prevention programs. These data could then inform CSA prevention efforts geared toward parents and school personnel.

CSA remains a critical public health problem, and interventions must be expanded beyond school-based programs targeting children in primary prevention. CSA prevention and awareness must be integrated into our social-ecological framework.[32,35–37] Prevention strategies must be culturally intelligent and tested for efficacy and effectiveness. Longitudinal studies must be developed to measure the impact of prevention efforts across social-ecological domains, including families and the education, public health, and criminal justice systems. Within this framework, programs like Safe Touches will find an integrated, contextual home. ■

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Contributors

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Human Participant Protection

Approval for the research protocol was obtained from the New England and the New York City Department of Education institutional review boards. The study is registered on clinicaltrials.gov.

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