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**Child Psychiatry & Human
Development**

ISSN 0009-398X

Child Psychiatry Hum Dev
DOI 10.1007/s10578-015-0532-4



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An Efficacy Trial of an Intervention Program for Children Exposed to Intimate Partner Violence

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Abstract Children exposed to intimate partner violence (IPV) are at high risk for adjustment problems, especially internalizing disorders. Few evidence-based interventions are available to address internalizing behavior problems in this population. An efficacy trial compared outcomes for 4–6 year old children randomly assigned to a program designed to address the effects of exposure to IPV with those allocated to a waitlist comparison condition. Mothers ($N = 120$) and children from the United States and Canada were assessed at baseline, 5 weeks later (post-intervention) and at 8-month follow-up. The evaluation compared rates of change over time for child internalizing problems. Results were analyzed using both intent-to-treat (ITT) and per-protocol (PP) approaches. ITT analyses indicated the program reduced internalizing problems for girls at follow-up. PP analyses indicated the program reduced internalizing problems for both boys and girls at post-intervention. In this study, child internalizing problems were significantly reduced through an intervention for the mother and the child.

Keywords Internalizing disorders · Intervention research · Randomized control trial · Domestic violence

Introduction

Nearly one quarter of American women report experiencing severe intimate partner violence (IPV) in their lifetime, including being beaten, burned, or choked [1]. More than 15 million American children are exposed to such violence in their home each year [2]. When IPV occurs, children are typically eyewitness to 80–95 % of the violence [3, 4]. Further, the majority of child witnesses are under the age of 6 [4]. The most comprehensive and nationally representative survey to date of violence exposure indicates that 10 % of children under the age of 6 witnessed physical and/or emotional IPV in their home in the past year, with 17 % who have witnessed family violence at some point by the time they reach age 6 [5]. The needs of these children are great, yet few interventions have been proven effective in assisting this young, at-risk population. The present study reports the results of a randomized control trial of an intervention program designed to alleviate and prevent adjustment problems in preschool-aged children exposed to IPV.

Effects of Exposure to IPV

Kitzmann et al. [6] found that over 60 % of child witnesses to IPV fare worse than non-witnesses in terms of developmental outcomes. A number of studies have now documented the link between exposure to IPV and children's internalizing problems (e.g., anxiety, withdrawal, depression), with consistent reports of 40–60 % of children exposed to IPV above standardized clinical cutoff scores [6–8]. Further, previous research suggests that female

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children who witness violence in the home are more likely to exhibit internalized behavior problems as compared to male children [45]. When Boney-McCoy and Finkelhor [9] conducted a large-scale study, they found a nearly threefold increase in depression symptoms for children in families with IPV. While anxiety and depression are more often diagnosed in school-aged children, recent research has shown that serious depression also occurs in children of preschool age and may not spontaneously remit [10].

The effects of IPV exposure also range from heightened problems with anger and difficulty managing social relationships, to lower IQ and performance in school [11–14]. Children who witness violence in the home are more likely to exhibit externalizing problems, including aggression, hyperactivity, and oppositional behavior [15]. Yet internalizing symptoms are not as easily noticed or considered by some to be as serious as externalizing behavior problems [16]. Therefore, depression and anxiety in children exposed to IPV are a potential target for intervention and an important area for further study.

Three separate studies have described profiles of child functioning that reflect various levels of adjustment problems for children exposed to IPV. These studies report approximately 35 % of children in the clinical range on adjustment disorders, 45 % in the borderline range on adjustment problems, and apparent resilience or no clinical or borderline range problems for about 20 % of children at the time of assessment [7, 17, 18]. Thus, without intervention, children with internalizing disorders may be at risk for continued psychopathology and children in the borderline range may get worse over time. Still, it is unclear how many children spontaneously recover from these adjustment problems with or without intervention. Such information is especially lacking for children in the preschool age range.

To date, there are a number of well-controlled studies that provide evidence for effective intervention for children exposed to IPV. Yet most programs are designed for clinically referred and diagnosed children, not including those in the borderline range, with the majority of programs aimed at school-age youth. A review of the evidence base for interventions for children exposed to IPV reveals these and other limitations.

Intervention for Children Exposed to IPV

Several randomized control trials (RCTs) have been conducted for children exposed to IPV with the aim of reducing posttraumatic stress reactions and PTSD [19, 20], conduct disorder [21, 22], externalizing and internalizing behavior problems [3], enhancing self-competence [23], and improving attitudes and beliefs about the acceptability of violence [3].

Jouriles et al. [24] evaluated 36 mothers and children ages 4–9 (average age of 6) exposed to IPV that were diagnosed with conduct problems. Weekly behavioral parent training and social and instrumental support for the mothers was provided over 8 months. Results indicated that children's conduct problems reduced at a faster rate for those in the treatment condition relative to those in the treatment as usual condition, but that children's internalizing behavior problems improved for both groups at similar rates. Evaluation of the long-term impact for 66 families revealed that the program was successful in reducing mothers' inconsistent and harsh parenting and mental health symptoms, and, by extension, their child's conduct problems [21].

Sullivan et al. [23] studied a community based program for 80 abused women and their children comparing those randomly assigned to either a 16-week program or control condition. The program provided paraprofessional support to the mothers with help in obtaining services, childcare, and a 10-week support and education program for their 7–11 year old children. Greater self-competence in the child and improvements in mothers' mental health, quality of life, and social support were found for participants relative to controls.

Lieberman et al. [20] evaluated their 52-week conjoint psychotherapy program for mothers and their young children in families exposed to IPV [25]. Using a nonrandom sample they compared 42 mother–child treatment dyads with 33 dyads who received community case management. Improvements were found for treated children's total behavior problems and PTSD symptoms, and mother's avoidance symptoms but not PTSD. A 6-month follow-up showed that reductions in child behavior problems were maintained for the intervention group [26].

Originally designed for adolescents who were sexually abused, Cohen et al. [19] amended TF-CBT for use with an IPV population and evaluated an 8 week treatment program using a randomized control trial for 124 referred 7- to 14-year-old children exposed to IPV. The comparison was child-centered therapy. After 8 weeks they found less PTSD in the TF-CBT group relative to those receiving child-centered therapy. There was no long-term follow-up of this program.

In the largest randomized control efficacy trial to date, Graham-Bermann et al. [3, 27] evaluated the Kids' Club program with a sample of 181 school-age children and their mothers exposed to IPV. Three groups were compared—when the child only received the intervention, when the child and mother received intervention (mothers participated in the Moms' Empowerment Program (MEP) [27]), and when children did not receive services. Assessments were made at baseline, post-intervention and 8-month follow-up. The program was most effective in reducing

internalizing and externalizing problems when both the child and mother received services, relative to the no treatment and child-only groups. Over time, there was a 77 % reduction in clinical level internalizing problems and a 79 % reduction in externalizing problems from post-treatment to follow-up, relative to children in the child-only condition [3]. The present study evaluates a preschool-age version of the Kids' Club program in which both the child and the mother participate in the intervention.

Two other well-designed program evaluations for children exposed to IPV did not find significant change in outcome variables in the treatment condition over that of the comparison group [28, 29]. In fact, many programs are available for children exposed to IPV, but the vast majority of these are without evidence of success. For example, there are more than 20 other studies reporting effects of change, but with significant methodological flaws, such as the lack of a comparison group, use of non-standardized measures, non-randomization of participants, using participants who drop out of treatment as the comparison group, and the non-independence of those who evaluate the program from those who provide the intervention [for a review, see 11].

To date, there are programs that have good evidence in treating clinically referred or diagnosable children yet there are fewer studies of universal programs where all children, not just those with a diagnosis, receive services. Given the consistent finding that children display variable trajectories of functioning following exposure to adversity [7, 17, 18] it is critical to identify treatments that address children who show a range of symptoms following a potentially traumatic event. Some children are asymptomatic immediately following a trauma, but may report more symptoms as they age and become more cognizant of the impact of adversity. Further, children's level of distress may vary based on setting, by for example displaying more psychopathology at preschool as compared to at home. Given that children do not respond uniformly to adversity, researchers and practitioners alike emphasize the importance of providing support and psycho-education to children who have been exposed to a potentially traumatic event but who show few overt symptoms in order to prevent the development of difficulties in the future [43]. Such early treatment, as is evident in the Preschool Kids Club, which focuses on the prevention of further violence exposure, normalization of feelings toward the violence, and general support concerning victimization is beneficial for symptomatic and asymptomatic children, alike [44]. Therefore, it appears important to provide more generalized services for children exposed to violence, as it is unclear to what extent children, and especially preschool children, may have borderline level problems and 'sleeper' effects—or ramifications of

violence that arise later in development [30]. It may be useful to provide services that are effective both for prevention with non-clinical, violence exposed populations as well as intervention with clinical, violence exposed populations.

The Current Study

Based on this research, the current trial was designed to compare the adjustment of children exposed to severe IPV who participated in the Pre Kids' Club (PKC) [31] while their mothers participated in the MEP [32] with a comparable group who did not receive intervention services and were randomly assigned to a waitlist. Because our interest was in providing universal services as both preventative (for children in the non-clinical range) and as clinical treatment (for children in the clinical and borderline range), children did not need to exhibit diagnosable levels of internalizing symptoms to qualify for inclusion. However, given that adjustment problems are common after exposure to violence (e.g., [33]), it was expected that those children in the intervention condition would show significant improvement in internalizing symptoms post treatment and over time relative to those in the waitlist/comparison condition. The significance of such change to the individual was also evaluated with the reliable change index that describes a meaningful impact as a return to non-clinical level functioning or improvement from clinical to borderline range functioning [34].

Method

Participants

The sample consisted of 120 mother–child pairs who had been exposed to significant IPV in the past 2 years. With regard to violence severity, mothers reported an average of 56 acts of physical violence within the past year ($SD = 59.68$), resulting in an average of 14 injuries ($SD = 18.44$), 96 acts of psychological aggression ($SD = 55.45$), and 18 acts of sexual violence ($SD = 30.25$). Fifty three percent of child participants were boys (47 % girls) ranging in age from 4 to 6 years ($M = 4.93$, $SD = .86$). Gender in the experimental group was split evenly, with 29 females and 29 males. There were 28 females and 34 males in the comparison group. Child ethnicity was diverse (38 % Caucasian, 37 % African American, 20 % Biracial, 5 % Latino/a), as was the mother's ethnicity (48 % Caucasian, 37 % African American, 8 % Biracial, 6 % Latino/a, 1 % from other ethnic groups). The mothers' mean age was 31.9 years ($SD = 7.19$), and the families' average monthly income was low, but variable ($M = \$1,414$; $SD = \$1,549$).

Of the women participating in this study, 11 % had some high school education, 28 % graduated from high school, 39 % had a college degree or additional technical training, and 2 % obtained a graduate degree. Relationship status indicated 43 % single, 7 % living with a partner, 16 % married, and 34 % separated or divorced. Seven percent of the women were living with a violent partner at the time of assessment and 52 % of the sample had previously lived in, or were currently living in, a shelter for families exposed to violence.

Study Protocol

Following University Institutional Review Board approval, study participants were recruited through community and shelter outreach using brochures, mailings, and presentations. Participants were recruited in Washtenaw County and Jackson County in Michigan and from Windsor, Ontario, Canada. Thirty seven percent of participants were recruited from Ann Arbor, Michigan in Washtenaw County, 33 % from Ypsilanti, Michigan in Washtenaw County, 15 % were recruited from Jackson County Michigan and 15 % from Windsor, Ontario. There were no demographic differences between locations for child sex, child age, mother's relationship status, mother's age, or household income. Further, there was no significant difference in assignment to treatment or wait list conditions based on location. There was a significant difference in terms of ethnicity, as the Ann Arbor and Ypsilanti, Michigan sites were more likely to have African American children than the Jackson, Michigan, and Windsor, Ontario sites ($\chi^2 = 58.89$, $df = 15$, $p < .001$).

Women interested in joining the study contacted the project coordinator by telephone. A phone screening was used to assess if the caller and her children qualified for the study. Specifically, inclusion criteria were having experienced violence with a partner in the past 2 years and a child between the ages of 4 and 6 who had witnessed the violence. All women who contacted the study coordinator, regardless of qualification for participation, were provided with resources for affordable services available in the area for families exposed to IPV. Women who qualified for the project were told about the study and, if interested, were randomly assigned in groups to either the experimental condition or to the no treatment comparison condition. Specifically, the first five families who qualified for the study, within a given setting, were assigned to the experimental condition by the project coordinator, and the next five families were assigned to the no treatment comparison condition. All participating agencies used the same allocation schedule. Participants and those who conducted interviews were blind to group assignment.

Study interviews took place in a variety of locations, including a local domestic violence shelter, the research laboratory, or in or near the participant's home, if the mother was not living with a violent partner. Interviewers were advanced undergraduate and graduate student research assistants who were trained in research ethics and interviewing survivors of IPV. Interviewers were blind to group assignment and separate from those who provided the intervention services. Mothers gave informed consent to participate in the project and were compensated \$25 for each study interview.

Mothers in both study conditions were interviewed pre- and post- intervention (approximately 5 weeks apart) and at 8 month follow-up. Mothers and children in the comparison condition were invited to participate in the intervention after the second interview. Of the 150 families screened, 125 met eligibility criteria. These families were presented with a description of study procedures (e.g., length and frequency of interviews, the experimental and comparison conditions, procedures to protect confidentiality, and potential risks and benefits associated with participation). After learning about the study, five of the eligible families declined to participate. This yielded a final sample of 120 families. The Consort [35] diagram (Fig. 1) displays the flow of participants through the project.

The Intervention Programs

The PKC program is a ten-session intervention that meets for 5 weeks [31]. The program is conducted in community settings, such as local education centers and shelters. The program includes two components: the PKC for children exposed to IPV and The MEP [27, 32]. The PKC aims to help 4–6 year old children who have witnessed violence based on the theoretical assumptions that children may have developed harmful attitudes, and beliefs as a result of observing IPV and may be distressed or traumatized by these experiences. Children exposed to IPV also may have difficulty expressing and regulating emotion, may blame themselves and feel insecure, while others may have elevated levels of trauma symptoms that challenge their coping [11, 36–38]. This program is adapted from the Kids' Club Program for school age children [3] that was evaluated with an RCT and found to be effective. Each session focuses on different topics related to IPV, including attitudes and beliefs children have about violence, identifying and managing emotions, fears and worries, safety planning strategies, and conflict resolution tactics. The adaptation takes the form of elucidating age-appropriate issues and activities for young children exposed to IPV with a training manual specific to the developmental needs and abilities of the preschool-age child.

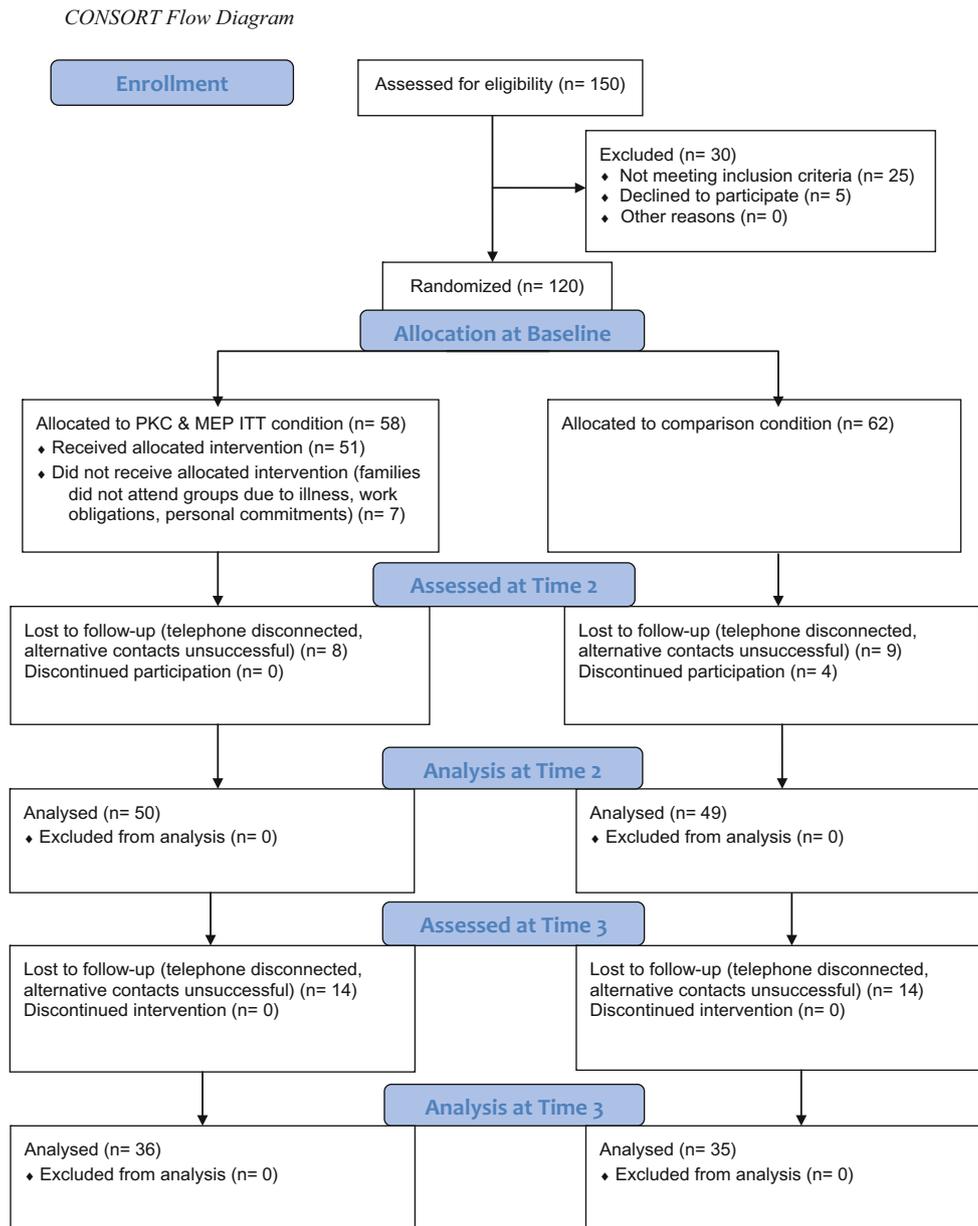


Fig. 1 Consort flow diagram

The MEP was designed to enhance the social and emotional adjustment of mothers who experienced IPV in the past 2 years, leading to fewer mental health difficulties [27, 32]. By extension, children are thought to benefit when their mothers' coping is enhanced and her mental health problems reduced. The empowerment group also focuses on strengthening protective aspects in the mothers' lives including social support, community resources, and parenting skills. During the intervention, mothers discuss how IPV has affected their child's development and functioning. In addition, women's mental health symptoms and issues of safety are addressed. The psycho-educational element of the intervention program was designed to

normalize and reduce women's stress and to provide support and problem solving around parenting challenges [32]. An RCT found the program to be effective in reducing women's exposure to IPV and in significantly reducing traumatic stress and PTSD [27, 39].

The study therapists were master's-level social workers and graduate students in clinical psychology who were paired with local therapists or service providers at two participating mental health agencies in Michigan and Ontario. All received training in providing the PKC and MEP from the program's developer (a clinical psychologist) and received supervision until proficiency was reached. Therapists received intensive training in clinical

work with children and women exposed to IPV as well as ethical issues in working with at-risk populations. Each therapist followed a training manual that described the fundamentals of each session. The supervisor approved an outline of activities that were planned in advance. Detailed process notes written after every session were shared and discussed during weekly group supervision to assure adherence to the program.

Measures

Demographics

A demographic questionnaire was administered to each mother to ascertain basic background information, such as age, monthly income, race and ethnicity, education, shelter stay, and relationship status.

Intimate Partner Violence

Intimate Partner Violence was assessed with the Revised Conflict Tactics Scales (CTS2; [40]). The CTS2 is a 39-item instrument measuring the severity of psychological, physical, and sexual violence in a dating, cohabitating, or marital relationship as well as the extent to which negotiation has been used to manage conflict. Each item is designed to be answered by the participant about both the participant and the partner, for a total of 78 questions. At the request of participating agencies, only the 39 partner items were included in this study. Mothers were asked to estimate the frequency with which their partner had used different violence tactics toward them within the past year on a seven-point scale (from never occurred to occurred more than 20 times). The measure is comprised of five subscales: Physical Assault (e.g., “My partner twisted my arm or hair”), Psychological Aggression (e.g., “My partner insulted or swore at me”), Negotiation (e.g., “My partner explained his or her side of a disagreement to me”), Injury (e.g., “You had a broken bone from a fight with your partner”), and Sexual Coercion (e.g., “My partner used threats to make me have sex”). The CTS2 has good internal consistency reliability, with alpha coefficients ranging from .79 to .95, as well as adequate construct and discriminant validity [40]. In the present study, reliability for the CTS2 Total Scale was .93 with lower statistics for the subscales of Negotiation (.62), Psychological Aggression (.84), Physical Assault (.91), Sexual Coercion (.87), and Injury (.69).

Child Adjustment

The *Child Behavior Checklist* (CBCL, [41]) was administered to evaluate preschool children's internalizing

problems. Mothers completed this 113-item checklist of adjustment problems, indicating whether the item was “not true”, “somewhat or sometimes true”, or “very true or often true” of their child. Responses on this inventory yield normalized scores in the area of Internalizing (anxiety/depression, withdrawal, and somatic complaints) behavior problems. This measure has been used in a wide variety of research studies and has been found to be both reliable and valid [41]. In the current study sample, internal consistency for the Internalizing scale was (α) .89. Reliabilities for the current sample varied between the three data collection time points, ranging from (α) .87–.90. The CBCL also provides standard information regarding “clinical cut-offs” for children's difficulties (i.e., non-clinical, borderline, clinical). A T-score of 65 or above represents a clinical level score, while a T-score of 60–64 represents the borderline clinical range and a score of <60 indicates the normal range of functioning.

Analytic Strategy

Data for this study were collected at three time points. Thus, there were repeated measures for subjects in both the treatment and control conditions. In order to accurately model change over multiple time points for our study participants, and to hold baseline functioning constant, we employed multilevel regression analyses appropriate for longitudinal data. This method allowed us to test the relative contribution of violence exposure, baseline functioning and demographic characteristics that might contribute to change in internalizing problems for those in the intervention and comparison groups. Missing data was managed for both sets of analyses as follows: An analysis of the missing data for the CBCL Internalizing scale revealed that between 3 and 4 % were missing values for the 31 scale items. Items with missingness were distributed across subscales, such that no subscale was impacted more strongly by missingness than any other. For this study, the small percentage of missing data were filled in with mean values from non-missing cases.

As a supplementary analysis, we conducted a per-protocol analysis, which analyzed the data based upon adherence to the treatment protocol (i.e., children originally assigned to the treatment group who did not attend sessions were analyzed as comparison). Intent to treat and per-protocol models may offer different perspectives on the research question of interest. Intent to treat analyses preserve the original random assignment to treatment or control conditions and include all participants as assigned. However, intent to treat analyses may understate the effects of an intervention if not all of those who are assigned to the treatment group fully comply with the intervention. Alternatively, per-protocol analyses may offer beneficial

information about the extent to which outcomes are associated with actual adherence, or non-adherence, to the treatment protocol.

Results

Descriptive statistics for the study variables are given in Table 1. Mean CBCL Internalizing scale T-scores for the treatment group at baseline, post-intervention and follow-up were 57.73 (*SD* = 11.90), 56.93 (*SD* = 12.26), and 56.90 (*SD* = 11.94), respectively. Mean CBCL Internalizing scale T-scores for the comparison group at same three time points were 54.07 (*SD* = 12.74), 52.30 (*SD* = 10.75), and 53.18 (*SD* = 11.41).

For those in the intent-to-treat treatment group at baseline, 38 % were in the clinical range on internalizing problems, 12 % were in the borderline clinical range, and 50 % were below the clinical range. For the intent-to-treat comparison group, 26 % of children were in the clinical range on internalizing problems, with 4 % at borderline and 69 % below clinical level.

Using the per protocol assignments, for those in the treatment group, 42 % were in the clinical range for internalizing problems, 9 % were in the borderline clinical range and 48 % were below the clinical level. For the per protocol comparison group, 25 % of children were in the clinical range on internalizing problems, with 7 % in the borderline range and 68 % below clinical level.

Attrition Analysis

Of the 120 families in the study sample, 58 were allocated to the intervention program and 62 were allocated to the no treatment comparison group. Experimental families attended an average of 6 (*SD* = 3) sessions. Of the 58 families in the experimental group, 51 received the intervention and

7 did not receive the intervention citing illness, work schedule changes and personal commitments. In all, 50 completed pre- and post-intervention assessments (1 family could not be reached for the second interview). Of the 62 comparison families, 8 were unable to be contacted for the second interview and 4 discontinued participation in the study. Attrition from baseline to post-intervention was 14 % for the experimental group and 21 % for the comparison group. Attrition from the second to the third interview, approximately 8 months later, was 28 % for the experimental group and 29 % for the no treatment comparison group.

There were no statistically significant differences between the experimental and no treatment comparison groups at baseline on demographic variables and violence severity. Although children did not have significant differences in mean Internalizing scores, children in the intervention group were significantly more likely to have Internalizing problems that reached a higher clinical level (e.g., borderline clinical level problems as compared to falling in the average range) than were children in the comparison group [$t(120) = -2.20, p < .05$]. An attrition analysis was completed by comparing those who stayed in the study from baseline to the second interview with those who did not. Analyses comparing those participants who dropped out of the study with those who did not drop out of the study indicated that there were no differences between groups from baseline to the second interview on any relevant variables. Changes over time, therefore, would not be linked to variance in the participant pool arising from attrition.

Intent-to-Treat Model

In the intent to treat model predicting internalizing problems, the β parameter for treatment was not statistically significant, indicating that individuals in the treatment group began the intervention with similar levels of

Table 1 Minimum and maximum values, means and standard deviations of violence severity for treatment and comparison groups and their differences at baseline

	Minimum-maximum value	Experimental <i>M</i> (<i>SD</i>)	Comparison <i>M</i> (<i>SD</i>)	Baseline comparison (t)*
IPV (CTS-TTL)	0–637	198.31 (152.08)	185.23 (123.61)	–.50
Negotiation	0–125	48.67 (31.20)	49.09 (28.90)	.07
Psychological aggression	0–200	98.90 (58.93)	93.24 (45.96)	–.59
Physical assault	0–245	58.51 (62.50)	50.98 (52.51)	–.23
Sexual coercion	0–175	23.59 (36.84)	27.73 (39.87)	.80
Injury	0–98	17.31 (21.70)	13.27 (13.33)	–.70

Negotiation is not included in the CTS Total Score Calculation

n = 120, Experimental, n = 52, Comparison n = 68

CTS Conflict Tactics Scale–Revised, *CTS-TTL* CTS-R Total

* No significant differences were found when comparing experimental and comparison groups at baseline

internalizing problems to members of the comparison group (Table 2). The parameter for time was not statistically significant in this model, indicating that for members of the comparison group, there was not a statistically significant decrease in internalizing problems over time. The interaction of treatment and time at follow-up was statistically significant, indicating that for female children in the treatment group, there was a statistically significant decrease in internalizing problems at the 8 month follow up point. The time trajectory for male members of the treatment group was computed by creating a linear combination of the appropriate main effects and interaction terms, and was not statistically significant. Figure 2 provides a graphical display of these results. Effect sizes (Cohen's *d*) from Time 1 to Time 2 were .18 for the treatment group and .15 for the comparison group. Effect sizes of change from Time 2 to Time 3 were small (.01 for the treatment and $-.07$ for the comparison group).

Per-Protocol Analyses

In the per-protocol model for internalizing problems, there were no statistically significant interactions of gender with treatment, so a model for both genders together was estimated. In the per-protocol model for internalizing problems, the β for the treatment variable was statistically significant, suggesting that under a per-protocol specification, there were statistically significant differences between the treatment and comparison groups. Treatment children had somewhat higher levels of internalizing problems in this model. In a model for internalizing behavior, it is of note that there was a statistically significant interaction of treatment and time at post-intervention, suggesting that there was evidence of a reduction in internalizing problems for all children at post-intervention.

Reliable Change Index

In order to more fully explicate changes in group status following the intervention, a reliable change analysis was conducted (see Figs. 3 and 4). Of children in the treatment condition 20 % were no longer in the clinical range, 9 % were no longer borderline and 12 % changed to within the normal range on Internalizing problems from baseline to post-intervention. Of those in the comparison group, 6 % were no longer in the clinical range, 3 % no longer in the borderline range and 9 % changed to within the normal range. Analyses of long term change (from Time 1 to Time3 follow-up) showed 23 % of treatment children were no longer in the clinical range (vs. 8 % for the comparison group), 3 % were no longer borderline (vs. 2.5 % for the comparison group) and 22 % (vs. 5 %) were in the normal range. Phrased otherwise, while a small number of children spontaneously remitted in clinical and borderline level internalizing problems without intervention, many more in the clinical group improved with treatment.

Discussion

The hypothesis that children in the intervention condition would show significant improvement in internalizing symptoms, relative to those in the no treatment comparison condition, was partially supported. Using the intent to treat analysis, only girls showed significant change at follow-up based on participation in the intervention program. For those who were in the treatment group and *adhered* to treatment (as shown in the per-protocol analysis), positive results were found post-intervention for both boys and girls. These findings are somewhat consistent with the previous evaluation of the school-aged version of the Kids'

Table 2 Results of multilevel regression analyses of internalizing problems using intent to treat (ITT) and per-protocol analyses

	ITT internalizing	Per protocol internalizing
Treatment	.331	.486**
Time 2	-.016	-.018
Time 3	.102	-.026
Treatment × Time 2	-.111	-.275*
Treatment × Time 3	-.475*	-.237
Child sex	.322	.229
Treatment × child sex	-.011	
Time 2 × child sex	-.205	
Time 3 × child sex	-.278	
Treatment × Time 2 × child sex	-.035	
Treatment × Time 3 × child sex	.517	
Constant	1.393***	1.363***
Random intercept	.717***	.711***
Residual	.481***	.470***

* $p < .01$; ** $p < .01$;
*** $p < .001$

Fig. 2 Internalization clinical cutoff

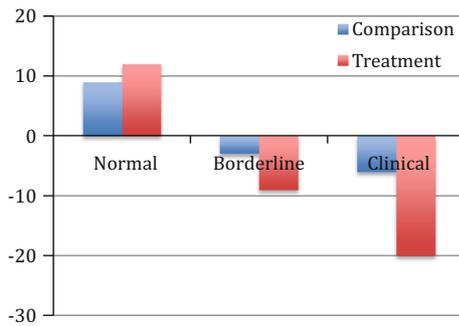
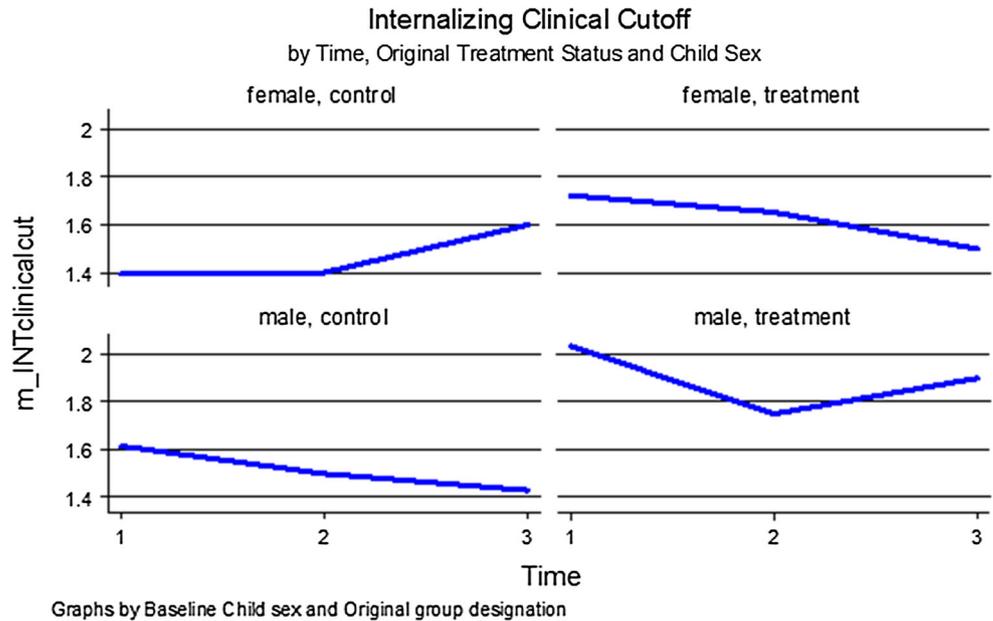


Fig. 3 Percent of children who changed in normal, borderline and clinical range internalizing problems from Time 1 to Time 2

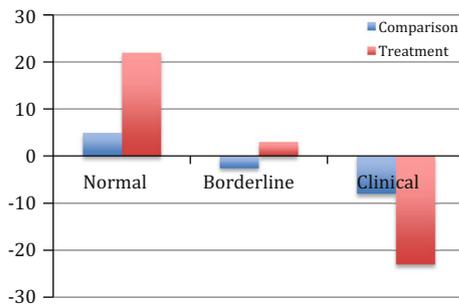


Fig. 4 Percent of children who changed in normal, borderline and clinical range internalizing problems from Time 1 to Time 3

Club Program, which reported significant change for children who showed clinical levels of adjustment problems post intervention and at follow-up [3] and with findings

from the Lieberman et al. [25] study. It is important to note that, despite randomization, children in the intervention group did exhibit clinically higher levels of internalizing problems than those in the comparison group when examining clinical cut-off scores. However, this baseline difference was statistically controlled for in the model, which indicates that children’s improvement in the treatment group is more significant than what would be expected from a “regression to the mean” hypothesis. Further evidence of improvement is provided by the reliable change index results that showed children with Internalizing scores in the clinical and the borderline clinical range improved relative to their non-treated peers.

Still, without an even longer-term follow-up, we cannot know whether those children without diagnosable problems during our contact with them remained symptom free, got worse (the “sleeper effect”) or showed ongoing improvement. Future studies should be designed to follow children well beyond the end of the program and to chart their progress, as well as their success, to ascertain any inoculation effects of this and/or of other programs. Unfortunately, to date, few studies have any long-term follow-up.

Although many evidence-based treatments are available for children exhibiting specific disorders following exposure to violence (e.g., PTSD), few studies provide evidence for more generalized preventative care for children exposed to IPV. However, given the large number of children exposed to IPV, and the significant long term risk that IPV poses to children’s health and development, evidence supporting such programs is needed. The present study contributes to this developing body of knowledge with preliminary evidence that a brief group intervention

program, with both a mother and child component, can reduce internalizing symptoms in the lives of some young children exposed to IPV. Further, when enough families are available for services, group therapy can be cost effective and it has developmental advantages in terms of peer support, relative to individual treatments or those focused primarily on the parent. Thus, this type of research disseminates much needed information on families who experience significant adversity.

While some of the findings are significant and offer novel information on young children's internalizing problems over time, several limitations should be noted. There were issues with the participant pool regarding sample retention and group attendance that may have impacted the interpretation of study results. Given the chaos and instability that frequently surround families who experience IPV, it was often extremely difficult to remain in contact with participants and to locate them for the post-intervention and follow-up interviews.

Another limitation may be in the procedure for assigning families to conditions, such that they were allocated in groups of five rather than individually. The reason for the allocation of families in groups was based on the needs of community settings that provided the intervention. Given that it took 2 years to conduct this study, group assignment was desirable in providing the intervention in a timely manner. There are also a number of limitations when employing the wait list control group for purposes of comparison with the treatment group. First, it is not clear whether time alone might have reduced children's internalizing symptoms for those in either group. Second, the role of attention gained from being in the treatment condition is not accounted for in the wait list paradigm. Perhaps the use of some ongoing contact with those in the comparison group would begin to take the effect of being given attention into account.

Additionally, experimental families attended an average of six sessions; meaning that they received slightly more than half of the treatment services, although lessons learned from one session were repeated in subsequent sessions. While this attendance rate is in-line with other IPV intervention evaluations of older, school-age children [3], it may highlight developmental differences in the retention of information. Preschool children may need more consistent repetition and the practice of knowledge and skills offered through intervention to show a meaningful and lasting improvement in functioning. Developmental research indicates that young children require multiple repetitions to retain information [42], therefore; the relatively small amount of treatment may contribute to a lack of more significant results.

Further, the generalizability of findings might be questionable, as this is a sample primarily consisting of low

income, mid-Western families who sought out services and resources following exposure to IPV. Intimate partner violence affects families across all income brackets and geographic locations; therefore findings from this study may not be representative of the experiences of many families exposed to violence. Additionally, there are potential issues of bias and social desirability as mothers completed all measures used in this study. All information about child adjustment (the CBCL) and the family's functioning is from the mother's perspective and reflects her opinion and interpretation of the child's behavior. The study could have been improved with additional sources of information concerning the child's internalizing symptoms, such as information gleaned from clinical interviews to identify comorbid symptoms and diagnoses. Further, mothers who participated in the MEP also knew that their child was receiving intervention. Thus, they may have been motivated to under-report their child's mental health symptoms. Finally, bi-directional violence or violence by women towards their partners was not assessed, but also may have contributed to the child's adjustment problems.

Clinical Implications

Findings from this study offer unique insight into the functioning of preschool children who have witnessed violence in the home. A variety of clinical implications emerge in connection with this research, including the need for clinicians to include both mothers and children in IPV treatment services. When working with young children who are anxious or withdrawn, clinicians might focus on reducing their fears and worries and enhancing their coping skills. When working with the mothers of these children, additional parenting techniques could be used in times of stress, as a way to address and to assuage adjustment reactions in young children. Finally, it may be useful to first employ a brief group intervention such as the one studied here and to reserve longer-term treatment for children whose symptoms persist.

The intervention program presented here is likely most useful to organizations that serve large numbers of IPV-exposed women and children. In this context, the program can be broadly offered to dyads. Given that group alliance is a core feature of establishing safety and security within the group, we do not recommend that the program be offered in a "drop-in" style. Rather, a group of dyads should be gathered for the intervention and be encouraged to attend all sessions. Including pre- and post-test assessments of children's adjustment are also recommended to determine whether or not the program is maintaining effectiveness. Regular outcome assessments also assist in identifying children exhibiting more severe psychopathology who would benefit from more intensive individual treatment.

Future Studies

A number of future research directions emerge given the exploratory nature of this study. Future studies could benefit from taking into account potential biological correlates, contextual or neighborhood factors, self-evaluations by the child, or objective evaluations completed by informants other than the mother. These future projects might also gather additional information about the family's functioning and environmental stressors, as well as additional risk and protective features that may occur in the interim period between the intervention and follow-up assessments. Relevant factors to assess might include significant changes to the family's income, the addition of a new sibling, or whether the child has begun school. Such factors might have a substantial impact on the expression of the child's adjustment difficulties, including anxiety and depression, and should be gathered to provide a more complete depiction of the child's functioning. Additionally, while this study was designed to assess change in the broad outcome of behavioral adjustment, future studies might also evaluate the building blocks of interventions that are theorized to lead to change, such as whether the intervention enhanced the child's ability to identify emotions, discuss fears and worries, or the extent to which the program succeeded in providing a safe space for discussions of difficult issues.

Given the positive results of the current study, it is also important that future studies include a more rigorous assessment of treatment adherence and fidelity. The inclusion of direct and/or video-recorded observations or audio-recording may be one way to achieve this. Such analyses would greatly benefit future directions related to the implementation methods for the program.

Summary

This study evaluated the change in child internalizing problems from baseline to immediately following the PKC intervention and again at 8-month follow-up, by comparing children who participated in the intervention to a group of children who did not receive services. Given that much of the newly developing literature on change following interventions for children exposed to IPV has focused on school-aged children [3, 19, 23], this study makes a unique contribution to the field by assessing change in preschool-aged children. This is especially important because preschool children fall in the age range most likely to witness violence in the home. In this study child internalizing problems were significantly reduced through an intervention that included both the mother and the child.

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