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Treating PTSD and Related Symptoms in Children Research Highlights

Although many children and adolescents (hereafter referred to as “children”) are resilient after traumatic experiences, others develop a variety of emotional and behavioral symptoms that can be severe and long-lasting.

Researchers face unique forensic, developmental, assessment, and legal challenges in conducting treatment studies with traumatized children. In contrast to adults, independent verification of certain traumatic experiences (e.g., child abuse) is usually required for participation in child treatment research. Developmental level influences how symptoms are assessed (e.g., via parent report, child report, consensus rating, observation, or other strategies) and what domains are most relevant to assess (for example, PTSD vs. a non-diagnostic entity such as attachment). If the parent has personal PTSD symptoms, this may bias his or her reporting of the child’s symptoms; yet for children, parent report is an essential part of assessment. Legal issues may provide daunting barriers to conducting research. For example, some jurisdictions require that both parents provide consent for treatment; when one parent perpetrated the trauma and denies that this occurred or refuses consent, his or her child will be eliminated from participation, thus potentially biasing the sample.

Despite these and other challenges, the empirical treatment literature for traumatized children has grown considerably since the first studies appeared in the 1990s. It is also important to note that much of this treatment literature has been conducted in “real life” settings: schools, homes, inner-city clinics, refugee camps, and war-torn countries. Some of these models have also been used for complex trauma presentations by community agency clinicians through the National Child Traumatic Stress Network (www.NCTSN.org) and several state

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agencies and therefore have demonstrated local feasibility for real world practice (Amaya-Jackson & DeRosa, 2007).

This review is not comprehensive but rather provides some highlights of the current treatment outcome literature for treating childhood trauma, focusing primarily on PTSD symptoms due to space limitations. Other mental health symptoms and resiliency factors (for example, attachment, social skills, conduct problems, preventing placement disruption) are also important foci for treatment. Many other outstanding studies have been conducted; a comprehensive review of the empirical evidence related to treatment of PTSD will soon be published (Foa, Keane, Friedman & Cohen, in press).

Since development is such a central factor in childhood, treatments are grouped according to developmental stage.

Treating Preschool Children: Two Models that Work

Infants and toddlers experiencing trauma exhibit a variety of symptoms, although those symptoms may be more challenging to reliably assess in young children. Because of very young children’s dependence on their parents, it is especially critical to include parents in treatment and to address parenting issues as a focus in treatment. Two models that have been tested for traumatized preschool children are described here. Child-Parent Psychotherapy (Lieberman et al., 2005) is an attachment-based model that uses the relationship between the child and parent to address the child’s trauma symptoms. Trauma-Focused Cognitive Behavioral Therapy (TF-CBT, www.musc.edu/tfcbt) includes an active parent component with a focus on improving parenting skills and addressing maladaptive parent-child interactions.

Continued on page 2

Lieberman et al. (2005) randomized 75 preschool children and their mothers who had experienced domestic violence to either Child Parent Psychotherapy or case management. Child Parent Psychotherapy resulted in significantly greater improvement in children's and mothers' PTSD symptoms (even though improvement in mothers' personal symptoms was not a direct target of treatment), and significantly greater improvement in children's behavioral problems. Differences in child behavior problems were sustained at the 6-month follow-up assessment; child PTSD symptoms were not assessed at this follow-up due to lack of resources to conduct follow-up interviews.

Cohen and Mannarino (1996) compared TF-CBT to Non-directive Supportive Therapy for 86 preschool children ages 3-7 years old who had experienced sexual abuse, and their non-abusive parents. TF-CBT was superior in improving some PTSD symptoms that were assessed by the Weekly Behavior Report, as well as sexual behaviors, total behavior problems, and internalized behavior symptoms. Differential findings were maintained at 6- and 12-month follow-ups. Fewer children required removal from TF-CBT due to sexually inappropriate behaviors. Parental sexual abuse-related emotional distress and parental support for the child each mediated children's outcomes, suggesting the importance of including parents in treatment.

Both of these studies demonstrate the feasibility of using manual-based treatments and conducting treatment outcome research with very young children who have experienced trauma. They also suggest that there is added value in including non-perpetrating parents in young children's treatment.

School-aged Children: Parents, Schools, and Multiple Traumas

School-aged children also demonstrate a variety of problems following trauma exposure. Children with severe, early, and/or chronic trauma exposure often exhibit serious dysregulation of affect, behavior, and/or cognition, as well as problems with trust, shame, self-esteem, and interpersonal relationships.

Many therapists do not typically include parents in children's treatment. In order to empirically examine this issue, Deblinger et al. (1996) compared TF-CBT for 100 sexually abused children ages 8-14 years old, provided for children only, parents only, or children and parents, to a community comparison treatment condition. This study found that (a) all TF-CBT groups experienced more improvement than the community group; (b) the child treatment groups showed superior improvement in PTSD symptoms; and (c) the parent treatment groups showed superior improvement in behavior and depressive symptoms. Taken together, these results suggest that optimal improvement occurs by including both child and parent in TF-CBT treatment.

One of the biggest challenges in child treatment is finding a way for the children who most need treatment to access it. Some of the most severely traumatized children never come to mental health clinics. In an exciting study that showed the feasibility of screening and treating children in group breakout sessions during the school day, Stein et al. (2003) compared Cognitive Behavioral Interventions for

Trauma in Schools to a wait-list control condition for 126 6th-grade children exposed to community violence. The active treatment was superior to wait-list control in improving PTSD and depressive symptoms. In a similar study, Berger et al. (2007) compared another cognitive behavioral group model, Overcoming the Threat of Terrorism, to an untreated control group for 142 Israeli children exposed to terrorism. This study documented that the treatment group experienced significant decreases in PTSD symptoms compared to the wait-list group.

The issue of multiply traumatized children is rarely addressed, primarily because funding agencies thus far have only funded studies for single types of trauma (for example, sexual abuse, domestic violence, disaster). However, many if not most children exposed to trauma experience more than one type of traumatic event. Cohen et al. (2004) conducted the first multi-site study of 203 sexually abused children ages 8-14 years old and their parents. Although sexual abuse was the index trauma, this study also documented and demonstrated the efficacy of TF-CBT for multiply traumatized children. More than 90% of the cohort had experienced multiple trauma exposure, with a mean of 3.6 types of trauma experienced. Children and parents were randomized to receive TF-CBT or Child Centered Therapy. The TF-CBT group experienced significantly greater improvement in PTSD symptoms, depression, behavioral symptoms, and shame; parents participating in TF-CBT experienced significantly greater improvement in parenting skills, depression, emotional distress, and support of their children. On follow-up, TF-CBT was found to be more effective for children who had experienced multiple traumas and higher levels of depressive symptoms at pre-treatment.

And finally, there is some mixed news about two well-known but (until last year) not-well-tested treatments in children. Many questions remain about the value of psychological debriefing for children compared to adults. Stallard et al. (2006) examined this model for English children who experienced road traffic accidents and found that psychological debriefing resulted in neither improvement nor harm compared to an initial assessment interview. Many practitioners, particularly in Europe, are advocates of Eye Movement Desensitization Reprocessing (EMDR) for children, despite a lack of well-designed studies for children. In the first published study that included essential elements of a randomized controlled trial (RCT), Ahmad and Sundelin-Wahlsten (2008) adapted EMDR for Swedish children exposed to a variety of different types of traumatic experiences and found that it was superior to a wait-list control for improving PTSD reexperiencing symptoms. The authors opined that their adaptation's resemblance to cognitive therapy was responsible for its effectiveness in these children.

Adolescents and War

Adolescents are more reliable in self-reporting psychological symptoms than younger children, but still have developmental differences from adults. Traumatized youth continue to be at increased risk for the multiple mental health problems noted previously as well as substance use disorder, either alone or coexisting with PTSD. Adolescents are often treated in groups at schools, and thus parents are not included. Few studies have assessed whether their inclusion would be beneficial.

Some researchers have studied highly traumatized adolescents affected by war, displacement, and traumatic grief. Bolton et al. (2007) compared culturally adapted group Interpersonal Psychotherapy to activity-based manualized creative play therapy or wait-list control for 314 adolescent survivors of war and displacement in northern Uganda. Interpersonal Psychotherapy was significantly better than wait-list or play therapy in decreasing depressive symptoms among girls but not boys.

Medication Studies

Only two pharmacological RCTs have been conducted specifically for children with trauma symptoms. Robert et al. (1999) compared imipramine, a tricyclic antidepressant, to chloral hydrate, a sedative, in treating acute stress disorder (ASD) symptoms in 2- to 19-year-old burn patients over 7 days during acute hospitalization. Results of this double-blind randomized trial demonstrated that imipramine was superior to chloral hydrate in decreasing ASD symptoms. Concerns about imipramine causing potentially serious cardiac conduction delays prevent the widespread use of this medication on an outpatient basis. Cohen et al. (2007) compared TF-CBT + sertraline to TF-CBT + placebo in 24 sexually abused children ages 10-17 years old and did not find that the addition of sertraline significantly improved the efficacy of TF-CBT in decreasing PTSD or other symptoms. This study was underpowered due to the small sample size. Concerns about selective serotonin reuptake inhibitor medication use in children will likely limit future research in this regard.

Promising Practices

Many promising practices for treating trauma and trauma-related symptoms are being developed and pilot-tested currently. Some of these are described at www.NCTSN.org. For example, Kazak et al. (2004) have provided preliminary data supporting the efficacy of a group and family intervention for children who have survived cancer. Layne et al. (2001) developed Trauma and Grief Components Therapy to address trauma and traumatic grief in adolescents, which was effective in treating Bosnian adolescents affected by war and adolescents affected by terrorism. Structured

Psychotherapy for Adolescents Recovering from Chronic Stress and Life Skills/ Life Stories are both collecting data to address the needs of chronically stressed adolescents, many of whom have severe comorbid psychiatric conditions, family stress, and/or ongoing trauma. KIDNET (a child adaptation of Narrative Exposure Therapy) has been tested in Europe for refugee children of many nationalities. Trauma Systems Therapy has been tested for children with complex needs.

Among the challenges that remain are testing optimal strategies to assess and treat children with “complex” trauma, testing treatment algorithms for children with severe psychiatric comorbidities, and testing methods for optimally disseminating and implementing the evidence-based treatments described above in routine community settings where most traumatized children are currently seen and served (or not served).

Summary

Twelve years ago, no empirical treatment outcome studies of traumatized children existed. Since that time, despite daunting challenges, clinical researchers have provided a wealth of information about how to treat a wide variety of trauma-related symptoms across the developmental spectrum, from infancy through adolescence. This brief review has described some exciting child treatments, diverse in theoretical models, developmental level, format, and setting, that have an established evidence base. Therapists now have many choices when selecting evidence-supported treatments for traumatized children. Therapists should attend to families’ preferences, cultural differences, and their own strengths and abilities while still providing scientifically grounded treatments for children who are suffering the ill effects of trauma.

References

Foa, E.B., Keane, T.M., Friedman, M.J., & Cohen, J.A. (in press). *Effective treatments for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies* (2nd ed.). New York: Guilford Press.

ABSTRACTS

Ahmad, A., & Sundelin-Wahlsten, V. (2008). **Applying EMDR on children with PTSD.** *European Child and Adolescent Psychiatry, 17*, 127-132. To create a child-adjusted protocol for eye movement desensitization and reprocessing (EMDR). Child-adjusted modifications were made in the original adult-based protocol and within-session measurements, when EMDR was used in a randomized controlled trial (RCT) on thirty-three 6–16-year-old children with posttraumatic stress disorder (PTSD). The average treatment effect size was largest on re-experiencing, and smallest on hyperarousal scale. The age of the child yielded no significant effects on the dependent variables in the study. (Abstract Adapted)

Amaya-Jackson, L., & DeRosa, R.R. (2007). **Treatment considerations for clinicians in applying evidence-based practice to complex presentations in child trauma.** *Journal of Traumatic Stress, 20*, 379-390. Professionals in the child trauma field, eager to bring

best practices to children and their families who have suffered from traumatic life events, have developed a number of evidence-based treatments (EBTs) and promising practices available for adoption and implementation into community practice. Clinicians and researchers alike have raised questions about if, when, and how these EBTs can be applied to some of the more complex trauma presentations seen in real world practice. The authors take an evidence-based practice approach, including critical appraisal of clients’ unique needs and preferences, utilizing applicable trauma treatment core components and current EBTs, and emphasizing monitoring strategies of client progress, particularly when needing to adapt EBTs for select clients.

Berger, R., Pat-Horenczyk, R., & Gelkopf, M. (2007). **School-based intervention for prevention and treatment of elementary students’ terror-related distress in Israel: A quasi-randomized**

controlled trial. *Journal of Traumatic Stress, 20, 541-551.* A school-based intervention for preventing and reducing children's posttraumatic stress-related symptoms, somatic complaints, functional impairment, and anxiety due to exposure to terrorism was evaluated. In a quasi-randomized controlled trial, elementary school students were randomly assigned to an eight-session structured program, Overshadowing the Threat of Terrorism, or to a waiting list control comparison group. Two months postintervention, the study group reported significant improvement on all measures. The authors conclude that a school-based universal intervention may significantly reduce posttraumatic stress disorder- (PTSD-) related symptoms in children repeatedly exposed to terrorist attacks and propose that it serve as a component of a public mental health approach dealing with children exposed to ongoing terrorism in a country ravaged by war and terrorism.

Bolton, P., Bass, J., Betancourt, T., Speelman, L., Onyango, G., Clougherty, K.F., et al. (2007). **Interventions for depression symptoms among adolescent survivors of war and displacement in northern Uganda: A randomized controlled trial.** *Journal of the American Medical Association, 298, 519-527.* Prior qualitative work with internally displaced persons in war-affected northern Uganda showed significant mental health and psychosocial problems. To assess effects of locally feasible interventions on depression, anxiety, and conduct problem symptoms among adolescent survivors of war and displacement in northern Uganda, a randomized controlled trial was conducted from May 2005 through December 2005 of 314 adolescents (aged 14-17 years) in 2 camps for internally displaced persons in northern Uganda. Participants were randomly allocated: 105, psychotherapy-based intervention (group interpersonal psychotherapy); 105, activity-based intervention (creative play); 104, wait-control group (individuals wait listed to receive treatment at study end). Intervention groups met weekly for 16 weeks. Girls receiving group interpersonal psychotherapy showed substantial and significant improvement in depression symptoms compared with controls (12.61 points; 95% CI, 2.09-23.14). Improvement among boys was not statistically significant (5.72 points; 95% CI, -1.86 to 13.30). Creative play showed no effect on depression severity (-2.51 points; 95% CI, -11.42 to 6.39). There were no statistically different improvements in anxiety in either intervention group. Neither intervention improved conduct problem or function scores. (Abstract Adapted)

Cohen, J.A., Deblinger, E., Mannarino, A.P., & Steer, R.A. (2004). **A multisite, randomized controlled trial for children with sexual abuse-related PTSD symptoms.** *Journal of the American Academy of Child and Adolescent Psychiatry, 43, 393-402.* To examine the differential efficacy of trauma-focused cognitive-behavioral therapy (TF-CBT) and child-centered therapy for treating PTSD and related emotional and behavioral problems in children who have suffered sexual abuse. Two hundred twenty-nine 8- to 14-year-old children and their primary caretakers were randomly assigned to the above alternative treatments. These children had significant symptoms of PTSD, with 89% meeting full DSM-IV PTSD diagnostic criteria. More than 90% of these children had experienced traumatic events

in addition to sexual abuse. Analyses of covariance indicated that children assigned to TF-CBT, compared to those assigned to child-centered therapy, demonstrated significantly more improvement with regard to PTSD, depression, behavior problems, shame, and abuse-related attributions. Similarly, parents assigned to TF-CBT showed greater improvement with respect to their own self-reported levels of depression, abuse-specific distress, support of the child, and effective parenting practices. This study adds to the growing evidence supporting the efficacy of TF-CBT with children suffering PTSD as a result of sexual abuse and suggests the efficacy of this treatment for children who have experienced multiple traumas. (Abstract Adapted)

Cohen, J.A., & Mannarino, A.P. (1996). **A treatment outcome study for sexually abused preschool children: Initial findings.** *Journal of the American Academy of Child and Adolescent Psychiatry, 35, 42-50.* Treatment outcome for sexually abused preschool-age children and their parents was assessed, comparing the effectiveness of a cognitive-behavioral intervention to nondirective supportive treatment. Sixty-seven sexually abused preschool children and their parents were randomly assigned to either (1) cognitive-behavioral therapy adapted for sexually abused preschool children (CBT-SAP) or (2) nondirective supportive therapy (NST). Treatment consisted of 12 individual sessions for both the child and parent, monitored for integrity with the therapeutic model through intensive training and supervision, use of treatment manuals, and rating of audiotaped sessions. Within-group comparison of pretreatment and posttreatment outcome measures demonstrated that while the NST group did not change significantly with regard to symptomatology, the CBT-SAP group had highly significant symptomatic improvement on most outcome measures. Repeated-measures analyses of variance demonstrated group \times time interactions on some variables as well. Clinical findings also supported the effectiveness of the CBT-SAP intervention over NST. (Abstract Adapted)

Cohen, J.A., Mannarino, A.P., Perel, J.M., & Staron, V. (2007). **A pilot randomized controlled trial of combined trauma-focused CBT and sertraline for childhood PTSD symptoms.** *Journal of the American Academy of Child and Adolescent Psychiatry, 46, 811-819.* To examine the potential benefits of adding a selective serotonin reuptake inhibitor, sertraline, versus placebo, to trauma-focused cognitive-behavioral therapy (TF-CBT) for improving PTSD and related psychological symptoms in children who have experienced sexual abuse. Twenty-four 10- to 17-year-old female children and adolescents and their primary caretakers were randomly assigned to receive TF-CBT + sertraline or TF-CBT + placebo for 12 weeks. Both groups experienced significant improvement in posttraumatic stress disorder and other clinical outcomes from pre- to posttreatment, with no significant group \times time differences between groups except in Child Global Assessment Scale ratings, which favored the TF-CBT + sertraline group. Current evidence therefore supports an initial trial of TF-CBT or other evidence-supported psychotherapy for most children with PTSD symptoms before adding medication. (Abstract Adapted)

Deblinger, E., Lippmann, J., & Steer, R. (1996). **Sexually abused children suffering posttraumatic stress symptoms: Initial treatment outcome findings.** *Child Maltreatment, 1*, 310-321. This study examined the differential effects of child or non-offending mother participation in a cognitive behavioral intervention designed to treat PTSD and other behavioral and emotional difficulties in school-aged sexually abused children. The 100 participating families were randomly assigned to 1 of 3 experimental treatment conditions — child only, mother only, or mother and child — or to a community control condition. Pre- and post-treatment evaluation included standardized measurement of children's behavior problems, anxiety, depression, and PTSD symptoms as well as of parenting practices. Two-by-two least-squares analyses of covariance were used to compare outcome measures. Results indicated that mothers assigned to the experimental treatment condition described significant decreases in their children's externalizing behaviors and increases in effective parenting skills; their children reported significant reductions in depression. Children who were assigned to the experimental intervention exhibited greater reductions in PTSD symptoms than children who were not. Implications for treatment planning and further clinical research are discussed.

Kazak, A.E., Alderfer, M.A., Streisand, R., Simms, S., Rourke, M.T., Barakat, L.P., et al. (2004). **Treatment of posttraumatic stress symptoms in adolescent survivors of childhood cancer and their families: A randomized clinical trial.** *Journal of Family Psychology, 18*, 493-504. Posttraumatic stress symptoms (PTSS), particularly intrusive thoughts, avoidance, and arousal, are among the most common psychological aftereffects of childhood cancer for survivors and their mothers and fathers. We conducted a randomized wait-list control trial of a newly developed 4-session, 1-day intervention aimed at reducing PTSS that integrates cognitive-behavioral and family therapy approaches—the Surviving Cancer Competently Intervention Program (SCCIP). Participants were 150 adolescent survivors and their mothers, fathers, and adolescent siblings. Significant reductions in intrusive thoughts among fathers and in arousal among survivors were found in the treatment group. A multiple imputations approach was used to address nonrandom missing data and indicated that treatment effects would likely have been stronger had more distressed families been retained. The data are supportive of brief interventions to reduce PTSS in this population and provide additional support for the importance of intervention for multiple members of the family.

Layne, C.M., Pynoos, R.S., Saltzman, W.R., Arslanagic, B., Black, M., Savjack, N., et al. (2001). **Trauma/grief-focused group psychotherapy: School-based postwar intervention with traumatized Bosnian adolescents.** *Group Dynamics: Theory, research, and practice, 5*, 277-290. Results of a preliminary effectiveness evaluation of a school-based postwar program for war-exposed Bosnian adolescents are described. The evaluation centered on a manualized trauma/grief-focused group psychotherapy protocol for war-traumatized adolescents based on 5 therapeutic foci: traumatic experiences, trauma and loss reminders, postwar adversities, bereavement and the interplay of trauma and grief, and developmental impact. 55 secondary school students (81% girls; age range = 15-19 years, M = 16.81)

from 10 Bosnian schools participated in the evaluation. Students completed pregroup and postgroup self-report measures of posttraumatic stress, depression, and grief symptoms and postgroup measures of psychosocial adaptation and group satisfaction. The evaluation yielded preliminary but promising results, including reduced psychological distress and positive associations between distress reduction and psychosocial adaptation.

Lieberman, A.F., Van Horn, P., & Ippen, C.G. (2005). **Toward evidence-based treatment: Child-Parent Psychotherapy with preschoolers exposed to marital violence.** *Journal of the American Academy of Child and Adolescent Psychiatry, 44*, 1241-1248. Treatment outcome for preschool-age children exposed to marital violence was assessed, comparing the efficacy of Child-Parent Psychotherapy (CPP) with case management plus treatment as usual in the community. Seventy-five multiethnic preschool mother dyads from diverse socioeconomic backgrounds were randomly assigned to (1) CPP or (2) case management plus community referral for individual treatment. CPP consisted of weekly parent-child sessions for 1 year monitored for integrity with the use of a treatment manual and intensive training and supervision. Repeated-measures analysis of variance demonstrated the efficacy of CPP with significant group × time interactions on children's total behavior problems, traumatic stress symptoms, and diagnostic status, and mothers' avoidance symptoms and trends toward significant group × time interactions on mothers' PTSD symptoms and general distress. The findings provide evidence of the efficacy of CPP with this population and highlight the importance of a relationship focus in the treatment of traumatized preschoolers. (Abstract Adapted)

Robert, R., Blakeney, P.E., Villarreal, C., Rosenberg, L., & Meyer, W.J. (1999). **Imipramine treatment in pediatric burn patients with symptoms of acute stress disorder: A pilot study.** *Journal of the American Academy of Child and Adolescent Psychiatry, 38*, 873-882. Pediatric burn patients often exhibit acute stress disorder (ASD) symptoms. Information on psychopharmacological treatment for ASD symptoms in children is scarce. This pilot study used a prospective, randomized, double-blind design to test whether thermally injured children suffering from ASD symptoms benefit from imipramine. Twenty-five children, aged 2 to 19 years, received imipramine or chloral hydrate for 7 days. A structured interview was used to assess the presence and frequency of ASD symptoms both before treatment and 3 times during the treatment period. Eleven girls and 14 boys participated, with a mean total burn surface of 45% and mean age of 8 years. Imipramine was more effective than chloral hydrate in treating ASD symptoms. Five of 13 were positive responders to chloral hydrate. Ten of 12 were positive responders to low-dose imipramine. This pilot study suggests a place for cautious initial use of imipramine to reduce ASD symptoms in burned children. (Abstract Adapted)

Stallard, P., Velleman, R., Salter, E., Howse, I., Yule, W., & Taylor, G. (2006). **A randomised controlled trial to determine the effectiveness of an early psychological intervention with children involved in road traffic accidents.** *Journal of Child Psychology and Psychiatry, 47*, 127-134. To determine whether an early intervention using

a psychological debriefing format is effective in preventing psychological distress in child road traffic accident survivors. A randomized controlled trial was conducted with 158 children aged 7–18. A follow-up assessment completed eight months post accident with 132 (70/82 of the experimental group and 62/76 in the control group) children in both groups demonstrated considerable improvements. The early intervention did not result in any additional significant gains. (Abstract Adapted)

Stein, B.D., Jaycox, L.H., Kataoka, S.H., Wong, M., Tu, W., Elliott, M.N., et al. (2003). **A mental health intervention for schoolchildren exposed to violence: A randomized controlled trial.** *Journal of the American Medical Association*, 290, 603-611. No randomized controlled studies have been conducted to date on the effectiveness of psychological interventions for children with symptoms of PTSD that have resulted from personally witnessing or being personally exposed to violence. To evaluate the effectiveness of a collaboratively designed school-based intervention for reducing children's

symptoms of PTSD and depression that has resulted from exposure to violence, a randomized controlled trial was conducted with sixth-grade students in Los Angeles. Students were randomly assigned to a 10-session standardized cognitive-behavioral therapy (the Cognitive-Behavioral Intervention for Trauma in Schools) early intervention group (n = 61) or to a wait-list delayed intervention comparison group (n = 65) conducted by trained school mental health clinicians. Compared with the wait-list delayed intervention group (no intervention), after 3 months of intervention students who were randomly assigned to the early intervention group had significantly lower scores on symptoms of PTSD and psychosocial dysfunction. Adjusted mean differences between the 2 groups at 3 months did not show significant differences for teacher-reported classroom problems in acting out, shyness/anxiousness, and learning. A standardized 10-session cognitive-behavioral group intervention can significantly decrease symptoms of PTSD and depression in students who are exposed to violence and can be effectively delivered on school campuses by trained school-based mental health clinicians. (Abstract Adapted)

CITATIONS Annotated by the Editor

Chemtob, C.M., Nakashima, J.P., Hamada, R.S. (2002). **Psychosocial intervention for postdisaster trauma symptoms in elementary school children: A controlled community field study.** *Archives of Pediatrics and Adolescent Medicine*, 156, 211-216. Children with the highest levels of trauma-related symptoms were randomly assigned to 1 of 3 consecutively treated cohorts and to either individual, or group treatment. After treatment, children reported significant reductions in self-reported trauma-related symptoms. Group and individual treatments did not differ in efficacy. Symptom reduction was maintained at the 1-year follow-up.

Cicchetti, D., Rogosch, F.A., & Toth, S.L. (2006). **Fostering secure attachment in infants in maltreating families through preventive interventions.** *Development and Psychopathology*, 18, 623-649. In a randomized preventive intervention trial, children in an infant–parent psychotherapy group or psychoeducational parenting intervention group demonstrated substantial increases in secure attachment, whereas children in the control groups did not.

Cohen, J.A., Mannarino, A.P., & Knudsen, K. (2005). **Treating sexually abused children: 1 year follow-up of a randomized controlled trial.** *Child Abuse and Neglect*, 29, 135-145. The authors examined whether the superior effects of trauma-focused cognitive-behavioral therapy (TF-CBT) persist over time. The TF-CBT group continued to show less PTSD and dissociation than the non-directive supportive therapy group at 12-month follow-up.

Deblinger, E., Mannarino, A.P., Cohen, J.A., & Steer, R.A. (2006). **A follow-up study of a multisite, randomized, controlled trial for children with sexual abuse-related PTSD symptoms.** *Journal of the American Academy of Child and Adolescent Psychiatry*, 45, 1474-1484. Children and their primary caregivers were assessed 6 and 12 months after their posttreatment evaluations. Children and caregivers assigned to trauma-focused cognitive-behavioral therapy

(TF-CBT) continued to have less PTSD, shame, and distress at 6- and 12-month assessments, compared to participants assigned to child-centered therapy.

Fantuzzo, J., Sutton-Smith, B., Atkins, M., Meyers, R., Stevenson, H., Coolahan, K., et al. (1996). **Community-based resilient peer treatment of withdrawn maltreated preschool children.** *Journal of Consulting and Clinical Psychology*, 64, 1377-1386. Withdrawn children were paired with resilient peers in the natural classroom under the supervision of a parent assistant. Intervention children showed a significant increase in positive interactive peer play and a decrease in solitary play. Treatment gains in social interactions were validated 2 months following treatment.

Goenjian, A.K., Karayan, I., Pynoos, R.S., Minassian, D., Najarian, L.M., Steinberg, A.M., et al. (1997). **Outcome of psychotherapy among early adolescents after trauma.** *American Journal of Psychiatry*, 154, 536-542. After the 1988 earthquake in Armenia, the effectiveness of brief trauma/grief-focused psychotherapy was examined by comparing treated and not-treated adolescents pre- and post-intervention. Trauma/grief-focused psychotherapy was found to reduce PTSD symptoms and prevent the worsening of depression.

Kataoka, S.H., Stein, B.D., Jaycox, L.H., Wong, M., Escudero, P., Tu, W., Zaragoza, C., & Fink, A. (2003). **A school-based mental health program for traumatized Latino immigrant children.** *Journal of the American Academy of Child and Adolescent Psychiatry*, 42, 311-318. The effects of a school mental health program for Latino immigrant students exposed to community violence were tested in a quasi-experimental design. Students in the intervention group showed greater improvement in PTSD and depressive symptoms than did wait-list students after adjusting for relevant covariates.

King, N.J., Tonge, B.J., Mullen, P., Myerson, N., Heyne, D., Rollings, S., et al. (2000). **Treating sexually abused children with posttraumatic stress symptoms: A randomized clinical trial.** *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 1347-1355. Sexually abused children (n = 36) were randomly assigned to a child-alone cognitive behavioral treatment condition, a family treatment condition, or a wait-list control condition. Compared with controls, children who received treatment exhibited significant improvements in PTSD symptoms and self-reports of fear and anxiety. In general, parental involvement did not improve the efficacy of cognitive-behavioral therapy.

Najavits, L.M., Gallop, R.J., & Weiss, R.D. (2006). **Seeking Safety therapy for adolescent girls with PTSD and substance use disorder: A randomized controlled trial.** *Journal of Behavioral Health Services and Research*, 33, 453-463. This randomized, controlled trial evaluated a manualized psychotherapy, Seeking Safety (SS), for posttraumatic stress disorder (PTSD) and substance use disorder (SUD) in adolescent females. To our knowledge, no prior study has evaluated any psychotherapy designed for this population. SS was compared to treatment as usual (TAU) for 33 outpatients, at intake, end of treatment, and 3 months follow-up. SS evidenced significantly better outcomes than TAU in a variety of domains at posttreatment, including substance use and associated problems, some trauma-related symptoms, cognitions related to SUD and PTSD, and several areas of pathology not targeted in the treatment (e.g., anorexia, somatization). Effect sizes were generally in the moderate to high range. Some gains were sustained at follow-up. SS appears a promising treatment for this population, but needs further study and perhaps additional clinical modification

Saxe, G.N., Ellis, B.H., Fogler, J., Hansen, S., & Sorkin, B. (2005) **Comprehensive care for traumatized children: An open trial examines treatment using trauma system therapy.** *Psychiatric Annals*, 35, 443-448. This article describes the results of an open trial (no control group) of trauma systems therapy, which is designed to address both a child's trauma-related symptoms and the perpetuating factors in the social environment. Children showed significant improvements (with modest effect sizes) in PTSD, behavioral and emotional regulation, and social environment.

Seedat, S., Stein, D.J., Ziervogel, C., Middleton, T., Kammer, D., Emsley, R.A., et al. (2002). **Comparison of response to a selective serotonin reuptake inhibitor in children, adolescents, and adults with posttraumatic stress disorder.** *Journal of Child and Adolescent Psychopharmacology*, 12, 37-46. This study compared outcomes in an 8-week open trial of citalopram (an SSRI, 20-40 mg/day) in 24 children/adolescents and 14 adults with PTSD. Both adolescents and adults had significant reductions in symptoms.

Smith, P., Yule, W., Perrin, S., Tranah, T., Dalgleish, T., & Clark, D.M. (2007). **Cognitive-behavioral therapy for PTSD in children and adolescents: A preliminary randomized controlled trial.** *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 1051-1061. Children and young people (8-18 years old) were randomly allocated to a 10-week course of CBT or waitlist. Participants who received CBT showed significantly greater improvement in symptoms of PTSD, depression, and anxiety, with significantly better functioning. Effects of CBT were partially mediated by changes in maladaptive cognitions, as predicted by cognitive models of PTSD.

Trowell, J., Kolvin, I., Weeramanthri, T., Sadowski, H., Berelowitz, M., Glasser, D., et al. (2002). **Psychotherapy for sexually abused girls: Psychopathological outcome findings and patterns of change.** *British Journal of Psychiatry*, 180, 234-247. Sexually abused girls were randomly assigned to individual or group psychotherapy. Both treatment groups showed an equivalent reduction in general symptoms of psychopathology and an improvement in functioning. Individual therapy led to a greater improvement in PTSD.

Varni, J.W., Katz, E.R., Colegrove, R., & Dolgin, M. (1993). **The impact of social skills training on the adjustment of children with newly diagnosed cancer.** *Journal of Pediatric Psychology*, 18, 751-767. Children with newly diagnosed cancer who were assigned to an experimental Social Skills Training treatment group showed greater change in classmate and teacher social support by 9-month follow-up than did children assigned to a standard treatment group. Their parents reported a decrease in internalizing and externalizing behavior problems and an increase in school competence.

COMING SUMMER 2008

We have dedicated this issue of *The PTSD Research Quarterly* to current therapies and practices in treating PTSD and associated symptoms in children.

The next installment of the *RQ* will be a double issue exploring recent PTSD literature on psychopharmacology and psychotherapy research relating to adult populations; the emphasis will be on randomized controlled trials. Our guest editors will be Matthew J. Friedman, MD, PhD, and Paula P. Schnurr, PhD. Dr. Friedman will present a bibliography of readings on psychopharmacology and Dr. Schnurr a bibliography of psychotherapy research. Each will present a brief guide to the approach and understanding of the literature they have chosen.

A separate column will address current practice guidelines.

National Child Traumatic Stress Network

Improving access to care, treatment, and services for traumatized children and adolescents

Cybele M. Merrick

Since its establishment by Congress in 2001, the National Child Traumatic Stress Network (NCTSN) has been at the forefront of raising the standard of care and improving access to services for traumatized children, their families, and communities across the United States. Co-housed at the UCLA Neuropsychiatric Clinic and the Duke University Medical Center, the National Center for Child Traumatic Stress (NCCTS) coordinates and leads the work of the NCTSN, in collaboration with the Substance Abuse and Mental Health Services Administration's Center for Mental Health Services.

The NCCTS and the National Center for PTSD have become strategic partners in their work. The centers have worked together in the area of response to mass disasters and terrorism, jointly producing the manual *Psychological First Aid: Field Operations Guide*, and the video series, *Responding to Crisis in the Aftermath of Disasters*. A staff member whose time is shared between the two centers contributes to the PILOTS database (NCPTSD) and website management, product development, and information services (NCCTS).

The work of NCCTS encompasses seven program areas: Data and Evaluation, National Resource Center, Network Liaisons, Service Systems, Training and Implementation, Terrorism and Disaster, and Treatment and Interventions.

The Data and Evaluation Program provides administrative and scientific leadership and technical expertise for the NCCTS and NCTSN in all aspects of data collection and utilization. The Core Data Set—which captures a host of data on children seen by Network centers—is a key part of this program. The communications, public awareness, information management, product development, and marketing functions of the Network are the responsibility of the National Resource Center. Network Liaisons foster connections among Network member sites, and between the sites and the National Center. The Service Systems Program works across various child-serving systems, delivering education and training on the impact of trauma to child welfare, law enforcement, juvenile justice, and other systems, and encourages them to work in a culturally-competent manner. The Training and Implementation program facili-

tates the adoption of evidence-based treatments through educational initiatives directed at mental health providers both within and outside the Network. The National Center's Terrorism and Disaster Program works to strengthen preparedness for and response to mass disasters and terrorism, with a focus on the psychological well-being of children and families. The Treatment and Interventions Program promotes the development, evaluation, and adoption of evidence-informed assessment, treatment, and prevention strategies for traumatized children.

National Center program directors and Network Liaisons are also key players in the activities of Network collaborative groups. Collaborative groups are cross-Network teams of personnel from Network sites and the National Center who work together on a given issue related to child trauma. Currently there are 20 collaborative groups focusing on such areas as affected populations, trauma types, interventions, and service systems (juvenile justice, education, child welfare).

Collaborative groups have long played a central role in the development of the many published materials that the NCTSN has released. In conjunction with the National Resource Center, collaborative groups have produced a wide variety of products for professional audiences, care givers, and policy makers. Important recent products include the *Child Welfare Trauma Training Toolkit*, *Service Systems Briefs*, *The Promise of Trauma-focused Therapy for Childhood Sexual Abuse*, and *Pathways to Partnerships with Youth and Families in the NCTSN*. A complete list of NCTSN products, arranged by intended audience, is available at http://www.nctsn.org/nccts/nav.do?pid=ctr_rschn_prod.

Whether they are facing individual traumas, community violence, or devastating natural disasters, children and their families—and the mental health and child-serving professionals who work with them—can turn to NCCTS and NCTSN as trusted resources. Further information about the Network can be found at its website: <http://www.nctsn.org>.

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