

# Ten-Year Research Update Review: Child Sexual Abuse

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## ABSTRACT

**Objective:** To provide clinicians with current information on prevalence, risk factors, outcomes, treatment, and prevention of child sexual abuse (CSA). To examine the best-documented examples of psychopathology attributable to CSA. **Method:** Computer literature searches of *Medline* and *PSYCInfo* for key words. All English-language articles published after 1989 containing empirical data pertaining to CSA were reviewed. **Results:** CSA constitutes approximately 10% of officially substantiated child maltreatment cases, numbering approximately 88,000 in 2000. Adjusted prevalence rates are 16.8% and 7.9% for adult women and men, respectively. Risk factors include gender, age, disabilities, and parental dysfunction. A range of symptoms and disorders has been associated with CSA, but depression in adults and sexualized behaviors in children are the best-documented outcomes. To date, cognitive-behavioral therapy (CBT) of the child and a nonoffending parent is the most effective treatment. Prevention efforts have focused on child education to increase awareness and home visitation to decrease risk factors. **Conclusions:** CSA is a significant risk factor for psychopathology, especially depression and substance abuse. Preliminary research indicates that CBT is effective for some symptoms, but longitudinal follow-up and large-scale "effectiveness" studies are needed. Prevention programs have promise, but evaluations to date are limited. *J. Am. Acad. Child Adolesc. Psychiatry*, 2003, 42(3):269–278. **Key Words:** sexual abuse, child abuse, prevention, depression, sexualized behavior.

Childhood sexual abuse is a complex life experience, not a diagnosis or a disorder. An array of sexual activities is covered by the term *child sexual abuse* (CSA). These include intercourse, attempted intercourse, oral-genital contact, fondling of genitals directly or through clothing, exhibitionism or exposing children to adult sexual activity or pornography, and the use of the child for prostitution or pornography. This diversity alone ensures that there will be a range of outcomes. In addition, the age and gender of the child, the age and gender of the perpetrator, the nature of the relationship between the child and perpetrator, and the number, frequency, and duration of the abuse experiences all appear to influence some outcomes. Thus sexually abused children constitute a very heterogeneous group with many degrees of abuse about whom few simple generalizations hold. The outcomes summarized in this review are based on studies in which the majority of subjects experienced more severe forms of

sexual abuse, generally including some form of child or adult genital contact.

## EPIDEMIOLOGY OF CSA

Before the late 1970s, CSA was regarded as rare. In the following decades, the incidence—based on official statistics—increased dramatically (Finkelhor, 1984; U.S. Department of Health and Human Services, 1998). Although much of this apparent increase probably reflected a growing awareness among the public and professionals, some studies suggest that the overall incidence of child abuse and neglect increased. Using as official observers a variety of professionals who routinely came in contact with children, counting both reported and nonreported cases, the series of National Incidence Studies found a 67% increase (from 931,000 to 1,553,800 children) in all forms of child abuse from 1986 to 1993 (U.S. Department of Health and Human Services, 1996). Officially reported cases of CSA, however, declined during this same period (Atabaki and Paradise, 1999; Jones and Finkelhor, 2001). There is little agreement on reasons for this decline or whether it represents a decline in actual cases (Jones et al., 2001). In 2000 (most recent data available) CSA constituted approximately 10% of all officially reported child abuse cases and numbered approximately 88,000 substantiated or indicated

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cases, a 41% decrease from the peak estimate of 149,800 cases in 1992 (U.S. Department of Health and Human Services, Press Release, April 19, 2002).

Statistics on the prevalence of CSA are derived primarily from retrospective accounts by adults and can be roughly divided into studies using clinical versus nonclinical samples. It is not surprising that prevalence figures vary widely as a function of the selection and response rate, the definition used, and the method (e.g., self-report versus structured interview) by which an abuse history is obtained. Community samples typically range from 12% to 35% of women and 4% to 9% of men reporting an unwanted sexual experience prior to age 18 years. Adjusting for sample-related variation, response rates, and differences in definitions across 16 cross-sectional community sample surveys, Gorey and Leslie (1997) calculated the prevalence of CSA as 16.8% for women and 7.9% for men.

Large community survey studies of the incidence and prevalence of CSA in children and adolescents are rare. The most comprehensive study to date is a telephone survey of 2000 children aged 10 to 16 years conducted by Finkelhor and Dziuba-Leatherman (1994). For the year preceding the interview, they found an incidence rate of 3.2% for girls and 0.6% for boys for contact CSA, defined as "...a perpetrator touching the sexual parts of a child under or over the clothing, penetrating the child, or engaging in any oral-genital contact with the child" (Finkelhor and Dziuba-Leatherman, 1994, p. 419). The lifetime prevalence rate for a combination of the attempted and completed CSA categories was 10.5% for the overall sample.

When they are available, rates of CSA in other countries are reasonably comparable with those found in the United States. A review of large sample population-based studies in 19 countries found a range of prevalence rates of 7% to 36% for females and 3% to 29% for males (Finkelhor, 1994). Female-to-male ratios were typically between 1.5:1 and 3:1. Across all the studies, only about half of victims had disclosed to anyone.

#### RISK FACTORS FOR CSA

CSA occurs across all socioeconomic and ethnic groups (Finkelhor, 1993). A number of factors, however, have been identified that increase risk for CSA.

##### Gender

Girls are at about 2.5 to 3 times higher risk than boys, although approximately 22% to 29% of all CSA victims are male (Fergusson et al., 1996b; Finkelhor, 1993;

Sobsey et al., 1997; U.S. Department of Health and Human Services, 1998). Boys are underrepresented in psychiatric samples, especially older boys who may be reluctant to disclose or who may be shunted into the criminal justice or substance abuse treatment systems. Research indicates that mental health professionals rarely ask adult males about childhood sexual abuse (Lab et al., 2000).

##### Age

Risk for CSA rises with age (Finkelhor, 1993; U.S. Department of Health and Human Services, 1998). Data from 1996 indicate that approximately 10% of victims are between ages 0 and 3 years. Between ages 4 and 7 years, the percentage almost triples (28.4%). Ages 8 to 11 years account for a quarter (25.5%) of cases, with children 12 years and older accounting for the remaining third (35.9%) of cases (U.S. Department of Health and Human Services, 1998). Some authorities believe that, as a risk factor, age operates differentially for girls and boys, with high risk starting earlier and lasting longer for girls.

##### Disabilities

Physical disabilities, especially those that impair a child's perceived credibility such as blindness, deafness, and mental retardation, are associated with increased risk (Westcott and Jones, 1999). Three factors seem to contribute to this increased vulnerability: dependency, institutional care, and communication difficulties. There appears to be a gender effect such that boys are overrepresented among sexually abused children with disabilities compared with their respective proportion of sexually abused children without disabilities (Sobsey et al., 1997).

##### Socioeconomic Status

Although low socioeconomic status is a powerful risk factor for physical abuse and neglect, it has much less impact on CSA. Community survey studies find almost no socioeconomic effects, but a disproportionate number of CSA cases reported to Child Protective Services come from lower socioeconomic classes (Finkelhor, 1993).

##### Race and Ethnicity

Race and ethnicity do not seem to be risk factors for CSA, although preliminary research suggests that they may influence symptom expression. Two studies found that Latina girls have worse emotional and behavioral problems than African-American or white girls (Mennen, 1995; Shaw et al., 2001).

### Family Constellation

Family constellation, particularly the absence of one or both parents, is a significant risk factor (Finkelhor, 1993). The presence of a stepfather in the home doubles the risk for girls, not only for being abused by the stepfather but also for being abused by other men prior to the arrival of the stepfather in the home (Mullen et al., 1993). Parental impairments, particularly maternal illness, maternal alcoholism, extended maternal absences, serious marital conflicts, parental substance abuse, social isolation, and punitive parenting, have all been associated with increased risk in some studies (Fergusson et al., 1996b; Mullen et al., 1993; Nelson et al., 2002). Clinically, the presence of abused siblings is thought to increase the child's risk, although this has not been empirically established (Finkelhor, 1993).

### INTERGENERATIONAL TRANSMISSION OF CSA

The observation that child abusive behavior occurs across generations more often than would be expected by chance has led to a number of theories ranging from the postulation of large sociopolitical and cultural cycles (Buchanan, 1996) to maladaptive family processes (Ney, 1992) to psychodynamic models based on identification with the aggressor, low self-esteem, and related constructs (Steele, 1997). The actual rates of intergenerational occurrence of child abuse are lower than is often realized. Survey studies and reviews converge on a figure of about one third of abused children becoming abusive parents (Kaufman and Zigler, 1988; Oliver, 1993).

A quantitative review by Ertem et al. (2000) of studies investigating rates of intergenerational physical abuse found a relative risk of 12.6 (95% confidence interval 1.82–87.2) for the single best-controlled study (Egeland et al., 1988). The second most rigorously controlled study, however, found essentially no intergenerational risk (Ertem et al., 2000; Widom, 1989). Most studies of intergenerational effects lump together all forms of child maltreatment; thus little is known about intergenerational transmission of CSA by itself. Preliminary research suggests that there may be differential gender effects influencing cross-generational transmission of child abuse, with fathers more likely to abuse their offspring and mothers more likely to fail to protect their children (Banyard, 1997; Vogel, 1994).

### OUTCOMES ASSOCIATED WITH CHILDHOOD SEXUAL ABUSE

A variety of adult psychiatric conditions have been clinically associated with CSA. These include the *DSM*

disorders of major depression, borderline personality disorder, somatization disorder, substance abuse disorders, posttraumatic stress disorder (PTSD), dissociative identity disorder, and bulimia nervosa. Initially the evidence for these associations was based primarily on findings of high rates of retrospectively reported CSA in clinical samples with these diagnoses. Increasingly these relationships are being replicated in large community sample studies both in the United States and abroad (e.g., Beitchman et al., 1992; Bifulco et al., 1991; Ernst et al., 1993; Fergusson et al., 1996a; Mullen et al., 1993; Polusny and Follette, 1995; Ussher and Dewberry, 1995).

In addition to *DSM* disorders, CSA has been linked to problematic behaviors and to neurobiological alterations. The scope of this review limits the discussion of the evidence for this array of outcomes. Thus the best-documented examples for three basic categories of outcomes—psychiatric disorders, dysfunctional behaviors, and neurobiological dysregulation—will be considered in detail. The studies cited below generally include more females than males, who are believed to be significantly underrepresented in clinical and research samples (Watkins and Bentovim, 1992). A review by Holmes et al. (1997) of outcomes in males found a high degree of overlap with those of female childhood sexual abuse victims.

### Depression

Major depression, a leading public health problem with high prevalence rates and substantial morbidity and mortality, provides a useful example of the converging lines of evidence linking a history of CSA to serious adult psychiatric psychopathology. Major depression and dysthymia have been strongly associated with CSA in numerous studies (e.g., see reviews by Beitchman et al., 1992; Neumann et al., 1996; Paolucci et al., 2001; Polusny and Follette, 1995). Lifetime prevalence of major depression in women with a history of CSA is typically three to five times more common than in woman without such a history. Indeed, when Whiffen and Clark (1997) controlled for a history of CSA, the classic 2:1 gender difference in depression rates between females and males disappeared.

There is also evidence that a history of childhood abuse may alter the clinical presentation of major depression. For example, in a sample of 653 cases of major depression, individuals with physical or sexual abuse histories were significantly more likely to have reversed neurovegetative signs such as increased appetite, weight gain, and hypersomnia than individuals without this history (Levitan et al., 1998).

A history of CSA has been associated with earlier onset of affective episodes (Gisese et al., 1998). Although not specific to CSA, a history of child abuse in general may affect response to standard treatments for depression. Comparing recovery rates, Zlotnick et al. (1995, 2001) found that abused women were significantly more likely to have prolonged durations of depression.

In children and adolescents, the emerging evidence linking CSA to affective disorders is similar to that initially reported for adults and consists primarily of higher prevalence rates in abused children than various comparison groups (Beitchman et al., 1991; Brand et al., 1996; Fergusson et al., 1996a; Hotte and Rafman, 1992). General population studies of children and adolescents are now linking CSA with depression and other disorders. For example, while following a birth cohort of 1,000 New Zealand children, Fergusson et al. (1996a,b) found that compared with nonabused children, children with histories of noncontact or contact nonintercourse CSA had an increased odds ratio of 4.6 for major depression. Those reporting intercourse had an increased odds ratio of 8.1 for major depression and 11.8 for a suicide attempt.

The strength of the relationship of depression—as well as other disorders and certain symptoms—with the severity of the abuse experience appears to be complexly influenced by a number of other factors. Contact sexual abuse is generally associated with poorer long-term outcomes (Fergusson et al., 1996a; Kendler et al., 2000). Relationship to the perpetrator also appears to be a key variable, with a closer relationship usually associated with worse outcomes (Trickett et al., 2001). However, relationship to perpetrator is confounded with age of onset, duration of abuse, and the use of physical force. For example, biological father–daughter incest is associated with much earlier onsets and longer durations of abuse, but with less use of physical force and coercion (Mennen and Meadow, 1995; Trickett et al., 1997). Gender also appears to influence symptom expression, with boys having worse outcomes (Garnefski and Diekstra, 1997). This gender effect continues into adulthood (Gold et al., 1999).

#### Sexualized Behaviors

A variety of behavior and conduct problems have been associated with child abuse in general (Nagy et al., 1994). Of these behavioral problems, sexualized behaviors have been most closely linked to CSA. Numerous studies have found that sexually abused children exhibited more sexualized behaviors than various comparison groups, includ-

ing nonabused psychiatric inpatients (Consentino et al., 1995; Friedrich et al., 2001; McClellan et al., 1996; Paolucci et al., 2001). These effects are most pronounced in younger children, in children abused at younger ages, and when the children are examined relatively proximal to the abusive experiences. Retrospective and longitudinal studies continue to find effects, but these are generally weaker and partially confounded by substance abuse, socioeconomic status, and educational status (Herrenkohl et al., 1998; Romans et al., 1997a; Widom and Kuhns, 1996). A history of CSA, but not a history of physical abuse or neglect, is associated with a significantly increased arrest rate for sex crimes and prostitution irrespective of gender (Widom and Ames, 1994).

Although their overt sexualized behaviors may decrease with time, research indicates that sexually abused adolescents are at increased risk for earlier pregnancy (Fiscella et al., 1998; Herrenkohl et al., 1998; Rainey et al., 1995; Romans et al., 1997a; Stevens-Simon and Reichert, 1994). A number of factors have been implicated in this process including depression and dissociation (Becker-Laussen and Rickel, 1995) and an increased desire to conceive, perhaps to fulfill unmet psychological needs (Rainey et al., 1995). Pregnant abused adolescents appear to be at increased risk for delivery complications and low-birth-weight infants perhaps as a result of stress, depression, social isolation, and substance abuse (Stevens-Simon and Reichert, 1994). CSA is a strong predictor of human immunodeficiency virus risk-related behaviors (Brown et al., 2000; Cunningham et al., 1994; Parillo et al., 2001).

#### Neurobiological Sequelae of CSA

The identification of increased psychophysiological reactivity and other neurobiological sequelae in adults with combat-related PTSD stimulated the search for similar effects in maltreated adults and children. In a series of studies with a prospective, longitudinal sample of sexually abused and nonabused girls followed by Putnam and Trickett (1997), investigators have identified deleterious effects on the hypothalamic-pituitary-adrenal axis (HPA), the sympathetic nervous system, and possibly the immune system.

Sexually abused girls studied within 6 months of their disclosure of abuse exhibited increased morning serial plasma cortisol compared with nonabused controls matched on age, ethnicity, socioeconomic status, and family constellation (De Bellis and Putnam, 1994). An in-depth study of a matched subsample of this cohort revealed signifi-

cantly attenuated plasma ACTH levels in response to ovine corticotropin-releasing hormone infusion. The abused girls had significantly decreased evening basal levels of cortisol. Twenty-four hour urinary free cortisol (UFC) levels were greater at a trend level in the abused girls (De Bellis et al., 1994a). In another study of a mixed maltreatment sample with PTSD, De Bellis et al. (1999a) found significantly increased levels of UFC. In contrast, King et al. (2001) found decreased morning cortisol in CSA compared with matched control girls. In aggregate, these findings are consistent with a dysregulation of the HPA axis in sexually abused children (De Bellis et al., 1999a).

In the same longitudinal subsample, sexually abused girls manifest significantly increased 24-hour urinary catecholamine levels (De Bellis et al., 1994b). Two other studies of mixed samples of physically and sexually abused children also found evidence of increased sympathetic nervous system activity. Perry (1994) reported decreased platelet adrenergic receptors and increased heart rate to orthostatic challenge. De Bellis et al. (1999a) found increased urinary catecholamine levels in maltreated children compared with nonabused healthy controls and children with overanxious disorder.

Studies of adults with histories of CSA or mixed physical and sexual maltreatment find a number of neuroanatomical alterations. Three magnetic resonance imaging (MRI) studies report reduced hippocampal volume in adults with child abuse histories similar to that reported in combat veterans with PTSD (Bremner et al., 1997; Driessen et al., 2000; Stein et al., 1997). To date, hippocampal volume reductions have not been found in MRI studies of abused children. De Bellis et al. (1999b) have, however, found significantly smaller intracranial and cerebral volumes in abused children than in matched controls. Particularly noteworthy was the finding of decreases in the midsagittal section of the middle and posterior corpus callosum. The corpus callosum is a massive fiber tract whose primary function is the transfer of information between the left and right hemispheres. Decreases in callosal volume were significantly correlated with PTSD and dissociative symptoms. Males showed evidence of a greater neuroanatomical impact than females (De Bellis et al., 1999b).

#### PRINCIPLES OF PSYCHOPATHOLOGY IN CSA

The array of disorders and dysfunctional behaviors associated with CSA has been difficult to account for with a simple cause-and-effect model. This apparent diversity can

be explained in part by the heterogeneity of CSA experiences, the complexity of the confounds among abuse severity variables, and a host of moderating and mediating constitutional and environmental variables together with important individual differences in coping strategies that may come into play at different points in development in any given case (Chaffin et al., 1997; Runtz and Schallow, 1997). Because of this diversity of outcomes, some regard CSA as a nonspecific risk factor or attribute negative outcomes to family environment (Romans et al., 1997b).

An epidemiological and cotwin controlled analysis of 1,411 twin pairs by Kendler et al. (2000) found significant odds ratios for a range of psychiatric disorders in sexually abused women after controlling for family environment. The effects were greatest for drug dependence (OR = 5.68,  $p < .001$ ), alcohol dependence (OR = 4.75,  $p < .001$ ), and bulimia nervosa (OR = 5.62,  $p < .001$ ), but confidence intervals overlapped with other disorders indicating little specificity. An Australian twin study (5,995 twin pairs), which used a single question to assess CSA, found significant odds ratios for CSA and major depression, panic disorder, and alcohol dependence (Dinwiddie et al., 2000). A second Australian study (1,991 twin pairs) found that in twins discordant for CSA, affected twins had significantly higher rates of major depression, attempted suicide, conduct disorder, alcohol dependence, nicotine dependence, social anxiety, rape after age 18, and divorce (Nelson et al., 2002). Finally, a meta-analysis of 37 studies found a significant effect of CSA on depression ( $d = 0.44$ ), suicide ( $d = 0.44$ ), PTSD ( $d = 0.40$ ), and sexual promiscuity ( $d = 0.29$ ) (Paolucci et al., 2001). The accompanying file drawer analysis indicated that 277 negative studies would be required to offset these effects. In aggregate, these findings are consistent with a significant causal relationship between CSA and psychopathology (Kendler et al., 2000).

There are, however, a number of basic clinical features that link the apparently categorically different outcomes associated with CSA. As a group, individuals with histories of CSA, irrespective of their psychiatric diagnosis, manifest significant problems with affect regulation, impulse control, somatization, sense of self, cognitive distortions, and problems with socialization. Many of these processes are believed to have developmentally sensitive neuronal and behavioral periods related to brain maturation and early caretaker interactions (De Bellis et al., 1999b). Each of these processes differentially interacts with the child's social world to influence life trajectory.

Diagnostically this cluster of comorbid conditions appears to be best conceptualized by the proposed diagnosis of disorders of extreme stress not otherwise specified (DESNOS). Studies using a formal set of diagnostic criteria operationalized by Pelcovitz et al. (1997) have found that DESNOS best accounts for the adult effects of childhood abuse, particularly CSA (Ford and Kidd, 1998; Pelcovitz et al., 1997; Roth et al., 1997; Zlotnick et al., 1996). Classically, DESNOS is characterized by (1) altered affect regulation such as persistent dysphoria, chronic suicidal preoccupation, and explosive or inhibited anger; (2) transient alterations of consciousness, such as flashbacks and dissociative episodes; (3) altered self-perceptions including helplessness, shame, guilt, and self-blame; (4) altered relationships with others, such as persistent distrust, withdrawal, failures of self-protection, and rescuer fantasies; (5) altered systems of meanings, including loss of sustaining faith, hopelessness, and despair; and (6) somatization (Herman, 1992). Therapeutically, many authorities believe that this cluster of symptoms must be addressed concurrently rather than sequentially to effect significant improvement (Ford and Kidd, 1998).

#### EFFECTS OF DISCLOSURE AND STABILITY OF SELF-REPORTS OF CSA OVER TIME

Unfortunately, disclosure by the child of abuse does not always result in the termination of the abuse or end the child's distress (Palmer et al., 1999). A follow-up comparison of children who had accidental disclosures of CSA (i.e., their abuse was discovered by an adult) versus children who deliberately disclosed, revealed that the former were doing significantly better at 1 year (Nagel et al., 1996). Children who voluntarily disclosed their abuse received less treatment and support, which may, in part, account for their poorer outcomes. Nonoffending parents also experience significant costs and losses as a result of disclosures of CSA by their children. A follow-up study of 104 nonoffending parents found that they averaged three major costs in the areas of relationships, finances, job performance, and living situation (Massat and Lundy, 1998).

The validity of delayed reports of CSA made in adulthood is a controversial subject. An in-depth discussion of the debate is beyond the scope of this review. Empirical studies indicate that there is considerable reporting inconsistency in the same individual over time. For example, in a longitudinal study of an unselected cohort ( $N = 983$ ) followed from birth to age 21, Fergusson et al. (2000) found that the values of the test-retest  $k$  for self-reports

of CSA made at ages 18 and 21 was only 0.45. Latent class analyses indicated that false-positive reports were not a factor. Rather, the false-negative rate was about 50% at each time point. A study of children whose sexual abuse was documented on videotape found that most denied or minimized their experiences (Sjoberg and Lindblad, 2002). These data are congruent with other studies indicating that prevalence rates based on a single report are likely to significantly underestimate true prevalence (Femina et al., 1990; Martin et al., 1993).

#### TREATMENT

##### Asymptomatic Children

Not all sexually abused children have serious psychiatric sequelae. When evaluated with standard instruments, up to 40% of sexually abused children may present with few or no symptoms (Finkelhor and Berliner, 1995). A number of reasons have been offered including the possibility that asymptomatic children had minor abuse, that they are more resilient, or that they have a coping style that masks their distress. The limited longitudinal data available, however, suggest that 10% to 20% of asymptomatic children will deteriorate over the next 12 to 18 months (Finkelhor and Berliner, 1995; Mannarino et al., 1991). Indeed, one study found that children who were initially the least symptomatic were the most likely to deteriorate with time (Gomes-Schwartz et al., 1990). Family environmental and abuse-related variables have not proven to be good predictors of long-term deterioration (Trebbutt et al., 1997).

This phenomenon, termed *sleepers effects*, poses the problem of whether asymptomatic children should receive treatment, and if so, for what? The possibility of sleeper effects also constrains the confidence that can be placed in the positive short-term outcomes reported by treatment studies. Asymptomatic children should be evaluated for additional risk factors such as family substance abuse, mental illness, domestic violence, or other family dysfunction. A psychoeducational intervention designed to prevent further victimization, to clarify and normalize feelings, and to educate parents is recommended.

##### Symptomatic Children

The majority of sexually abused children are moderately to seriously symptomatic at some point. In a sample ( $N = 80$ ) of non-clinically referred sexually abused children, McLeer et al. (1998) found that 62.8% qualified for at least one psychiatric diagnosis and 29.5% qual-

ified for two or more. A number of treatment protocols have been offered in the literature, but few have received more than a cursory evaluation. Finkelhor and Berliner's (1995) review of treatment of sexually abused children identified only 29 studies in which five or more children received the same treatment with a standardized pre- and posttreatment evaluation. Virtually all of these studies showed that sexually abused children improved significantly over time. It was unclear, however, whether this was a treatment effect or due to passage of time.

More recent studies with randomized assignment to different treatment conditions indicate that session-limited cognitive-behavioral therapy (CBT) is effective for some symptoms in sexually abused children (Cohen et al., 2000). Deblinger et al. (1996) compared 100 sexually abused children randomized to four treatment conditions: a 12-week abuse-focused CBT model for the child only, CBT for the parent only, CBT for both parent and child, and standardized community care. All groups improved, but CBT provided directly to the child resulted in the most benefit. Two studies by Cohen and Mannarino (1996, 1998) included a nonoffending parent in both the CBT and nondirective supportive therapy components. In the first study ( $N = 67$ ) of 3- to 7-year-olds, children receiving CBT showed significant improvement in PTSD symptoms and internalizing, externalizing, and sexually inappropriate behaviors that were sustained over 1 year (Cohen and Mannarino, 1996, 1997). A second study of 49 older children showed significant improvement for depression and social competence in those receiving abuse-focused CBT versus nondirective supportive therapy (Cohen and Mannarino, 1998). Celano et al. (1996) also found that abuse-focused CBT was superior to nonspecific treatment for sexually abused girls and their parents. A 12-week follow-up of CBT-treated sexually abused children ( $n = 18$ ) compared with waiting-list controls ( $n = 10$ ) also found significant reductions in PTSD symptoms (King et al., 2000). Thus abuse-focused CBT models provided to the child—often together with similar treatment to a nonoffending parent—are currently the best-documented, effective treatments for CSA. A number of symptoms, especially aggression and sexualized behavior, remain largely resistant to these approaches, however.

## PREVENTION

### Child Education Programs

There is considerable debate within the field as to the best approach to CSA prevention. School-based education

programs directed at teaching children to identify potential abuse situations, to respond in a self-protective fashion, and to tell a trusted adult are popular. A meta-analysis of 16 evaluation studies of school-based child education programs found that such programs are generally successful at teaching children CSA concepts and self-protection skills (Rispen et al., 1997). In most instances, evaluations looked at children's knowledge either with a pre- and posttest design or in comparison with children who did not receive the training. Programs that explicitly focused on self-protection skills training with sufficient time to integrate this material into a behavioral repertoire were most effective. However, in addition to benefits, some evaluations note negative effects. These include increased anxiety, feeling less in control for younger children, and feeling more discomfort with normal touch in older children (Taal and Edelaar, 1997). In the first long-term evaluation, a recent survey of 825 female undergraduates found that those who had participated in a school-based sexual abuse prevention program were significantly less likely to have been sexually abused (Gibson and Leitenberg, 2000).

### Home Visitation Programs

Home visitation programs seek to reduce child abuse and neglect in general by providing the knowledge, skills, and supports to improve the parenting skills of overwhelmed or at-risk parents. These programs also seek to have some impact on risk factors such as unemployment, marital discord, and social isolation. The Nurse Home Visitation program has received the most comprehensive abuse prevention evaluation to date (Olds et al., 1986). In a 15-year follow-up of the first implementation of the Nurse Home Visitation model, child abuse rates in the home visitation families were approximately half of those in the comparison group, with the greatest impact on poor, unmarried participants (Olds et al., 1997). A meta-analysis of the child abuse prevention effects of programs promoting family wellness found a mean effect size of  $d = 0.41$ , with the more intensive and comprehensive programs having greater effects (MacLeod and Nelson, 2000). Thus high-quality home visitation programs may play an important role in primary prevention of child abuse and neglect. A follow-up of abused children at age 15 years found that the relationship between maltreatment and early behavior problems was absent in home-visited abused children but present in abused controls, suggesting that such early interventions may also moderate child abuse outcomes (Eckenrode et al., 2001).

## FUTURE DIRECTIONS

Research on CSA shares most of the methodological limitations and thorny dilemmas associated with child abuse and neglect research in general. These include determining what constitutes representative samples, uniformity of definitions, classification of multiple forms of maltreatment, understanding self-selection biases for research participation, detecting false negatives, and determination of appropriate comparison groups (Briere, 1992; Ferguson, 1997). The existence of sleeper effects, multiple comorbid conditions, and dysfunctional life trajectories dictates longitudinal developmental approaches to establishing treatment efficacy and effectiveness.

Evidence-based treatment models exist, but for the most part they represent small-scale, clinic-based studies with limited follow-up. The field needs large-scale “effectiveness” research trials with longitudinal follow-up conducted in community settings to determine how well these models work in the real world. A major obstacle has been the lack of resources to develop the necessary research infrastructure. Despite the magnitude of the child abuse problem in general, and its contribution to serious public health problems such as major depression, PTSD, acquired immunodeficiency syndrome, and substance abuse, federal research support has declined significantly in recent years (Theodore and Runyan, 1999; Thompson and Wilcox, 1995). Many hope that the newly created National Child Traumatic Stress Initiative funded by the Substance Abuse and Mental Health Services Administration will reverse this trend and create a services and research infrastructure to address all major forms of trauma in children and adolescents.

Preliminary data linking neurobiological dysregulation and neuroanatomical abnormalities to child abuse must be followed up to determine the unique contribution of the abuse experiences apart from the generally negative early environment that most of these children endure. The nature of the relationship of neurobiological abnormalities with the plethora of symptoms and problematic behaviors associated with CSA must also be established. Finally, the therapeutic reversibility of neurobiological markers must be investigated in the context of symptom remission. While these are challenging research tasks, they also represent an extraordinary opportunity to learn a great deal about the relationship between brain dysfunction and behavior. Tragic as it is, child abuse has a great deal to teach us about etiology, outcome, and intervention for psychiatric illness in general.

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