

Treatment and Prevention

Get SMART: Effective Treatment for Sexually Abused Children with Problematic Sexual Behavior

BETSY J. OFFERMANN,¹ ELIZABETH JOHNSON,²
SONJA T. JOHNSON-BROOKS,¹ AND
HAROLYN M. E. BELCHER^{1,2}

¹Kennedy Krieger Institute Family Center

²Johns Hopkins University

Nearly 20% of children with a history of sexual abuse develop problematic sexual behaviors (PSBs). Effective mental health treatments for this specialized population are limited. This article presents outcome data on 62 children enrolled in the preliminary trial of the Safety, Mentoring, Advocacy, Recovery, and Treatment (SMART) model. SMART integrates individual, family, and group therapy in a strengths-based, problem-focused treatment model targeting PSB. Significant improvements were found in measures of functional impairment and PSB after participating in SMART. This preliminary study supports the effectiveness of the SMART model in ameliorating the PSB symptoms of young, sexually abused children.

Keywords problematic sexual behaviors, sexual abuse, young children, child abuse, mental health, trauma informed treatment

More than 90,000 children in the United States had a confirmed history of sexual abuse in 2003 (U.S. Department of Health and Human Services, 2005). The consequences of sexual abuse are complicated and can result in a variety of adverse outcomes for its victims (Friedrich, Hobart, & Feher, 2003). Research conducted over the past two decades concludes that child sexual abuse (CSA) victims are at increased risk for development of posttraumatic stress symptoms, depression, and problematic sexual behaviors (Dube et al., 2005; Gray, Pithers, Busconi, & Houchens, 1999; Kendall-Tackett, Williams, & Finkelhor, 2001; Pithers, Gray, Busconi, & Houchens, 1998;). Sexually abused children can have difficulty identifying and communicating feelings and can frequently be confused and preoccupied with sex and sexuality. These problems, coupled with an altered sense of boundaries, can result in the child inappropriately expressing sexual behavior toward adults or other children. This behavior is a physical, emotional, and psychological reactive response to the experience of CSA that is being acted out, often chaotically, in their social relationships. The severity and frequency of sexual

Submitted April 12, 2007; revised September 28, 2007; accepted June 26, 2008.

Address correspondence to Betsy J. Offermann, Kennedy Krieger Institute Family Center, 2901 East Biddle Street, Baltimore, MD 21213. E-mail: Offermann@kennedykrieger.org

abuse and the developmental stage of the child at the time that the sexual abuse occurred are hypothesized to result in the emergence of PSB in children. Victims' responses to sexual abuse including patterns of denial and minimization, power and control behaviors, and preoccupation with one's own victimization can also lead to the child's progression from victim to victimizer (Friedrich et al., 2003; Friedrich & Luecke, 1988; Ryan, 2000a, 2000b).

A meta-analysis of 37 studies involving 25,367 individuals revealed a 14% increase in sexual activity and an 8% increase in victim-perpetrator cycle for individuals with a history of CSA compared to those with no exposure to CSA (Paolucci, Genius, & Violato, 2001). Young, sexually abused children exhibiting PSB pose a unique challenge to clinicians, in part because there are few longitudinal studies in the literature that document effective "best practice" treatments (Araji, 1997; Chaffin, Letourneau, & Silovsky, 2002; Gilgun, 2005). There is more evidence in the literature for effective treatment of symptoms associated with other sequelae of CSA, including posttraumatic stress disorder (PTSD), depression, and internalizing and externalizing behaviors (Cohen & Mannarino, 1998, 2000; Putnam, 2003), but these studies frequently excluded children with persistent PSB. PSB is considered to be more recalcitrant to treatment than other behaviors associated with sexual abuse (Putnam, 2003).

Defining the Problem

PSB typically includes sexualized play with dolls, insertion of objects into the body, excessive or public masturbation, age-inappropriate sexual knowledge, and behaviors that are precocious for the child's developmental level (Briere & Runtz, 1988; Friedrich et al., 2001; Hall, Mathews, & Pearce, 2002; Johnson, 1999; Kendall-Tackett et al., 2001). Ryan (2000a, 2000b) defined sexual behavior as problematic if it placed the child at risk or violated social norms. According to Ryan (2000a, 2000b), sexual behaviors that interfere with the child's development and relationships cause others to feel uncomfortable or are abusive or coercive indicate a need for therapeutic intervention. Crisci, Lay, and Lowenstein (1998), however, used motivational factors to define PSB and suggested that sexual encounters involving an imbalance in power and control should be defined as problematic. They also evaluated the abuser-victim relationship, the type of sexual behavior, and the expressed effect during the behavior to distinguish normal sexual behavior from PSB (Crisci et al., 1998). Pithers and colleagues (1998) recommended five considerations to determine PSB in children less than 13 years of age: (a) is the behavior developmentally appropriate for the child's age group, (b) are the children involved the same age and size, (c) are the sexual activities mutual or coercive (e.g. through intimidation, force, trickery or bribery), (d) is the secrecy associated with the behavior greater than expected given the child's natural sense of privacy, and (e) is the behavior compulsive or obsessive.

It has long been believed that boys are more likely to manifest externalizing behaviors and girls are more likely to manifest internalizing behaviors, but relatively few studies have focused on gender differences, possibly because there are fewer males than females in clinical samples of children who have been sexually abused (Dube et al., 2005; Friedrich et al., 2005; Kendall-Tackett et al., 2001; Wilcox, Richards, & O'Keeffe, 2004). There are, however, reports of studies that analyzed negative consequences of sexual abuse in boys and found that boys were more likely to use alcohol and/or drugs, display aggressive and criminal behavior, and attempt suicide after sexual abuse than girls (Dube et al., 2005; Gurhust, 2003; Malhotra & Biswas, 2007).

The SMART Model Development

In 1994, the Kennedy Krieger Institute Family Center (KKFC), a community-based mental health center, began providing short-term treatment services for sexually abused children ages 3 to 17 years immediately following a disclosure of CSA. It was noted that, despite treatment for the abuse, some children developed a history of placement instability and disruption of their caregiving environment due to PSB with other children, either in their living environment or in the community. By 1998, KKFC had developed the safety, mentoring, advocacy, recovery, and treatment (SMART) model to improve treatment for the challenging and complex population of sexual abuse victims who subsequently develop PSB.

The SMART model utilizes a phase-based, abuse-focused approach to promote recovery and strengthen resiliency in children. Treatment focuses on safety and stabilization, effect and behavior regulation, formation of a meaningful trauma narrative, and acquisition of new coping skills and strategies. The intentional formation of a narrative that includes the child's role as both a victim and as one who has touched others in a sexual manner is designed to help reduce shame, instill hope, and provide a supportive, nonthreatening framework to address painful effect and content. The needs of children who are sexually reactive are complex, and these conflicting roles must be addressed simultaneously. These roles are a part of the same story, and the elements and details of each role often become entangled. In the SMART model, the family is considered to be the primary unit of treatment, and cognitive behavioral therapy techniques are used to help children develop self-management skills to control emotional and sexual impulses.

This article reports the preliminary findings on the effectiveness of the SMART model, which was developed specifically for children aged 3 to 11 years with a history of sexual abuse and who are exhibiting PSB. It was hypothesized that children who were treated using the SMART protocol would demonstrate reduced PSB, improved functioning across life domains, and placement stability.

Methods

Study Design

The study used a repeated measures design to analyze prospectively obtained evaluations of children with a history of PSB who were enrolled in the SMART model during a five year period from 1998 to 2003. Participants signed a treatment agreement that outlined policies for participation in the pilot study, including mandatory parental involvement at least two times per month and consistent attendance for treatment sessions. Assessments of symptoms were conducted at admission, at equal time intervals over the course of the treatment (varying by instrument used), at discharge, and at 6 and 12 months postdischarge.

Participants

Sixty-seven children with a history of sexual abuse and PSB were enrolled in the SMART model. Five were withdrawn due to inconsistent attendance, resulting in a final sample of 62. The SMART group therapy sessions were coed and organized by age. The younger children, ages 4 to 6, attended sessions with their primary caregiver. The majority of the children were African American (74.2%) and male (64.5%; see Table 1). Over half of the children were living with biological family members. The mean age at admission was

Table 1
Demographics and Characteristics of the Children ($N = 62$)

Characteristic	Mean (<i>SD</i>)	Percent (<i>n</i>)
Age in years (at entry)	8.3 (2.1)	
Age in years (at discharge)	9.4 (2.1)	
Race		
African American		74 (46)
White		16 (10)
Multiracial		10 (6)
Gender		
Female		35 (22)
Placement (at entry)		
Kinship care		32 (20)
Biological family		26 (16)
Regular foster care		26 (16)
Group home		2 (1)
Treatment foster care		10 (6)
Special foster care		5 (3)
# changes in placement during SMART		
None		76 (47)
# placements after SMART		
None		98 (61)
One		2 (1)

8.3 years ($SD = 2.1$). Data for the analysis were obtained from a Johns Hopkins Medical Institutional Review Board-approved research database.

Intervention

Treatment Phases. The SMART model consists of three clinically essential phases: safety/stabilization, triggers/integration, and resocialization. Each phase incorporates and reinforces safety and stability concerns, effect and behavior regulation, and strategies for developing new coping patterns through trauma-informed interventions. There are key components in each phase that must be mastered in order for the child to progress to the next phase (see Figure 1). Each component contains age-specific developmentally appropriate activities and interventions to increase frustration tolerance, improve affective expression, aid formation of safe and healthy boundaries, and build skills in problem solving, anger management, conflict resolution, and self-monitoring. Indicators of mastery are provided in the SMART model to inform and guide clinical practice. For each phase, the clinician starts with victim-focused work and then targets the effective experiences of the child. The clinician then supports the child in examining the victimizing behavior and the associations between these behaviors.

Session Timeline. The SMART model timeline provides a guide for treatment planning and treatment goal development. The number of sessions varies depending on the needs of

SMART Tx Model	# of sessions Individual	# of sessions Family	# of sessions Group
Phase I: Safety & Stabilization (8 WEEKS)			
• Trauma Assessment	2 SESSIONS	2 SESSIONS	
• Risk Reduction Plan	2 SESSIONS	3 SESSIONS	BEGIN GROUP
• Family and Community Engagement	1 SESSION	2 SESSIONS	
Phase II: Triggers and Integration (32 WEEKS)			
• Risk Management and Assessing Mental Status	(ongoing)	(ongoing)	
• Affect Modulation	6 SESSIONS	5 SESSIONS	
• Impulse Regulation	4 SESSIONS	5 SESSIONS	BEGIN GROUP
• Trauma Triggers	5 SESSIONS	6 SESSIONS	
• Trauma Narratives/Gradual Exposure	5 SESSIONS	4 SESSIONS	
• Cognitive Processing	2 SESSIONS	2 SESSIONS	
• Sharing the Narrative		2 SESSIONS	
• Apology Letter	3 SESSIONS	1 SESSION	
Phase III: Re-socialization (12 WEEKS)			
• Assess Use/Integration of Healthy Coping Skills		1 SESSION	BEGIN GROUP
• Forming Positive Relationships	1 SESSION	1 SESSION	
• Self-esteem	1 SESSION	2 SESSIONS	
• Relapse Prevention	2 SESSIONS	4 SESSIONS	
TOTAL # OF SESSIONS	34 INDIVIDUAL	40 FAMILY	24 GROUP

Figure 1. SMART treatment model.

the child and family. The timeline also indicates the appropriate time for group therapy to be initiated within each treatment phase.

Therapy Strategies. The SMART model utilizes individual, family, and group therapy concurrently. Used independently, these therapeutic approaches are frequently insufficient to eliminate PSB (Putnam, 2003). However, their concurrent use is synergistic and yields an integrated, comprehensive treatment model that promotes recovery and acquisition of appropriate, adaptive skills. Individual and family therapy is used to address a child's particular issues and needs and to help the family progress together, while group therapy is used to address therapeutic issues in developmentally relevant and role-relevant group settings (see Appendix 1).

The SMART model also uses culturally appropriate and culturally specific interventions. Although CSA is fairly widespread, little research has been conducted to examine how cultural background affects one's knowledge of sexual abuse, experience of it, or the utility of strategies to prevent its occurrence (Fontes, Cruz, & Tabachnick, 2001). However, it is known that culture influences what type of threat is perceived as traumatic and how individuals, their families, and their communities interpret the meaning of traumatic events. CSA is traumatic, and yet it is not always perceived as such. Understanding a sexually abused child exhibiting PSB from a cultural perspective and exploring how their culture, the family's culture and religion, and their level of acculturation impact their perceptions of the world are important steps in the therapeutic process. It has been well documented in the literature that beliefs about sexuality, nudity, discipline practices, family behaviors, and parent-child relationships significantly influence a child's response to and progress in treatment (Cohen, Deblinger, Mannarino, & de Arellana, 2001). Thus, for treatment to be most effective, the clinician must not just understand the family's cultural beliefs and their importance, but also incorporate these beliefs in all phases of treatment planning. Otherwise, attempts to intervene and process the

sexual abuse or the resulting PSB will be misguided. Intentional incorporation of the family's beliefs contributes to building the strong foundation needed to process the child's experiences both as a victim and as a person who victimizes others, as well as the family's responses to both experiences. Additionally, by modeling respect and understanding of the family's culture, the clinician is more apt to identify and promote family strengths rather than highlighting weaknesses when developing treatment strategies to address PSB.

The SMART model also includes a specialized treatment workbook to address issues related to victimization and victimizing and to take steps toward healthy touching and forming positive relationships. The workbook helps children and their caregivers to better understand the impact of the trauma, triggers of the PSB and other problematic behavior, and the children's own emotional needs. It creates a useful dialogue to help form the victim and victimizer narrative. The workbook reinforces the therapeutic approach of the SMART model and helps improve the child's functioning across multiple domains (i.e., family, school, and community), as demonstrated by improved mean functional impairment scores for children in the program.

SMART Clinicians. The SMART model was implemented by seven clinicians at the KKFC. Clinicians were licensed social workers and a family therapist with an average of 8.6 years ($SD = 7.0$) of clinical experience. All clinicians using the SMART model participated in a 3-day, intensive training session and were certified on the model by its developer. Clinicians with active cases had weekly group and individual supervision during which cases were monitored and tracked for progress. In addition, monthly psychiatric and psychological clinical and didactic consultations were used to review child and family treatment issues related to the sexual abuse.

Measures

Level of Functional Impairment. Children's level of functional impairment was assessed by the child's clinician using the age-appropriate Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, Wong, & Latessa, 1998) for ages 7 to 11 years or the Preschool and Early Childhood Functional Assessment Scale (PECFAS; Hodges et al., 1998) for ages 3 to 6 years. The seven scales shared by CAFAS and PECFAS were used in the analysis; the Substance Abuse subscale of CAFAS was omitted. The subscales included were (a) School/Work (Day Care) Performance, (b) Home Role Performance, (c) Community Role Performance, (d) Behavior Toward Others, (e) Moods/Emotions, (f) Self-Harmful Behavior, and (g) Thinking. Each subscale is scored from 0 (minimal/no impairment) to 30 (severe impairment). To obtain the total functional impairment score, all the subscales were added together. As a result, the possible total scores range from 0 to 210, with higher scores indicating greater functional impairment. Some children began the SMART intervention at 6 years of age and continued until age 7, and so were assessed by both PECFAS and CAFAS. Because there were no statistically significant differences in the mean total CAFAS and PECFAS scores at admission (CAFAS: $M = 75.2$, $SD = 35.1$; PECFAS: $M = 76.7$, $SD = 38.5$) and at discharge (CAFAS: $M = 45.4$, $SD = 41.9$; PECFAS: $M = 42.3$, $SD = 33.9$), CAFAS and PECFAS scores were analyzed together and are reported as CAFAS scores in the Results section. All clinicians were trained to score the CAFAS and the PECFAS reliably.

Problematic Sexualized Behavior. PSB was measured using the CAFAS or PECFAS, SMART Clinic Symptom Checklist, and the Child Sexual Behavior Checklist (CSBCL; Johnson, 1995). Three descriptions from CAFAS related to PSB and the corresponding

descriptions on PECFAS were analyzed: (a) “has been sexually inappropriate such that adults have concern about the welfare of other children who may be around youth unsupervised;” (b) “attempted or accomplished sexual assault or abuse of another person;” and (c) “inappropriate sexual behavior in the presence of others or directed toward others.”

The SMART Checklist was created by one of the authors specifically for this treatment protocol. It measures 31 symptoms seen in children who are sexually reactive toward others. Frequency of presenting symptoms is scored on a Likert scale ranging from 0 (not applicable) to 3 (seven or more times). Parents rate the frequency of behaviors that have occurred during the past 30 days. The SMART Checklist was administered at admission and monthly over the course of treatment. Cronbach’s alpha for the SMART Checklist was 0.89 at admission and 0.80 at discharge, demonstrating good reliability for the full scale.

The CSBCL (Johnson, 1995) Part I elicits caregiver observations about the frequency of 150 behaviors related to sex, sexual behaviors, and sexuality exhibited by the child. Responses are scored on a Likert scale ranging from 0 (never) to 4 (four times or more a month). For the purpose of this study, 0 (never) and 1 (used to) were combined into a single score. Cronbach’s alpha for Part I was 0.96.

Statistical Analysis

Caregiver race/ethnicity was analyzed as the self-identified group (African American, white, multiracial). Paired *t* tests were used to compare admission and discharge scores for the SMART Checklist and CSBCL scores. Linear and logistic regression models with generalized estimating equations (GEE) were used to compare the admission, discharge, and 6-month and 12-month follow-up scores for the CAFAS. We assumed that the correlation of scores within a subject decreased as the time between measurements increased. Inferences from these models are based on a robust variance estimate that provides correct inference even if the assumed correlation structure of scores within a subject over time is misspecified. All analyses were conducted using Stata 8.2 (STACORP, 2003).

Results

Child Functional Impairment Status

The children ($N = 62$) had a mean total CAFAS score of 75.6 ($SD = 35.8$) at admission. The mean decrease in total CAFAS score between admission and discharge was 31.1 (Wald $z = -5.66$, $p < 0.001$; 95% CI: 20.4 to 41.9). The mean total CAFAS score was not significantly different between discharge and 6-months post-discharge (estimated change -7.6 ; Wald $z = -1.84$, $p = 0.066$, $n = 40$; 95% CI: -15.6 to 0.5). The 12-months postdischarge mean total CAFAS score was significantly lower than the mean discharge score (estimated change -14.7 , 95% CI: -24.7 to -4.7 , $z = -2.48$, $p = 0.004$, $n = 31$).

Boys had higher mean total CAFAS scores at baseline ($M = 81.8$, $SD = 36.9$) compared to girls ($M = 64.5$, $SD = 31.6$), $p = 0.051$. Both boys and girls had significant improvements in mean CAFAS scores at discharge. Boys had an estimated 35.0 point improvement ($p < 0.001$; 95% CI: 20.9 to 49.1) and girls had an estimated 24.1 point improvement ($p < 0.01$; 95% CI: 7.7 to 40.4) at discharge. At the 6-month postdischarge evaluation, estimated improvement was unchanged for both genders. Twelve months following discharge from SMART, boys demonstrated continued significant improvements in total CAFAS scores (estimated improvement, 20.4, $p < 0.01$; 95% CI: 7.2 to 33.6). Girls’ scores remained stable at 12-month postdischarge.

Problematic Sexual Behavior

Logistic regression models with GEE were used to compare the odds of a positive response to the sexualized behavior descriptions (*a*, *b*, and *c*; see Table 2) at entry, discharge, and 6-month and 12-month postdischarge. At entry, more than 18% of the children's clinicians provided positive responses to PSB descriptions. The odds of a positive response to the sexualized behavior descriptions decreased significantly by discharge. No subjects had positive responses to the sexualized behavior descriptions *a* and *c* at the 6-month and 12-month follow-up. For the sexualized behavior description *b*, there was no change in the odds of a positive response comparing discharge ($n = 3$) to 6-month ($n = 0$; $z = -0.49$, $p = 0.624$) and 12-month follow-up ($z = -1.30$, $p = 0.195$).

Paired *t* tests were used to examine change in the mean total SMART Checklist score between admission and discharge. The mean total SMART Checklist score at entry was 13.3 ($SD = 11.6$). The estimated statistically significant decrease in the mean total SMART Checklist score was 5.7, $t(61) = -4.22$, $p < 0.001$ (95% CI: 3.0 to 10.6).

Paired *t* tests were used to compare the admission and discharge scores for each of the subscales of the CSBCL (see Table 3). There was a significant decrease in scores from admission to discharge for the Interest in Sex and Sexuality subscale, $t(61) = 2.82$, $p = 0.008$. There were significant decreases in the Hugs Others, Bathroom Behavior, Bowel/Bladder Problems, Touches Children, and Looks/Peeks at Others subscales. There was a marginally significant decrease in scores for the Touches Self/Masturbation, Behaves in a Sexual Way, Shows Self/Private Parts to Others, and Undresses/Nudity.

Discussion

Data from this preliminary study supports the effectiveness of the SMART model in reducing PSB exhibited by young children with a history of sexual abuse. Mean total

Table 2
Comparison of Positive Response to Problematic Sexual Behavior Descriptions
Over Time ($N = 62$)

	PSB description (a) Percent (response yes/ <i>n</i>)	PSB description (b) Percent (response yes/ <i>n</i>)	PSB description (c) Percent (response yes/ <i>n</i>)
Entry	31 (19/62)	19 (12/62)	32 (20/62)
Discharge	3 (2/62)	3 (2/62)	10 (6/62)
6-month follow-up	0 (0/40)	0 (0/40)	8 (3/40)
12-month follow-up	0 (0/31)	0 (0/31)	3 (1/31)
	Odds ratio (95% CI)	Odds ratio (95% CI)	Odds ratio (95% CI)
Discharge vs. entry	0.08 (0.02, 0.37)*	0.14 (0.03, 0.60)*	0.23 (0.08, 0.64)*
6-month vs. discharge	—	—	0.76 (0.25, 2.32)
12-month vs. discharge	—	—	0.33 (0.06, 1.77)

Note. (a) "Has been sexually inappropriate such that adults have concern about the welfare of other children who may be around youth unsupervised," (b) "Attempted or accomplished sexual assault or abuse of another person," and (c) "Inappropriate sexual behavior in the presence of others or directed toward others."

* $p < 0.01$.

Table 3
Entry and Discharge CSBCL Subscale Scores with Significant Change ($N = 62$)

Subscale	Entry	Discharge	Change (95% CI)
Interest in sex and sexuality	21.3 (8.8)	17.5 (4.8)	3.8 (1.1, 6.5)*
Hugs others	8.9 (4.2)	7.4 (3.8)	1.5 (0.2, 2.8)*
Bathroom behavior	18.0 (6.9)	14.8 (5.5)	3.2 (1.4, 5.1)*
Bowel/bladder problems	9.0 (3.4)	7.7 (2.3)	1.3 (0.3, 2.3)*
Touches children	15.6 (7.8)	12.7 (3.2)	2.9 (0.4, 5.4)*
Looks/peeks at others	7.4 (3.4)	6.4 (2.6)	1.0 (0.1, 1.9)*

* $p < 0.05$.

functional impairment at the end of treatment was half that measured when treatment began. As hypothesized, children completing the SMART model also demonstrated statistically and clinically significant declines on all measures of PSB following treatment. Improvements in behavior were sustained for 6 months following SMART, and analysis of clinical data 12 months after completion of therapy showed continued reductions in PSB. Importantly, the majority of children maintained the same caregiving environment during and after treatment using the SMART protocol.

The SMART model addresses the needs of children exhibiting PSB using a developmentally sensitive approach that focuses on the behavior, which separates the behavior from the child. Children do not understand sexuality in the same way that adults do. PSB in childhood is not motivated by sexual gratification, but instead is believed to be a maladaptive, reactive response to anxiety and stress related to the sexual abuse. In the absence of safety, children are unable and often unwilling to alter behavior, consider new ideas, or accept help. The SMART model provides a nonthreatening structure that promotes the creation of a therapeutic holding environment where risks may be sequestered and anxiety contained. A strong therapeutic holding environment allows the child to engage in self-reflection. Children are then taught acceptable coping skills and strategies to reduce anxiety and replace maladaptive strategies. Once the child has learned to manage their abuse-related anxiety symptoms, a reduction in PSB is noted.

Placement instability and disruption of the caregiving environment was a primary motivating factor in the development of SMART. The family plays a critical role in the child's recovery process and is a primary target of intervention; disruption of the family environment adversely affects recovery. Fortunately, caregivers are easily engaged in this strengths-based, solution-focused approach that is sensitive to cultural beliefs and that controls and reduces PSB. Many families have strong thoughts and beliefs regarding sexuality that are rooted in their cultural heritage and that, if ignored, can cause damage to the therapeutic alliance or become a source of additional traumatic stress for the child. Thus, cultural beliefs and influences are intentionally incorporated into the model to engage the family, to promote family strengths, and to create adaptive coping responses to address PSB. A common language that includes both an emotional vocabulary and mutually agreed upon labels for describing sex and sexuality is established early in the treatment process and takes into account cultural and religious factors. Children and families are then able to construct stories about themselves, their relationships, and CSA within the social context of the therapeutic relationship.

Adaptations to treatment are made throughout the program to account for and accommodate the family's cultural beliefs, for example with the issue of masturbation. Many

cultures use shame to try to extinguish the behavior, but it is rarely successful and often causes additional frustration and stress for the child and the family. In the SMART model, the clinician supports the family while also framing masturbation in the context of the trauma in order to separate the behavior from the child. Psychoeducation often allows a family to be able to tolerate the behavior and recognize the importance of offering acceptable alternatives to replace maladaptive or unacceptable behaviors. In some cases, the family may even be able to tolerate the behavior while a plan is implemented to replace the behavior with mutually agreed upon alternatives. If the family is unable to tolerate the behavior, the separation of the behavior from the child supports creation of positive verbalizations and strategies that do not involve shame.

The preliminary results in this study suggest that children treated with the SMART model make behavioral and emotional improvements in functioning across multiple areas that continue through one year after treatment. Boys in particular demonstrated continued improvement in total functioning at 12 months after discharge from the program. Given the shortage of effective treatments specifically designed for sexually abused children exhibiting PSB, these preliminary results suggest that the SMART model is an important step in developing a promising treatment and intervention for this specialized population.

A limitation of the current study design includes the lack of a comparison group, which makes it difficult to draw conclusions about the effectiveness of the SMART model compared to other treatment models or simply to empirical improvement of PSB with time. Longitudinal studies of children with a history of sexual abuse, however, report increased incidences of PSB and mental health disorders, even in the presence of standard mental health treatment, making it unlikely that our study population would have exhibited much spontaneous improvement over time (Cohen & Mannarino, 1998; Friedrich et al., 2005; Widom & Ames, 1994; Worling & Curwen, 2000). In addition, studies of children with a history of sexual abuse show that standard treatments are less effective at reducing and eliminating PSB than they are in reducing depression and PTSD (Putnam, 2003). Another potential limitation of the study may be the novel use of the combined CAFAS and PECFAS scores. Similar mean total scores were noted on the CAFAS and PECFAS prior to treatment and upon completion of the SMART intervention. In addition, some children began treatment at an age when the PECFAS was the appropriate instrument to administer and completed treatment at an age when CAFAS administration was appropriate. Thus, the decision was made to combine the CAFAS and PECFAS scores to improve the power to detect change over time. Studies showing that the scores are interchangeable or comparable in a larger study population, however, would be useful to have. Another limitation is the relatively short follow-up of just one year post completion of therapy and treatment. Because of the potential for delayed PSB, it will be important to continue to follow these children to know whether the positive effects continue or increase with time or whether continuing treatment will be necessary for this population or for a subset of this population.

The main objectives in developing this treatment model were to eliminate PSB, to establish placement stability and a sense of safety for the children, improve the insight, judgment, and empathy of caregivers, to improve children's emotional and behavioral regulation by aiding development of better coping skills, and to provide parents with skills to meet their children's physical and emotional needs. The significant reductions of total impairment and PSB suggest that the SMART model is a promising treatment model to address PSB in young children with histories of sexual abuse. Future research using a comparison group and randomized design is necessary to further support the effectiveness of the SMART model for treating children with PSB.

Acknowledgements

This work was supported by Grant 5 U79 SM56215-02 from Substance Abuse and Mental Health Services Administration and the duPont Foundation. The authors gratefully acknowledge the children and families who received treatment at the Kennedy Krieger Institute Family Center and the clinicians who treat them.

References

- Araji, S. K. (1997). *Sexually aggressive children: Coming to understand them*. Thousand Oaks, CA: Sage Publishing.
- Briere, J., & Runtz, M. (1988). Symptomatology associated with childhood sexual victimization in a non-clinical adult sample. *Child Abuse & Neglect*, *12*(1), 51–59.
- Chaffin, M., Letourneau, E., & Silovsky, J. (2002). Adults, adolescents, and children who sexually abuse. In J. E. B. Myers, L. Berliner, J. Briere, C. T. Hendrix, C. Jenny, & T. A. Reid (Eds.), *The APSAC handbook on maltreatment* (2nd ed., pp. 205–232). Thousand Oaks, CA: Sage Publications.
- Cohen, J. A., Deblinger, E., Mannarino, A. P., & de Arellana, M. A. (2001). The importance of culture in treating abused and neglected children: An empirical review. *Child Maltreatment*, *6*(2), 148–157.
- Cohen, J. A., & Mannarino, A. P. (1998). Factors that mediate treatment outcome of sexually abused preschool children: Six and 12 month follow-up. *Journal of the American Academy of Child and Adolescent Psychiatry*, *37*(1), 44–51.
- Cohen, J. A., & Mannarino, A. P. (2000). Predictors of treatment outcome in sexually abused children. *Child Abuse Neglect*, *24*(7), 983–994.
- Crisci, G., Lay, M., & Lowenstein, L. (1998). *Paper dolls and paper airplanes: Therapeutic exercises for sexually traumatized children*. Indianapolis, IN: Kidsrights.
- Dube, S., Anda, R., Whitfield, C., Brown, D., Felitti, V., Dong, M., et al. (2005). Long-term consequences of childhood sexual abuse by gender of victim. *American Journal of Prevention Medicine*, *28*(5), 430–438.
- Fontes, L. A., Cruz, M., & Tabachnick, J. (2001). Views of child sexual abuse in two cultural communities: An exploratory study among African Americans and Latinos. *Child Maltreatment*, *6*(2), 103–117.
- Friedrich, W. N., Baker, A. J. L., Parker, R., Schneiderman, M., Gries, L., & Archer, M. (2005). Youth with problematic sexualized behaviors in the child welfare system: A one-year longitudinal study. *Sexual Abuse: Journal of Research and Treatment*, *17*(4), 391–406.
- Friedrich, W. N., Fisher, J. L., Berliner, L., Dittner, C. A., Acton, R., & Gray, A. (2001). Child sexual behavior inventory: Normative, psychiatric, and sexual abuse comparisons. *Child Maltreatment*, *6*(1), 37–49.
- Friedrich, W. N., Hobart, D., & Feher, E. (2003). Sexual behavior problems in preteen children: Developmental, ecological, and behavioral correlates. *Annals New York Academy of Sciences*, *989*, 95–104.
- Friedrich, W. N., & Luecke, W. (1988). Young school age sexually aggressive children. *Professional Psychology Research and Practice*, *19*(2), 155–164.
- Gilgun, J. F. (2005). Evidence-based practice, descriptive research and the Resilience-Schema-Gender-Brain Functioning (RSGB) assessment. *British Journal of Social Work*, *35*(6), 843–862.
- Gray, A., Pithers, W. D., Busconi, A., & Houchens, P. (1999). Developmental and etiological characteristics of children with sexual behavior problems: Treatment implications. *Child Abuse & Neglect*, *23*(6), 601–621.
- Gurhust, C. A. (2003). Child abuse: Behavioral aspects and other associated problems. *Pediatric Clinics of North America*, *50*, 919–938.
- Hall, D. K., Mathews, F., & Pearce, J. (2002). Sexual behavior problems in sexually abused children: A preliminary typology. *Child Abuse & Neglect*, *26*(3), 289–312.

- Hodges, K., Wong, M., & Latessa, M. (1998). Use of the Child and Adolescent Functional Assessment Scale (CAFAS) as an outcome measure in clinical settings. *Journal of Behavioral Health Services & Research, 1063*(2), 140–150.
- Johnson, T. C. (1995). *Treatment exercises for child abuse victims and children with sexual behavior problems*. Pasadena, CA: New Harbinger Publications.
- Johnson, T. C. (1999). *Understanding your child's sexual behavior: What's natural and healthy*. Pasadena, CA: New Harbinger Publications.
- Kendall-Tackett, K. A., Williams, L. M., & Finkelhor, D. (2001). Impact of sexual abuse on children: A review and synthesis of recent empirical studies. *Psychological Bulletin, 113*(1), 164–180.
- Malhotra, S., & Biswas, P. (2007). Child sexual abuse in clinical practice: Identification and management. *Journal of the Indian Association for Child and Adolescent Mental Health, 1*(2), 6.
- Paolucci, E., Genius, M., & Violato, C. (2001). A meta-analysis of the published research on the effect of child sexual abuse. *The Journal of Psychology, 135*(1), 17–36.
- Pithers, W. D., Gray, A., Busconi, A., & Houchens, P. (1998). Children with sexual behavior problems: Identification of five distinct child types and related treatment considerations. *Child Maltreatment, 9*(4), 384–406.
- Putnam, F. W. (2003). Ten-year research updates review: Child sexual abuse. *Journal of the American Academy of Child & Adolescent Psychiatry, 42*(3), 269–278.
- Ryan, G. (2000a). Childhood sexuality: A decade of study, Part I: Research and curriculum development. *Child Abuse & Neglect, 24*(1), 33–48.
- Ryan, G. (2000b). Childhood sexuality: A decade of study, Part II: Dissemination and future directions. *Child Abuse & Neglect, 24*(1), 49–61.
- STACORP. (2003). STATA Intercooler [Computer software]. College Station, TX: Author.
- U.S. Department of Health and Human Services, Administration for Children and Families. (2005). *Child maltreatment 2003*. Washington, DC: Government Printing Office, Retrieved February 20, 2006 from http://www.acf.hhs.gov/programs/cb/stats_research/index.htm#can
- Widom, C. S., & Ames, M. (1994). Criminal consequences of childhood sexual victimization. *Child Abuse & Neglect, 18*(4), 303–318.
- Wilcox, D. T., Richards, F., & O'Keeffe, Z. C. (2004). Resilience and risk factors associated with experiencing childhood sexual abuse. *Child Abuse Review, 13*(5), 338–352.
- Worling, J., & Curwen, T. (2000). Adolescent sexual offender recidivism: Success of specialized treatment and implications for risk prediction. *Child Abuse & Neglect, 27*(7), 965–982.

Appendix

Children's Group Goals

- Decreasing children's PSB
- Increasing children's understanding of their unhealthy assumptions about sex and sexuality
- Increasing children's understanding of situations that precipitate or bolster sexually inappropriate behaviors
- Understanding and integrating feelings and thoughts related to earlier victimization
- Increasing children's capacity to detect and value other people's feelings, wants, and rights
- Increasing children's ability to satisfy their needs in socially acceptable ways
- Increasing children's relatedness to other people and developing their internal resources that foster further growth

Parent Group Goals

- Understanding of their children's pattern of PSB
- Comprehension of their participation in providing external control (i.e., supervision)
- Comprehension of their participation in helping their children with internal controls (e.g., responding when children ask for help as part of their prevention strategies)
- Collaboration in recognizing and dealing with high-risk factors for their children
- Understanding of specific family dynamics that fosters a climate in which PSB occurs
- Clarity about their own feelings and thoughts, and responses to the child
- Understanding parental sense of inadequacy, and feelings of guilt or confusion
- Reducing concealment and manipulation among family members
- Increasing open communication and the ability to predict conflicts

