

# An Evidence-Based Approach for Estimating Present and Future Damages From Child Sexual Abuse

William Bernet, MD, and David Corwin, MD

This article illustrates the use of evidence-based practice to develop conclusions for a forensic report. The authors present a case vignette in which an early adolescent boy was sexually abused by an employee of a private school, and a lawsuit ensued. They explain how to utilize relevant research regarding the prognosis of victims of sexual abuse to address the forensic issues of psychological injury and future damages. It is notable that the two authors, who have at times testified on opposite sides of similar cases, were able to agree on conclusions that were based on relevant published research.

**J Am Acad Psychiatry Law 34:224–30, 2006**

During the past decade, practitioners of forensic science have observed remarkably similar trends in law and medicine. Both professions have strived to base operational decisions on scientific evidence rather than on subjective opinion. In psychiatry and the rest of medicine, this movement has taken the form of evidence-based medicine or evidence-based practice (EBP). We are using EBP in a broad sense to include defining a clinical or forensic problem in a precise manner: identifying the information that will resolve the problem; organizing a search of the appropriate literature (e.g., in both psychiatry and psychology); selecting the best of the relevant studies; and using those studies in an unbiased manner to address the question that was posed.

The parallel to EBP in law, of course, relates to the admissibility of expert testimony. In 1993, the U.S. Supreme Court held in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*<sup>1</sup> that federal courts must follow the Federal Rules of Evidence regarding the admissibility of expert testimony. These rules designate judges as the gatekeepers in applying a broad range of factors to determine whether scientific evidence is relevant

and reliable. Both EBP and *Daubert* share the goal of improving the use of scientific knowledge in their respective fields of medicine and law.

If expert witnesses rely on scientific research rather than their own hunches and speculations, there presumably will be less variation among expert opinions. In fact, in some instances it should be possible for opposing experts to agree on how the scientific evidence addresses a particular legal question. The authors of this article—who at times have testified on opposite sides of cases involving child sexual abuse—studied a case of child sexual abuse, to see whether they could find common ground by applying the principles of EBP. This article describes the use of research regarding child sexual abuse to inform a court in a civil lawsuit about the future risk of mental health disorders associated with sexual abuse.

## Case Report

Robert, a teenager in middle school, attended a private school for boys. He was sexually abused by Mr. B., a counselor at the school. (This vignette is based on an actual case, although names and other identifying information have been changed. This case study was exempt from review by the Institutional Review Board of Vanderbilt University.) Mr. B. and Robert traveled together for an out-of-town activity, and they spent the night at a motel and shared a bed. During the night, Robert awakened and felt Mr. B. rubbing his penis.

Dr. Bernet is Director, Division of Forensic Psychiatry, and Professor, Department of Psychiatry, Vanderbilt University School of Medicine, Nashville, TN. Dr. Corwin is Chief, Division of Child Protection and Family Health, and Professor, Department of Pediatrics, University of Utah School of Medicine, Salt Lake City, UT. Address correspondence to: William Bernet, MD, The Psychiatric Hospital at Vanderbilt, 1601 Twenty-Third Avenue South, Suite 3050, Nashville, TN 37212. E-mail: william.bernet@vanderbilt.edu

Robert said Mr. B. kept on touching him, but Robert was too scared to do anything.

About a month later, Mr. B. invited Robert to come to his house to do some yard work. Mr. B. called Robert's mother and told her Robert wanted to spend the night at Mr. B.'s house. Once again, they slept in the same bed. When Robert was lying on his back, Mr. B. took Robert's pants off. While Robert pretended to be asleep, Mr. B. orally fellated him until Robert ejaculated. Mr. B. put Robert's hand on Mr. B.'s penis. In the middle of the night, Robert got up, put his clothes on, and left the house. He saw a house nearby with a light on and went there.

Following the abuse, Robert had a very difficult year. He required extensive psychiatric treatment including inpatient admission because of persistent suicidal ideation. He was placed in a residential treatment center and underwent extensive individual outpatient psychotherapy and treatment with psychotropic medication. The diagnoses were: major depressive disorder, severe and recurrent, with psychotic features; posttraumatic stress disorder; oppositional defiant disorder; and cannabis abuse.

Robert and his mother sued the school that employed Mr. B. They sought financial compensation for the psychological injury caused by the sexual abuse and for any future psychological problems and treatment related to the abuse. One of the authors (WB) was asked to conduct a forensic psychiatric evaluation on behalf of Robert and his mother, the plaintiffs in this lawsuit.

## Forensic Questions

Applying the terminology of EBP, this is an example of estimating the harm after exposure to a noxious or traumatic experience.<sup>2</sup> EBP principles suggest defining focused, answerable questions. In forensic practice, the lawyers frame their questions to address the specific legal requirements of their cases.

In this case, the plaintiffs' attorneys posed the following questions to be addressed through the forensic evaluation:

- Was Robert injured when he was sexually abused by Mr. B.?
- As a result of the sexual abuse, is Robert at increased risk of psychological problems later in life?
- What treatment does Robert need currently?
- What treatment will Robert need in the future?
- Can these questions be answered with a reasonable degree of medical certainty?

## Answering the Forensic Questions

### *Was Robert Injured When He Was Sexually Abused by Mr. B.?*

The forensic psychiatric evaluation revealed clearly that Robert had been injured by the sexual abuse experience. The evaluation, conducted in accordance with peer-reviewed practices published by the American Academy of Child and Adolescent Psychiatry<sup>3</sup> and the American Professional Society on the Abuse of Children,<sup>4</sup> took place when Robert was in high school. By the time of the forensic evaluation, Mr. B. had been arrested, convicted, and imprisoned. Despite extensive psychiatric treatment, Robert still had symptoms related to the sexual abuse by Mr. B. He was still moderately depressed, but not persistently suicidal. He was angry with Mr. B., school personnel, and his mother for allowing the abuse to occur. On the positive side, Robert had made friends at the new school he attended, was not using marijuana, and was achieving good academic performance. The diagnosis at the time of the forensic evaluation was major depressive disorder in partial remission. The Global Assessment of Functioning was 55.

In addition to sexual abuse, it is important to consider the child's other life experiences that may have long-lasting psychological effects. It would be a mistake to attribute all of one's problems to a history of sexual abuse. In Robert's case, there were several other significant psychosocial stressors: his parents divorced when he was an infant; during his childhood, Robert moved several times and lived with various family members; Robert thought his father was neglectful; and Robert's mother had emotional problems. However, these events were in the past, but the abuse by Mr. B. was fresh in Robert's mind. Robert's most prominent symptoms (the depression and anger) were directly related to the sexual abuse rather than to other events in his life. At the time of the forensic evaluation, Robert was consciously angry and upset about the sexual abuse and less concerned about the other experiences.

### *As a Result of the Sexual Abuse, Is Robert at Increased Risk of Psychological Problems Later in Life?*

Applying EBP principles to this situation, the focused question is: Does a male adolescent who sustained sexual abuse (consisting of sexual contact but not intercourse), compared with boys of similar age

## Child Sexual Abuse Damages

**Table 1** The OR for Specific Symptoms During Adulthood Following Child Sexual Abuse

Study	Study Characteristics	Symptom	Prevalence After CSA	Prevalence Without CSA	Odds Ratio (95% CI)
Fergusson <i>et al.</i> <sup>10</sup>	Case-control study with covariates noted prospectively. At age 18, interviewed regarding CSA and symptoms.	Depression	35.5%	17.1%	3.0 (1.4–6.1)
		Anxiety	32.0%	14.5%	3.0 (1.5–6.1)
		Alcohol abuse	39.2%	17.9%	3.2 (1.6–6.5)
Widom <sup>8</sup>	Cohort study with CSA and control group identified in childhood. Interviewed regarding symptoms 20 years later.	Lifetime PTSD	37.5%	20.4%	2.34 (1.5–3.7)
Dube <i>et al.</i> <sup>9</sup> (ACE Study)	Case-control study with CSA and other adverse childhood experiences identified retrospectively.	Lifetime suicide attempt	9.1%	2.4%	3.4 (2.9–4.0)

who were not sexually abused, have increased risk for significant psychological problems later in life?

There are two kinds of studies regarding the long-term effects of childhood sexual abuse: cohort studies and case-control studies. Cohort studies are prospective. In a cohort study, “the investigator identifies exposed and nonexposed groups, each a cohort, and then follows them forward in time, monitoring the occurrence of the predicted outcome” (Ref. 2, p 86). Case-control studies are retrospective. “Cases” are individuals who are known to have a particular condition (e.g., a history of childhood sexual abuse). “Controls” are individuals who are reasonably similar to the cases but do not have a history of childhood sexual abuse. In case-control studies, investigators “assess the relative frequency of exposure to the putative harmful agent in the cases and controls, adjusting for differences in the known and measured prognostic variables” (Ref. 2, p 88). The results of cohort and case-control studies may be presented in terms of odds ratios (ORs). The OR is “a ratio of the odds of an event in an exposed group to the odds of the same event in a group that is not exposed” (Ref. 5, p 681).

To help answer the forensic and EBP questions, we searched for articles with the following characteristics: sexually abused children were identified in childhood and observed prospectively; males and females were studied separately; the severity of the sexual abuse was noted; and the authors controlled for confounding factors, such as other forms of child maltreatment, family dysfunction, and socioeconomic status. Guyatt *et al.*<sup>6</sup> suggest that the most efficient approach to answering a foreground clinical question is to begin with a prefiltered source such as a recent critical review of the literature. Consistent

with this recommendation, we started with a “Ten-Year Research Update Review” regarding child sexual abuse in the *Journal of Child and Adolescent Psychiatry*, which stated, “Major depression and dysthymia have been strongly associated with CSA [child sexual abuse] in numerous studies” (Ref. 7, p 271).

In the “Ten-Year Research Update Review,” the most frequently cited authors regarding prognosis after CSA were David M. Fergusson, PhD (four articles), and Cathy Spatz Widom, PhD (three articles). Using PubMed, we identified additional articles by these individuals and selected the most pertinent. Also, one of the authors (DC) was familiar with the Adverse Childhood Experiences (ACE) Study. We reviewed the research generated by that study and selected an article that addressed the question we had posed. The question (whether Robert was at increased risk of psychological problems later in life) was answered by data from one cohort study by Widom<sup>8</sup> and two case-control studies by Dube *et al.*<sup>9</sup> and Fergusson *et al.*,<sup>10</sup> which are listed in Table 1.

Fergusson *et al.*<sup>10</sup> interviewed 1,019 subjects, both men and women, of 18 years of age in New Zealand. This study was helpful because subjects were classified into four categories of CSA: no CSA; non-contact CSA; contact, but non-intercourse CSA; and intercourse CSA. Also, although abuse history was taken retrospectively, confounding factors (such as gender, maternal age, changes of parents, parental attachment, and parental history of criminal offending) were identified prospectively. The authors said, “The findings suggest that CSA, and particularly severe CSA, was associated with increased risk of psy-

chiatric disorder in young adults, even when due allowance was made for prospectively measured confounding factors” (Ref. 10, p 1365). Part of the study by Fergusson *et al.*<sup>10</sup> pertains to Robert’s situation. When comparing the subjects who sustained contact, non-intercourse CSA with subjects who had no CSA, the former were more likely to have a history of depression, anxiety, and alcohol abuse at age 18. For example, the prevalence of adult depression after contact, non-intercourse CSA was 35.5 percent, whereas the prevalence of adult depression in subjects who had no history of CSA was 17.1 percent.

Widom<sup>8</sup> conducted an important prospective study of abused children. She concluded, “Victims of child abuse (sexual and physical) and neglect are at increased risk for developing PTSD, but childhood victimization is not a sufficient condition. Family, individual, and lifestyle variables also place individuals at risk and contribute to the symptoms of PTSD” (Ref. 8, p 1223). Widom identified children who experienced physical and/or sexual abuse from 1967 to 1971. The abused subjects were matched with a comparison group with regard to gender, age, ethnicity, and approximate family social class. Twenty years later, the abused and neglected subjects and the comparison group were located and interviewed. The abused and neglected subjects were more likely to have a lifetime history of PTSD, which was particularly true of the sexually abused subjects. For example, the prevalence of adult PTSD after CSA was 37.5 percent, while the prevalence of adult PTSD in subjects who had no history of CSA was 20.4 percent.

The Adverse Childhood Experiences (ACE) Study sought to determine the effects of various forms of child maltreatment and household dysfunction by collecting retrospective information from 17,337 adults in a large health maintenance organization (HMO). Using data from this study, Dube *et al.*<sup>9</sup> showed the relationship of specific adverse childhood experiences to the lifetime prevalence of suicide attempts and found 9.1 percent for individuals who experienced CSA and 2.4 percent for individuals who did not experience CSA.

Based on the research and the clinical evaluation of Robert, we concluded that Robert was more likely to have a variety of problems (depression, suicidality, anxiety, and substance abuse) than if he had not been sexually abused by Mr. B. The ORs in Table 1 range from 2.34 (95% CI, 1.5–3.7) to 3.4 (95% CI, 2.9–

4.0). If a judge and jury heard this information, they could reasonably conclude that Robert is approximately two to three times more likely to have problems with depression, suicidality, anxiety, and substance abuse as an adult because of the sexual abuse that he experienced as an adolescent.

It is important to note the limitations of this approach to answering forensic questions. For example, most of the subjects in the three cited studies<sup>8–10</sup> were young children when they were sexually abused, while Robert was an adolescent. Since there was not an exact fit between the circumstances of this case and the published research, it was necessary to base our conclusions on the available evidence, although imperfect, rather than on speculation and guesswork. In writing a report and testifying, the expert witness should report the limitations as well as the conclusions of his/her investigation. Our use of the phrase “approximately two to three times” is intended to convey the uncertainty of applying group research data to an individual, the statistical range within the 95% CIs, and the differences between the study populations and Robert.

#### **What Treatment Does Robert Need Currently?**

Robert experienced severe symptoms in the year after the abuse. At the time of the evaluation, he continued to experience moderate symptoms. The psychiatric diagnosis was major depressive disorder in partial remission. Most clinicians would say it was obvious that Robert had serious mental problems and he needed psychotherapy and perhaps psychiatric medication. In court, however, the attorneys and the jury may want evidence that Robert needed treatment after the sexual abuse he experienced, so this was another opportunity to apply EBP principles to a forensic question.

Applying EBP principles, the focused question is: Will a male adolescent who sustained sexual abuse (consisting of sexual contact but not intercourse) benefit from psychotherapy?

To answer the forensic and EBP questions, we would have preferred to find articles with the following characteristics: sexually abused adolescents identified prospectively; subjects randomly assigned to either treatment or no treatment; males and females studied separately; the severity of psychological symptoms recorded; and the outcome for the treated group compared with the control group that received no treatment or minimal treatment. From the outset,

we knew we would not find research that pertained exactly to Robert's situation. For example, Robert had already been treated for 1.5 years by the time the forensic evaluation occurred, whereas any research project would have enrolled subjects shortly after being abused and prior to receiving such extensive treatment. Also, most research regarding child sexual abuse compares two forms of treatment, rather than treatment versus no treatment at all. In this case, however, we wanted to show the attorneys and the jury the need for psychotherapy, rather than the benefit of one form of treatment over another.

We initially attempted to find appropriate studies by locating a review article on the treatment of sexually abused children by Finkelhor and Berliner.<sup>11</sup> These authors said,

The three experiments comparing treatment and no-treatment groups have all found significant effects of treatment. . . . It is unfortunate that two of these studies are unpublished dissertations, and the relatively small-scale designs of all three, and in one case the unconventional approach, detract from their scientific weight [Ref. 11, p 1414, citations omitted].

Since the studies mentioned in Finkelhor and Berliner<sup>11</sup> did not look promising, we searched PubMed for "sexual abuse AND controlled trials." The search produced 15 citations. One, "A Multisite, Randomized Controlled Trial for Children with Sexual Abuse-Related PTSD Symptoms" by Cohen *et al.*,<sup>12</sup> related to the question we had posed. However, they compared two forms of treatment rather than treatment versus no treatment. Fortunately, though, they described two earlier studies in which treated sexually abused children were compared with subjects who were simply on a waiting list (King *et al.*<sup>13</sup>) or subjects who had minimal treatment (Cohen and Mannarino<sup>14</sup>).

King *et al.*<sup>13</sup> said:

This is the first published randomized clinical trial to use a WLC [waiting-list control] condition in examining the efficacy of CBT [cognitive-behavioral treatment] for sexually abused children with PTSD symptoms. Compared with WLC subjects, posttreatment and follow-up assessment results indicate that treatment was definitely beneficial for sexually abused children [Ref. 13, pp 1352–3].

Cohen and Mannarino<sup>14</sup> said:

This study attempted to evaluate the relative efficacy over time of two different treatment modalities for decreasing symptomatology in sexually abused preschool children. . . . This is compelling evidence that the CBT-SAP [Cognitive-Behavioral Therapy for Sexually Abused Preschoolers] intervention was superior to NST [nondirective supportive therapy] in produc-

ing lasting symptomatic improvement over this time period [Ref. 14, p 1233].

Although this study involved young children rather than adolescents, it shows that treatment of abused children is better than nonspecific support.

Based on the research and the clinical evaluation of Robert, we concluded that Robert was better off having treatment than if he had not been treated. Also, we concluded that at the time of the evaluation he would need another 1 or 2 years of intensive individual and family psychotherapy. The latter conclusion was not based on research, but on the clinical needs of this particular youngster and family.

### **What Treatment Will Robert Need in the Future?**

It is hard to predict Robert's future therapy needs. Such a prediction cannot be made with precision, because there is a wide range of long-term outcomes of CSA. Some individuals who were sexually abused as children have no abuse-related symptoms or problems at all as adults; other individuals have very serious symptoms. Some of the adverse consequences of CSA occur years after the abuse has ended, because subsequent major transitions (for example, marriage, parenthood) and stressors in life (for example, losses, illness, divorce) can rekindle previous problems or precipitate new difficulties that are related to the childhood sexual trauma.

Because the range of long-term consequences of CSA is so great—everything from zero symptoms to very serious symptoms—answering the question regarding future psychotherapy requires consideration of the specifics of a particular child's victimization, reaction to that victimization, and other factors such as parental support, the child's strengths, and other lifetime adversities. Robert's psychiatric difficulties during the year following the sexual abuse placed him in the more severely affected end of this continuum. On clinical grounds, considering the possible developmental issues and stressors that may trigger the need for treatment, we estimated that Robert will need up to three courses of psychiatric treatment in the future. In testifying in court, we would explain that an average course of psychiatric treatment consists of about 50 therapy sessions and psychotropic medication. Again, this opinion is based on clinical experience in light of the research findings on the long-term impact of child sexual abuse.

### **Can These Questions Be Answered With a Reasonable Degree of Medical Certainty?**

The first forensic question (Was Robert injured when he was sexually abused by Mr. B.?) was answered with a reasonable degree of medical certainty. The various clinicians who evaluated and treated Robert during the year following the abuse consistently attributed his symptoms (painful memories, depression, suicidality, anger, rebelliousness toward school activities, and substance use) to the abuse experiences.

The second forensic question (As a result of the sexual abuse, is Robert at increased risk of psychological problems later in life?) was answered with a reasonable degree of medical certainty. The research on the long-term effects of CSA<sup>8,9,10</sup> indicates that Robert's risk for significant mental disorder as an adult is approximately two to three times what it would have been if he had not been sexually abused. Although this is the best estimate of risk based on currently available research, there is no way to know precisely the risk for Robert or any other specific individual.

Since that is a very rough estimate, can that conclusion be stated with a reasonable degree of medical certainty? The definition of this concept depends on local laws and legal precedents, but in most states "reasonable degree of medical certainty" means "more likely than not." We are comfortable stating with a reasonable degree of medical certainty that Robert's risk for significant mental disorder is approximately two or three times what it would have been without the CSA, but we would want the audience (the attorneys, the judge, the jury) to hear the word "approximately." We are not saying it is more likely than not that Robert will have a significant mental disorder as an adult. We are saying it is more likely than not that Robert's risk is two or three times what it would have been otherwise.

The third forensic question (What treatment does Robert need currently?) was answered with a reasonable degree of medical certainty. The research on the treatment of CSA<sup>13,14</sup> indicates that Robert would be better off if his condition were treated than if it were not.

The fourth forensic question (What treatment will Robert need in the future?) was answered, but not with a reasonable degree of medical certainty. The answer—that Robert will need up to three courses of psychiatric treatment—was based on clinical experience, general expertise, and research on the long-

term impact of childhood sexual abuse. It is a recommendation designed to mitigate the known harms of the sexual abuse. However, there are no long-term treatment studies of adults sexually abused during childhood that provide evidence supporting one specific lifetime treatment plan over another.

### **Conclusion**

The principles of EBP are useful in a forensic child psychiatric case like Robert's in providing guidelines for reviewing research findings on the long-term effects of child sexual abuse. Professional ethics advise and courts require that expert opinion and testimony be based on scientific knowledge, as well as professional experience and the consensus of practitioners. This knowledge is integrated with the findings of a careful evaluation of the child or adolescent that determines the nature of the sexual abuse, previous development, stressors, and other factors such as parental support that are relevant to the young person's reactions to the abuse. This information and the opinions based on it are then conveyed to the court in an objective and neutral manner. Research findings cannot answer all the questions asked of child psychiatrists performing forensic evaluations. However, EBP principles may provide a means of grading the research evidence useful to experts on both sides of a legal dispute.

### **Acknowledgments**

The authors thank John Hamilton, MD, for prompting the writing of this article and for many helpful suggestions.

### **References**

1. Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993)
2. Levine M, Haslam D, Walter S, *et al*: Harm, in Users' Guide to the Medical Literature: A Manual for Evidence-Based Clinical Practice. Edited by Guyatt GH, Rennie D. Chicago: AMA Press, 2002, pp 81–100
3. American Academy of Child and Adolescent Psychiatry: Practice parameters for the forensic evaluation of children and adolescents who may have been physically or sexually abused. *J Am Acad Child Adolesc Psychiatry* 36:423–42, 1997
4. American Professional Society on the Abuse of Children: Guidelines for psychosocial evaluation of suspected sexual abuse in young children. Chicago: APSAC, 1995 (available from APSAC, 407 South Dearborn Avenue, Suite 1300, Chicago, IL 60605)
5. Guyatt G, Rennie D (editors): Glossary, in Users' Guide to the Medical Literature: A Manual for Evidence-Based Clinical Practice. Chicago: AMA Press, 2002, p 681
6. Guyatt G, Haynes B, Jaeschke R, *et al*: Introduction: the philosophy of evidence-based medicine, in Users' Guide to the Medical

## Child Sexual Abuse Damages

- Literature: A Manual for Evidence-Based Clinical Practice. Edited by Guyatt GH, Rennie D. Chicago: AMA Press, 2002, pp 3–53
- Putnam FW: Ten-year research update review: child sexual abuse. *J Am Acad Child Adolesc Psychiatry* 42:269–78, 2003
  - Widom CS: Posttraumatic stress disorder in abused and neglected children grown up. *Am J Psychiatry* 156:1223–9, 1999
  - Dube SR, Anda RF, Felitti VJ, *et al*: Childhood abuse, household dysfunction, and the risk of attempted suicide throughout the life span: findings from the adverse childhood experiences study. *JAMA* 286:3089–96, 2001
  - Fergusson DM, Horwood LJ, Lynskey MT: Childhood sexual abuse and psychiatric disorder in young adulthood: II. Psychiatric outcomes of childhood sexual abuse. *J Am Acad Child Adolesc Psychiatry* 35:1365–74, 1996
  - Finkelhor D, Berliner L: Research on the treatment of sexually abused children: a review and recommendations. *J Am Acad Child Adolesc Psychiatry* 34:1408–23, 1995
  - Cohen JA, Deblinger E, Mannarino AP, *et al*: A multisite, randomized controlled trial for children with sexual abuse-related PTSD symptoms. *J Am Acad Child Adolesc Psychiatry* 43:393–402, 2004
  - King NJ, Tonge BJ, Mullen P, *et al*: Treating sexually abused children with posttraumatic stress symptoms: a randomized clinical trial. *J Am Acad Child Adolesc Psychiatry* 39:1347–55, 2000
  - Cohen JA, Mannarino AP: A treatment study for sexually abused preschool children: outcome during a one-year follow-up. *J Am Acad Child Adolesc Psychiatry* 36:1228–35, 1997