PERSPECTIVES

The Long-term Health Outcomes of Childhood Abuse

An Overview and a Call to Action

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While the association between abuse in childhood and adverse adult health outcomes is well established, this link is infrequently acknowledged in the general medical literature. This paper has 2 purposes: (1) to provide a broad overview of the research on the long-term effects of child abuse on mental and physical health including some of the potential pathways, and (2) to call for collaborative action among clinicians, psychosocial and biomedical researchers, social service agencies, criminal justice systems, insurance companies, and public policy makers to take a comprehensive approach to both preventing and dealing with the sequelae of childhood abuse.

KEY WORDS: **anxiety; depression; hostility; medical diagnoses; childhood abuse; somatic symptoms.**
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BACKGROUND

The association between childhood abuse and adverse adult health outcomes is well established.[1–21] Unfortunately, despite volumes of research documenting this link, it is infrequently acknowledged in the general medical literature. The need for more visible research that will reach physicians who provide the bulk of front line health care is underscored by failure to give even passing mention to the well-documented link between adult depression and childhood abuse in a recent review on depression in the *New England Journal of Medicine*.[22,23] The otherwise comprehensive national guidelines on Depression in Primary Care[24] issued in 1993 also make no mention of the importance of childhood abuse as a risk factor. Similar omissions occur in recent reviews of fibromyalgia,[25] anorexia nervosa,[26] and functional somatic syndromes[27,28] in prestigious, high-impact medical journals. Irritable bowel is the single exception, where through the work of Drossman and Leserman,[7,29] the association of this disorder with a history of childhood or adult sexual and physical abuse in women is now consistently mentioned in reviews of functional bowel disorders. If physicians caring for adults who suffer from a condition associated with abuse in childhood are unaware of this link, they will neither elicit an abuse history nor make appropriate patient referrals. This is especially troubling because conditions associated with childhood abuse are burdensome to both the patient and the health care system,[30–32] relatively simple interventions may prove effective in alleviating much distress,[33–37] only 2% to 5% of patients with a history of childhood sexual abuse will themselves report it to a physician,[15,18] and managed care typically places the primary care physician as the gatekeeper controlling patient access to specialized services. Furthermore, while most patients say they want their physicians to screen for a history of abuse, most physicians admit that they do not do so.[38]

We present this overview of the current research linking childhood abuse to adult physical and mental health in an effort to educate internists, who likely see many patients with an abuse history. Published manuscripts reviewed for this paper were obtained from MEDLINE, Sociological Abstracts, and Psychological Abstracts using singly, or in combination, search terms such as *child abuse*, *violence*, *maltreatment*, *physical abuse*, *sexual abuse*, *fibromyalgia*, *irritable bowel*, *chronic pain*, *depression*, *eating disorders*, *somatic symptoms*, *posttraumatic stress disorder*, and *health outcomes*. References were also retrieved from the bibliographies of these manuscripts.

Childhood abuse has been associated with a plethora of psychological and somatic symptoms,[17–19] as well as psychiatric and medical diagnoses including depression,[1,14,39] anxiety disorders,[13,39] eating disorders,[13] posttraumatic stress disorder (PTSD),[39–41] chronic pain syndromes,[20,40,42,43] fibromyalgia,[19,44,45] chronic fatigue syndrome,[44] and irritable bowel.[7,16,42] Compared with nonabused adults, those who experienced childhood abuse are more likely to engage in high-risk health behaviors including smoking,[2,18] alcohol and drug use,[9,13,18] and unsafe sex;[9,18] to report an overall lower health status;[9,16,46] and to use more health services.[31] Viewing these various health conditions and behaviors as

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Table 1. Epidemiological Guidelines Met for a Causal Relationship Between Abuse in Childhood and Adverse Adult Health Outcomes

Major criteria
Temporal relationship: Abuse precedes symptoms or behaviors.
Biological plausibility: Credible biological pathways have been hypothesized based on clinical observations, and knowledge of stress-responsive neuroendocrine and immune systems.
Consistency: The overwhelming majority of studies find that childhood abuse predicts at least 1 adverse health outcome; many studies that do not find an association have methodological flaws including a high prevalence of abuse in the control group.
Alternative explanations (confounding)
Many studies have controlled for major potential confounders (e.g., education, socioeconomic status, current depression) and the effect of past abuse often remains.
Other considerations
Dose–response relationship: In all studies where this has been examined, the greater the amount and severity of abuse the more likely the outcome.
Strength of the association: Depending on the level and nature of abuse, those with the target outcome are often twice as likely and for some outcomes >10 times more likely to have been exposed.
Cessation of exposure: This applies only to exposures with beneficial effects.

the outcome and abuse in childhood as the exposure, many of the criteria for a causal relationship are met[47] (Table 1).

Childhood abuse is common. Nonclinical samples of adults in the United States and internationally show self-reported childhood physical abuse prevalence rates of 10% to 31% in men and 6% to 40% in women,[46,48] and childhood sexual abuse of 3% to 29% in men[8,48,49] and 7% to 36% in women.[8,39,48,49] In primary care settings, physical or sexual abuse in childhood is reported by approximately 20% to 50% of adults,[9,18,30,42] and among patients with depression, irritable bowel, chronic pain, or substance abuse, prevalence of reported childhood physical or sexual abuse runs as high as 70%.[7,19,45,50,51] Finkelhor notes that in surveys conducted in 19 countries, including 10 national probability samples, rates of childhood sexual abuse are comparable.[49] Differences in the definition of abuse and the age cutoff for childhood account for much of the variation between studies.

Cahill et al.[52] define child abuse as "nonaccidental serious physical injury, sexual exploitation or misuse, neglect or serious mental injury of a child . . . as a result of acts of commission or omission by a parent, guardian, or caretaker." The vast majority of research in both clinical and population-based studies of adult survivors has focused on childhood sexual abuse in women. When both genders are included, studies have usually found that both men and women suffer similar adverse mental and physical adult health outcomes (e.g., Nelson et al.,[53] Kessler et al.,[54] Jumper[55]), although some studies have found gender differences (e.g., MacMillan et al.[56]).

Emotional or psychological abuse[9,11,19,57] and physical and emotional neglect[19,21] in children have also been examined for prevalence and selected sequelae, primarily psychological and early onset or recurrent depression.[14] It is apparent that multiple types of abuse may occur within the same families.[9] While the specific behaviors categorized as "abuse" often exist in the context of the more global concept of an "abusive family environment,"[2,9,14] specific aggressive behaviors directed at a child are generally what is measured in research on childhood abuse. Use of physical force, coercion, repeated abuse, multiple types of abuse, and abuse by a close family member are associated with worse health outcomes across studies.[13,16,45,50,58,59]

CHILDHOOD ABUSE AND ADULT PHYSICAL HEALTH

A variety of somatic symptoms are consistently found to be higher in adults with a history of physical or sexual abuse compared with those without an abuse history. A few examples include McCauley et al.,[17] who found the following symptoms significantly related to a history of childhood physical or sexual abuse in women in primary care practices: nightmares, back pain, frequent or severe headaches, pain in the pelvic, genital, or private area, eating binges or self-induced vomiting, frequent tiredness, problems sleeping, abdominal or stomach pain, vaginal discharge, breast pain, choking sensation, loss of appetite, problems urinating, diarrhea, constipation, chest pain, face pain, frequent or serious bruises, and shortness of breath. Springs et al.[18] found women in a primary care clinic with a history of childhood sexual abuse scored significantly higher on a somatization scale than those without abuse and women who had more severe abuse or multiple abusers scored the highest. Ernst et al.,[8] in a longitudinal study of Swiss adults, found scores on the Symptom Checklist SCL-90R to be higher among those with a history of childhood abuse. Sometimes the constellation of somatic symptoms experienced are bundled into specific diagnoses such as fibromyalgia,[19,44,45] chronic fatigue syndrome,[44] or irritable bowel syndrome,[7] while others are framed as "medically unexplained somatic symptoms."[27,28] The specific diagnosis is often a function of the medical subspecialist to whom a patient first presents, and these diagnoses all are associated with psychiatric comorbidities. Current interpersonal violence is also associated with physical symptoms and psychological distress.[60,61] While our review focuses on abuse in childhood, it is relevant that those who suffered neglect or maltreatment in childhood are more likely to become victims of abuse as adults,[62] and that research on the relationship between childhood abuse and adult health needs to control for adult abuse.

How specific types of abuse alone or in conjunction with other variables may lead to any of these conditions is unknown, although measurable abnormalities in major physiological regulatory systems (hypothalamic-pituitary-adrenocortical axis and autonomic nervous system) have been found in some adults with a history of abuse.[40,63]

CHILDHOOD ABUSE AND MENTAL HEALTH

Childhood abuse is positively related to adult depression, aggression, hostility, anger, fear, anxiety disorders, and personality disorders.[64,65] At least 3 meta-analyses on the effects of childhood sexual abuse[55,66,67] find clear and convincing evidence of a link between such abuse and a host of adult psychological symptoms. Kessler and Magee[14] found childhood abuse to have consistent significant effects on early onset and recurrent depression and that violence from siblings or multiple family members (e.g., both parents) was most strongly associated with recurrent depression. Retrospective studies also show that childhood abuse has consistent effects on first onset of early adult psychopathology.[54] For example, performing structured interviews in a random community sample of 391 women, Saunders et al.[39] found that 46% of those with a history of childhood sexual abuse, compared with 28% of those with no abuse, had experienced a major depressive episode. Women with such abuse also had significantly greater lifetime prevalences of agoraphobia, obsessive-compulsive disorder, social phobia, sexual disorders, PTSD, and suicide attempts than women without such abuse. MacMillan et al.,[56] in a community survey of 7016 men and women, examined lifetime psychopathology risk in adults who experienced either sexual or physical abuse as children and found anxiety disorders and depressive disorders to be significantly higher in both men and women with a history of either physical or sexual abuse. After adjusting for measures of family function, in addition to significantly higher rates of major depression and anxiety, Kendler et al.[13] found an odds ratio for bulimia nervosa of 5.62 (95% CI, 2.02 to 15.68) in female adults reporting unwanted attempted or completed intercourse before age 16 compared with those without abuse.

CHILDHOOD ABUSE AND FUNCTIONAL STATUS

Somatic symptoms and depression, both of which have a negative impact on physical functioning, are clearly associated with an abuse history. Golding,[68] in a community sample of women of all ages, demonstrated that physical symptoms associated with childhood or adult sexual assault predicted impairments in physical functioning, nearly doubling the odds of being confined to bed or restricted in normal activities. Leserman et al.[16] also found more bed days and greater functional impairment in women with bowel syndromes who had been sexually abused as a child or adult. Functional impairment is also a prominent feature of a number of the somatic pain syndromes associated with a history of abuse in childhood.

Relative to men, women face greater functional impairment as they age despite the paradox of a longer lifespan.[69] Although sexual abuse is twice as common in women as men and childhood or adult abuse appears to be a predictor of functional impairment in women,[16,68] neither the contribution of early life sexual abuse to the differential functional impairment between older men and women nor the impact of any type of childhood abuse on functional status of men or women as they age has been explored.

PATHWAYS LINKING CHILDHOOD ABUSE AND HEALTH OUTCOMES

Although the association between childhood abuse and adverse psychological, behavioral, and health outcomes in adult survivors is well documented, abuse research is just beginning to disentangle the pathways, correlates, and differential impacts of different types of abuse.[70] Kendall-Tackett[71] details four possible pathways (emotional, behavioral, social, and cognitive) through which childhood abuse affects adult health. The emotional pathway focuses on mental health outcomes, a topic covered in depth in previous sections.

The behavioral pathway includes a myriad of health-related behaviors such as substance abuse, obesity, suicide, high-risk sexual behavior, and smoking.[2,9,13,18,71] To cite only a few specific examples, the Adverse Childhood Experiences study of enrollees in Kaiser Permanente found adults with a history of verbal, physical, or sexual abuse in childhood were more likely than those without to report current and early-age smoking,[2] severe obesity, physical inactivity, alcohol or illicit drug use, and sex with >50 partners.[9] Springs and Friedrich[18] found that abuse status was associated with age of smoking onset and heavy smoking, urges to consume alcohol, number of sexual partners, and the likelihood of regular Pap smears in women in a rural family practice clinic. Kendler et al.[13] found a dose–response relationship for severity of childhood sexual abuse and lifetime substance abuse disorders in the Virginia Twin Registry and in discordant pairs, with the twin reporting the abuse having the comorbidity.

Social pathways linking childhood abuse and health include the ability to form and maintain social relationships.[71] Childhood sexual abuse survivors tend to have difficulties in interpersonal relationships, especially intimate relationships.[72] These relationships are important because the quality of social ties has been linked with physical and mental health outcomes in general adult populations.[73,74] Childhood sexual abuse survivors are also at an increased risk for revictimization.[62] Cognitive pathways include beliefs and attitudes, such as health perceptions. For example, childhood abuse is negatively associated with perceived general health.[9,15,75]

The association between childhood abuse and educational achievement is another potential pathway, especially given the strong evidence of a socioeconomic differential in morbidity and mortality.[76–79] There is a substantial body

of literature linking childhood abuse with poor educational outcomes.[52,80–86] For example, Solomon and Serres[83] found that verbal abuse contributed to lowering language test scores for 10 year olds, and Kinard[82] found that abused children had lower grades, lower attendance, and more placements in special education programs. In addition, Eckenrode et al.[85] found that maltreated children had lower test scores and grades in reading and math, with neglected children scoring lower than physically or sexually abused children. Perez and Widom[86] found that the academic and intellectual outcomes of childhood abuse persist into adulthood.

EARLY FAMILY ENVIRONMENT AND ABUSE

Finally, it is important to acknowledge that childhood abuse often occurs in the context of other adverse family environment factors, many of which are also linked to health. For example, children growing up in poverty tend to have earlier parenthood, lower cognitive ability, lower grades in school, less education, and poor physical health.[87] Additionally, family violence usually coexists with other adverse experiences, such as poverty, parental marital problems, parental substance abuse, and poor family function.[88,89] Living with only 1 natural parent may be a risk factor for sexual abuse in boys and girls.[90] Children are also affected by witnessing domestic violence.[91] Childhood abuse occurs in families at all socioeconomic levels, though childhood abuse sometimes interacts with early family environment factors. For example, some research indicates that abused children from lower socioeconomic backgrounds are more likely to suffer from depression.[14]

SCREENING AND INTERVENTION

There is general consensus that a history of abuse in childhood is more likely to be uncovered if questions are specific regarding past experiences, avoiding the term "abuse," and that multiple questions increase the yield.[70] Despite this, McCauley et al.[17] detected a history of child physical or sexual abuse in 22% of women in general medical clinics with 2 questions: "Were you ever physically abused before age 18?" and "Were you ever sexually abused before age 18?" Stein and Barrett-Connor[92] were also able to uncover a history of sexual assault in 5% of men and 13% of women in a community cohort of older adults with a single question: "In your lifetime, has anyone ever tried to pressure or force you to have unwanted sexual contact?" The potential for harm by asking such questions of those who have a history of childhood or adult abuse but are currently without symptoms has not been systematically examined, although in 2 studies women with a history of childhood or adult abuse reported that they would like their physicians to inquire about abuse.[38,93]

In those with symptoms or syndromes known to be associated with past abuse, more than a single screening question may be necessary. For example, in a patient with irritable bowel syndrome or chronic somatic symptoms in the absence of identifiable physical pathology, the physician might say something like: "We often see these kinds of symptoms in people who have suffered some severe trauma. This trauma could be something like a major car accident, serving in military combat, having your life threatened in some way, being raped, being physically harmed as a child, or being touched in a sexual way as a child. Could any of these things have happened to you?" If this does not yield a positive response, some additional probing may help. For example, asking when the symptoms began and whether any specific traumatic event occurred around that time.

The rigorous standards used to evaluate health screening measures have not been applied to screening for past or current abuse[94] and large clinical intervention trials are lacking. Positive results have been reported with both group and individual psychotherapy in women survivors of childhood sexual abuse.[37,95] Controlled trials in women with posttraumatic stress disorder associated with childhood or adult sexual abuse indicate that cognitive behavioral therapy can reduce patient suffering.[36,37,95,96] Foa et al. found several types of cognitive behavioral interventions significantly decreased symptoms compared with no treatment in women with posttraumatic stress disorder, half of whom had experienced childhood sexual or physical abuse.[36] In this study, exposure therapy (systematic exposure to the traumatic memory in a safe environment) was more effective than supportive counseling. Krakow et al.[96] found in a randomized, controlled trial that imagery rehearsal, another type of cognitive behavioral therapy, reduced chronic nightmares and improved sleep compared with a wait-listed control group in women with posttraumatic stress disorder related to sexual abuse in childhood. Many of these women had been symptomatic for over a decade. Cognitive behavioral therapy is usually used in conjunction with pharmacotherapy such as selective serotonin reuptake inhibitors.[97] While not specific to adult survivors of child abuse, in a review of controlled trials of cognitive behavior therapy, Kroenke and Swindle[35] noted that significant, measurable, and often sustained improvement occurred with this form of treatment in patients with syndromes associated with childhood abuse including chronic fatigue, irritable bowel syndrome, and patients with multiple somatic symptoms. Of interest, Smyth et al.[33] found that simply writing about their most stressful life experience for 20 minutes on 3 consecutive days could reduce symptoms and produce measurable improvements in disease activity in patients with chronic asthma or rheumatoid arthritis compared with a control group writing about neutral events. Such an intervention deserves further exploration as a useful adjunctive intervention for symptomatic survivors of childhood abuse.

CALL TO ACTION

From our review of research on the long-term health consequences of childhood abuse, we recommend the following:

1. Primary and subspecialty physicians need to recognize that childhood abuse predisposes adults to a number of chronic mental and physical health problems many years after the abuse. Certain somatic syndromes or clusters of somatic symptoms should cause immediate suspicion among clinicians about such a history and lead to inquiry about such past abuse in specific but sensitive ways. Follow-up counseling and appropriate referral should be offered because the benefit of cognitive behavioral interventions in conjunction with pharmacotherapy has been shown in at least 1 randomized, controlled trial to reduce chronic symptoms associated with childhood abuse, at least in women. Health benefit packages or insurance companies that do not cover psychotherapy may impede or prevent the delivery of effective care.
2. Published clinical reviews of conditions such as depression, anxiety, fibromyalgia, chronic fatigue syndrome, irritable bowel, chronic pain, and syndromes characterized by multiple somatic symptoms often in association with psychological distress need to mention the possibility of an association with childhood abuse. A history of childhood abuse and maltreatment should also be included as a variable in future clinical research on these conditions.
3. Patients exhibiting high-risk health behaviors including tobacco, alcohol, and substance abuse should be specifically asked about childhood abuse.
4. Evidence-based practice guidelines for evaluation and management of patients with long-term sequelae of childhood abuse are urgently needed.
5. More research is needed to understand the pathways linking childhood abuse and adult mental and physical health, to assess the impact of past abuse on adults as they age, and to explore further treatment strategies.
6. There is clearly a need for collaboration among psychosocial and biomedical researchers, clinicians, social service agencies, criminal justice systems, insurance companies, and public policy makers to take a comprehensive approach to both preventing and dealing with the sequelae of childhood abuse. The conditions associated with childhood abuse cause disability in individual patients and consume a tremendous amount of health professionals' time and health care resources for decades following the abuse. We must acknowledge abuse of children not only as a social issue but as a health and health care issue.

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