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Sexual Abuse History: Prevalence, Health Effects, Mediators, and Psychological Treatment

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Objective: Lifetime history of sexual abuse is estimated to range between 15% and 25% in the general female population. People who are sexually abused are at greater risk for a whole host of physical health disorders that may occur many years after the abusive incident(s). Despite the high prevalence of this trauma and its association with poor health status, abuse history often remains hidden within the context of medical care. The aims of this review are to determine which specific health disorders have been associated with sexual abuse in both women and men, to outline the types of sexual abuse associated with the worst health outcome, to discuss some possible explanations and mediators of the abuse/health relationship, to discuss when and how to talk about abuse within a clinical setting, and to present evidence for which psychological treatments have been shown to improve the mental health of patients with past sexual abuse. **Method:** To meet these objectives, we have reviewed a wide literature on the topic of sexual abuse. **Results:** We demonstrate that abuse appears to be related to greater likelihood of headache and gastrointestinal, gynecologic, and panic-related symptoms; that the poor health effects associated with abuse are also seen in men; that abuse involving penetration and multiple incidents appears to be the most harmful, and that exposure-type therapies with and without cognitive behavioral therapy hold promise for those with abuse history. **Conclusion:** We need more research examining psychological treatments that might be efficacious in treating the physical health problems associated with sexual abuse history. **Key words:** sexual abuse, trauma, PTSD, review.

EMDR = eye movement desensitization and reprocessing; **HMO** = health maintenance organization; **HPA** = hypothalamic-pituitary-adrenocortical; **PTSD** = posttraumatic stress disorder.

INTRODUCTION

It is well documented that sexual abuse history is a common experience and that it is associated with a greatly increased risk of developing a psychiatric disorder, attempting suicide, and abusing drugs or alcohol (1-7). It is less obvious that sexual abuse history is also associated with poor physical health status and that these medical sequelae are often present many years after the initial trauma (1,8-10). The purpose of this paper is to review what is known about the physical health effects of sexual abuse so that clinicians can use this information in their medical or psychological/psychiatric practices. Specifically, this review will examine (1) research definition and prevalence of sexual abuse, (2) the specific health disorders associated with this trauma in both women and men, (3) the types of sexual abuse associated with the worst health outcome, (4) some possible explanations and mediators of the abuse/health relationship, (5) when and how to take an abuse history within a clinical setting, and (6) the extent to which psychological treatments have been shown to be efficacious in treating the broader problems associated with experiencing trauma. Although there is a plethora of evidence supporting a relationship of abuse history with psychiatric disorders (e.g., depression, posttraumatic stress disorder (PTSD), eating disorders, drug and alcohol dependence), this review will focus primarily on the physical health correlates of this trauma.

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Definition and Prevalence of Sexual Abuse

Estimates of the prevalence of sexual abuse in the population differ widely due in part to the use of varying definitions (e.g., childhood versus lifetime, unwanted versus forced) and methodology (e.g., question number and behavioral specificity) to measure abuse. There is no gold standard for measuring sexual abuse history because many experiences may be difficult to categorize. For example, attempt experiences, unwanted exposure to another's sexual organs, and unwanted, but not necessarily forced, sexual activity with a spouse fall into the more gray areas of sexual abuse. Despite this difficulty, researchers and clinicians are beginning to come to a consensus about what types of behaviors to include.

There are several criteria we must consider in defining sexual abuse, including (1) type of sexual encounter (e.g., noncontact, attempts, touch, and penetration), and (2) degree of coercion (e.g., unwanted versus forced sexual experiences). Most definitions of abuse focus on contact-type experiences (e.g., forced touching, penetration) and exclude noncontact type of encounters (e.g., exposure to exhibitionists, attempt experiences). Although some researchers use "unwanted" sexual experiences in their definitions of abuse (11,12), most use the more stringent requirement of sexual acts that result from use of force or threatening harm (13-17). The exception to the requirement of "force" or "threat of harm" is the sexual abuse of children where "force" is implied by the age differential between the perpetrator and victim. Typically, sexual abuse in childhood (under the age of 13) is defined as unwanted sexual experiences where the perpetrator is 5 years older than the victim. The Appendix shows the exact wording of interview items that can be used to assess child and adult sexual abuse within the context of research using definitional guidelines outlined above. Later, we will discuss when and how to ask patients about sexual abuse within a clinical context.

Despite the problems in measuring sexual abuse, most studies indicate that sexual abuse is occurring in epidemic proportions. Based on large population-based surveys using questions similar to those in the Appendix, most prevalence

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estimates of lifetime sexual abuse range between 15% and 25% in the general female population (3,8,16–23). Estimates of sexual abuse are even higher when surveying female patients with unexplained or functional pain (e.g., irritable bowel syndrome [IBS], pelvic pain of unknown origin), psychiatric illness, and substance abuse (5,24–27).

Population-based surveys consistently show higher rates of sexual abuse among women compared with men (3,18,20, 21,23,28). No consistent differences on sexual abuse prevalence have been found between blacks and whites (1,8,16, 18,21,22), although 2 surveys showed higher rates among Native Americans (18,23). Two population-based studies showed no differences in education between abused and non-abused (21,22), whereas 3 large probability surveys showed that sexually abused had more education (1,16,28), and 1 showed they had less education (8).

What Is the Clinical Relevance of Abuse History?

In the past decade, there has been an explosion of studies showing that persons who have been sexually abused are at greater risk for a whole host of physical health disorders that may be present many years after the abusive incident(s). To ensure that the author's years of collecting literature on this topic was exhaustive, PubMed was searched for all articles published since 1995 that included the key words *sexual abuse* and *health* or *sexual abuse* and *epidemiology*. Because the most valid and generalizable evidence for the long-term health effects of abuse comes from large probability samples of the general population or from consecutive or random sampling of primary care or health maintenance organization (HMO) members, this review will focus on these studies. Smaller studies of clinical samples will be cited only when more representative studies are lacking.

In a random survey of 1225 women HMO patients during the late 1990s, Walker and colleagues (8,29) found that childhood sexual abuse was associated with worse functional disability, more physical symptoms, more physician-coded medical diagnoses, nearly twice the emergency room visits, and \$245 greater median annual health care costs. A similar random sample of women from a large primary care clinic found about twice the physical symptom reporting, more primary care visits, on average \$150 greater charges for primary care, and twice the number of major lifetime surgeries for those with childhood sexual abuse history compared with those without this trauma (9). Data from a large random sample of several communities (Epidemiological Catchment Area Study) have also shown worse physical functioning (10,30), more physical symptoms (30), and poorer subject health status (31) among those reporting sexual abuse history. A nationwide probability sample showed that men and women who were sexually abused in childhood had a greater likelihood of reporting a serious medical condition in the past year (32). In a probability survey of North Carolina, forced or threatened sexual intercourse was associated with twice the risk of perceiving one's health as fair or poor and more

behavioral health-risk factors (e.g., smoking, hypertension, high cholesterol, and obesity) (16). McCauley et al. (1), studying 4 community-based primary care practices, found that those with sexual abuse occurring only in childhood, sexual abuse occurring only in adulthood, and both childhood and adult abuse had greater number of reported physical symptoms compared with the never abused. McCauley indicates that patients who had been sexually abused only in childhood had intensities of physical symptoms and psychological problems that were as severe as patients who had recently experienced abuse. It would appear that sexual abuse has long-term health effects, although the timeline of when these effects begin to manifest cannot be determined from these epidemiological studies.

Because not all physical symptoms are more highly represented in those with abuse history, we will summarize the physical symptom clusters most commonly associated with abuse history.

Abdominal Pain and Gastrointestinal Disorders

In studies of primary care practices, selected communities, HMOs, and clinic samples, sexual abuse has been shown to be consistently related to greater reporting of abdominal pain and a host of gastrointestinal symptoms (1,8,9,24,30,33,34). Generally, studies have shown that those with sexual abuse history have about twice the risk of reporting gastrointestinal complaints. In a study of several primary care practices, McCauley et al. (1) found that among women who were abused in childhood, 46% reported abdominal pain, 36% had diarrhea, and 39% had constipation in the past 6 months compared with 28%, 24% and 26% of the nonabused, respectively. In a random sample of women HMO members, those with sexual maltreatment reported more nausea (8%) and abdominal pain (22%) compared with those with no maltreatment (4% and 14%, respectively); diarrhea and constipation did not differ between groups (8). In a random survey of Los Angeles women, the sexually assaulted had about twice the risk of reporting gastrointestinal symptoms (41%) such as vomiting, nausea, abdominal pain, diarrhea, and bloating compared with the nonassaulted (26%) (30). A random survey of men and women within 1 county in Minnesota showed that sexual abuse was associated with twice the risk of irritable bowel syndrome, dyspepsia, and heartburn; also, the odds of seeing a physician for gastrointestinal complaints was greatest among those with abuse history (24). Finally, a random survey of a large primary care clinic found that women sexually abused in childhood were more likely to report being bothered by stomach pain (33%), nausea (37%), pain in the lower belly (20%), and painful stools (26%) compared with nonabused women (13%, 24%, 8%, and 14%, respectively) (9). Thus, there is much evidence that sexual abuse is associated with strong and persistent effects on gastrointestinal health.

Pelvic Pain and Gynecologic Disorders

Sexual abuse has also been consistently related to greater reporting of pelvic pain, painful intercourse (dyspareunia), painful menstruation (dysmenorrhea), vaginal infection, and other gynecologic disorders (1,7,8,15,30,35-38). McCauley and colleagues' (1) study in several primary care practices found that women who were abused in childhood had about double the risk of reporting pelvic pain (24%) and vaginal discharge (30%) compared with women who had never been abused (11% and 19%, respectively). In a national probability sample of women, Wilsnack and colleagues (7) found that child sexual abuse was associated with almost twice the risk of reporting pain that prevented intercourse (32%) compared with not having abuse (20%). In a random survey of 2 communities, sexually assaulted women had over twice the risk of reporting medically unexplained painful menstruation (21%), pain during intercourse (6%), and lack of sexual pleasure (15%) compared with nonassaulted women (14%, 3%, and 4%, respectively) (35). In an analysis of 3 random surveys (2 regional and 1 national), Golding et al. (37) reported that the number of gynecologic complaints (e.g., dysmenorrhea, sexual dysfunction, heavy menstrual bleeding) was related to increased odds of having a history of sexual abuse. Walker et al. (8) also found more dyspareunia (18%), anorgasmia (50%), and premenstrual distress (42%) in those sexually maltreated compared with those without maltreatment (7%, 34%, and 26%, respectively). In a large consecutive sample of patients from 5 gynecology departments in Norway, sexual abuse was associated with more chronic pelvic pain, ever having laparoscopic surgery, more health care visits, and poorer self-assessed health (15). In studying a group of sexually abused children during an 8-year period after their abuse, 10% developed genitourinary complaints (e.g., vaginitis, genital sores) in contrast to none of the comparison controls (39). These studies provide strong evidence for the lasting effects of sexual abuse on gynecologic health.

Headache

In the Walker et al. (8) random survey of a large HMO, headache was more often reported by sexually maltreated women (26%) compared with nonmaltreated (13%) (odds ratio = 1.3, CI = 1.1-1.6). McCauley et al. (1), and Golding (40) also reported about twice the risk of headache among those abused in childhood. Similar findings were reported in a chart review from a clinical practice, where 45% of the abused had indications of recurrent headache compared with 25% of the nonabused (34). Although a random sample of a large primary care clinic ($N = 380$) found that women with childhood sexual abuse were significantly more likely to report many physical symptoms (e.g., genitourinary, gastrointestinal), the abused were not more likely to report headaches (9). Most studies, however, have found headaches to be more common among those with sexual abuse history.

Physical Symptoms Associated With Anxiety, Panic, or PTSD

Physical symptoms associated with panic or PTSD might include both cardiopulmonary and neurologic-type symptoms such as shortness of breath, palpitations, chest pain, numbness, and weakness or faintness. In a survey of primary care practices, McCauley et al. (1) found that those reporting childhood abuse had more shortness of breath (41%) and chest pain (32%) than the nonabused (31% and 22%, respectively). Walker et al. (8) found 50% to 100% more reporting of dizziness (12%), numbness (19%), shortness of breath (16%), and chest pain (8%) among women who had been sexually maltreated compared with women without abuse (4%, 9%, 7%, and 3%, respectively) in a random survey of an HMO. Golding (30) found that some cardiopulmonary and neurologic symptoms were more common among the sexually assaulted than nonassaulted in a large city probability sample. Among primary care patients, those with child sexual abuse history were more likely to report trouble getting breath (27%), weakness (31%), dizziness (24%), chest pain (23%), and skipped heart beats (15%) compared with the nonabused (6%, 8%, 10%, 6%, and 6%, respectively) (9). One study of over 17,000 HMO members, found that sexual abuse increased the risk of having ischemic heart disease 1.4-fold over not being abused (41). Although studies find other symptom differences between sexually abused and nonabused women, the most consistent evidence for the long-term effects of abuse centers on the symptom clusters outlined above.

Negative Studies

The evidence for the detrimental effects of sexual abuse is relatively consistent across studies; there are few negative studies. One such study bears mentioning. Raphael et al. (42), using a prospective cohort design, compared court-documented cases of early childhood abuse (sexual or physical) or neglect to demographically matched control subjects on medically unexplained pain approximately 20 years later. Comparing documented cases of child sexual abuse to controls showed no differences on current pain measures; however, about one-quarter of those with documented abuse did not recall their abuse, and about half of the control group self-reported abuse/neglect. When using retrospective self-report measures of sexual abuse, those who reported being abused had more pain than those who did not profess to abuse. The authors interpret these findings to mean that it may not be the experience of abuse that matters as much as remembering the abuse; patients who deny victimization may be healthier. Alternatively, it may be that because half of the controls were also victimized that this may have wiped out some potential differences between the groups. In addition, it is possible that many more of the court-verified abuse victims may have received treatment for these traumas compared with those in the control group with "unverified" abuse. In 2 similarly designed prospective cohort studies, researchers found increased rates of adult mental health disorders among those

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with validated child sexual abuse compared with general population controls (43,44). Clearly, we need further studies examining physical health differences prospectively.

Clinical Relevance of Abuse for Men

Most of the cited literature above has focused primarily on women. Although the literature on abuse in males is less extensive, there is much evidence that sexual abuse is also harmful to men's health. In a meta-analysis examining the impact of child sexual abuse on mental health outcomes (e.g., PTSD, depression, suicide), the authors conclude that men and women are similarly affected by abuse (2). National probability studies show that males who have been sexually abused are at greatly increased risk for more physical symptoms (10, 32,36), functional impairment (10), poor subjective health (31,32), eating disorders (45,46), PTSD and anxiety (3,36), substance disorders (3), and risky behavior (e.g., having a sexually transmitted disease, using IV drugs) (20). It appears that sexual abuse history is detrimental for the later health of both men and women.

Are All Types of Abuse Equally Harmful?

There is evidence that more invasive sexual abuse (penetration) and multiple incidents of abuse exacerbate the poor health effects of these experiences. Although a meta-analysis in 2001 did not show that type of abuse or number of incidents predicted worse psychological outcome (2), this may have been due to differing definitions and lack of measurement precision. In a random sample of Norwegian students, Bendixen et al. (36) found that more invasive childhood sexual abuse (e.g., penetration) was associated with worse psychological and physical symptoms and more sick-leave days. In studying women in a family practice clinic, those with penetration experiences had more medical problems and somatization than women with less severe forms of sexual abuse (47). In a random community sample, Mullen et al. (4) showed that sexual abuse involving intercourse was associated with greater psychopathology. PTSD was associated with having had a completed rape versus other types of sexual abuse in a national representative sample (3) and in community samples (17,48). Finally, among women with gastrointestinal disorders, Leserman et al. (49) found that sexual abuse involving penetration was associated with the worse health status on numerous measures.

There is also evidence that multiple incidents of abuse result in worse health status than single incidents. In community-based probability samples, those with repeated sexual assaults had more days of restricted activity (10) and poorer health perceptions (31) compared with those experiencing single incidents. In a national representative survey, chronic sexual abuse was associated with more psychopathology than isolated incidents (3). Women in a family practice clinic who had multiple abusers had more medical problems and somatization than women with a single perpetrator (47). Among students, longer duration of abuse was associated with higher

scores on somatization, anxiety, and depression (50). In a Dutch study of adult women sexually abused in childhood, duration of abuse was associated with worse psychopathology (51). Also, in studying abused children, Nash et al. (52) found that worse psychopathology was associated with increased number of sexual abuse incidents. Similarly, in children and adolescents with documented abuse, longer duration of abuse was associated with more physical symptoms (53). Multiple abuse or longer duration of abuse may confer worse harm than single incidents.

There are many other factors that may contribute to worse health outcome including such experiences as violence or injury during the abuse, age of first abuse, number of perpetrators, and family member perpetrator. The effects of these experiences have not been adequately studied and/or not been shown to be consistently related to worse health outcome (2). More research is needed to determine which factors exacerbate the effects of sexual abuse.

Do Other Types of Trauma Account for the Abuse/Health Relationship?

It has been argued that perhaps the association between abuse and health status may be due to other factors such as childhood neglect, physical abuse, and other childhood trauma that may be more prevalent in the homes of persons who were sexually abused. Past studies have shown that those who have been sexually abused are at greater risk for other childhood adversities (54,55). It is therefore important to examine the relationship of abuse and health status controlling for other trauma (e.g., parental neglect, lack of parental support, having a life-threatening illness, death of parent, domestic violence, and physical and emotional abuse).

A national representative survey showed that child sexual abuse was associated with psychiatric disorders in men and women, even when controlling for potential confounders (e.g., parental verbal or physical abuse of each other or the subject, parental psychopathology and substance abuse) (3). These authors conclude that, "... this finding implies that CSA [child sexual abuse] occurring in relatively healthy families still has negative psychiatric consequences." In a representative community sample, childhood sexual abuse was associated with multiple measures of psychopathology, controlling for adverse parenting (e.g., poor parental relationship, low-care and high-control parents, and nonnuclear family) (4). In another representative community sample, sexual abuse remained associated with suicidal ideation and dysphoria, controlling for other types of victimization (e.g., robbery, assault) (17). A 17-year longitudinal study of representatively sampled families showed that the risk of becoming depressed, suicidal, or having a personality disorder was greatly increased among those who were sexually abused, controlling for other childhood adversities (e.g., neglect, physical abuse, parental psychiatric disorders, single-parent family, parent on welfare, poor marital quality) (6,56). A 14-year Canadian longitudinal study found that adolescents who were sexually abused during

childhood had worse mental health, regardless of physical and emotional abuse, maternal stress, poor parental bonding, negative family climate, and chronic poverty (57). Comparing substantiated victims of child abuse to matched controls longitudinally showed that those who were sexually abused were at much higher risk for developing PTSD than nonabused when adjusting for childhood neglect, physical abuse, having parent(s) with drug problems, on welfare, divorced, or arrested, and being from a large family (58).

Thus far, all the abovementioned studies show that the abuse/mental health relationship remains when controlling for other types of adversities and family neglect; few studies examine the effects of abuse on physical health status with similar controls. The Leserman et al. (59) study of patients with gastrointestinal disorders showed that severity of sexual and physical abuse was associated with poor health status (e.g., more pain, symptoms, disability, physician visits), controlling for lifetime loss or trauma, childhood family turmoil, and recent stressful events. A population-based study found that childhood sexual abuse was associated with having a serious medical problem, after controlling for childhood physical abuse history (32). Because those with sexual abuse history tend to have lives filled with other trauma, it is conceivable that other trauma (both in childhood and adulthood) may contribute to the poor health evidenced in those who have been abused. Clearly we need more studies examining the effects of other childhood and adult adversities on the abuse/physical health relationship.

Is Abuse Like Any Other Trauma?

There is evidence from other studies that many types of trauma are associated with poor health status. Among HMO participants, Felitti et al. (60) showed that persons who had multiple childhood traumas were at greater risk for many types of serious diseases than those who had trauma. A national probability sample showed that sexual abuse, physical abuse, and childhood neglect were all related to higher risk for a variety of serious health conditions (61). Although sexual abuse is similar to other types of trauma, there is some evidence that the former may be a more potent contributor to poor health status. Studies comparing women with sexual abuse history to those with other types of maltreatment or victimization have shown that the former generally have worse physical and mental health status (8,17,24,29,48,57,58). On the other hand, many studies also show that multiple trauma or maltreatment (both sexual and physical abuse) are associated with worse health status than any 1 single type (8,29,62,63). Furthermore, because many who have been sexually abused have also been exposed to other types of trauma (54,55), it is possible that other adversities, although not accounting for the abuse/health relationship (see above), may contribute to some of the poor health seen among those with a sexual abuse history.

What Are Possible Mediators of the Abuse/Health Relationship

Research has not determined what mechanisms might account for the association of abuse with poor health. Possible mediators of the abuse/health relationship can be examined on many levels: behavioral (substance abuse, tobacco use, risky sexual behavior), psychological (depression, PTSD), psychophysiological (e.g., HPA axis and autonomic reactivity to stress), and neuroanatomic (e.g., structural and functional changes in regions of the brain). For example, there is considerable evidence that persons with sexual abuse history have more behavioral risk factors such as alcohol and substance abuse (1,3,4,7,64,65); however, research has not addressed whether these behavioral factors account for the multiple physical symptoms reported among those with abuse history. Given that large population-based studies have documented a strong and consistent relationship between sexual abuse and psychological distress (e.g., depression, anxiety, PTSD) (1,3,4,7,36), it also makes sense to examine stress-response mechanisms (noradrenergic system and HPA axis) as possible mediators. Some studies have shown dysregulation in the hypothalamic-pituitary-adrenocortical (HPA) axis (e.g., higher cortisol) and greater autonomic activation (e.g., higher catecholamines) among women with sexual abuse history, both at baseline and in response to stress, especially if they had current symptoms of depression, PTSD, or anxiety (66-69). Studies have not tested whether this dysregulation of the HPA axis and autonomic systems may contribute to the poor health associated with abuse; however, there is evidence that dysregulation in these systems may lead to dysfunction in diverse organ systems (70,71). Finally, recent neuroimaging studies have begun to find activation differences in response to psychological challenge in areas of the brain (e.g., anterior cingulate cortex, medial prefrontal cortex) among women with abuse history and PTSD compared with no abuse or no PTSD (72,73). These same areas of the brain have been implicated in memory, emotional regulation, and pain perception (72,74). Thus, there is evidence that abuse and PTSD are associated with poor health, that abuse and PTSD are related to alterations in a variety of mechanisms (e.g., behavioral risk factors, psychological distress, dysregulation in psychophysiological reactivity and in a network of brain regions); however, there is no research that addresses whether these mechanisms explain why abused persons have more physical symptoms and poor health.

Whether to Ask and How to Ask

Thus far, we have presented compelling evidence for the long-term detrimental health effects of sexual abuse. Given the high prevalence of sexual abuse and the association of abuse with poor health status, it is important to ask the question: Do physicians and other health professionals know about their patients' abuse history? A national survey of women found that although about 30% experienced child sexual, physical, or emotional abuse, only 21% of the abused

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said they had discussed these issues with a physician (75). In a 1995 survey of Quebec general practitioners and obstetrician-gynecologists, few physicians reported that they routinely asked about sexual abuse history (<6%), and most indicated that they found it difficult to discuss such issues (>92%) (76). In another study of a primary care clinic, although the prevalence of childhood (37%) and adult (29%) sexual abuse was high and most women felt it was appropriate for their physician to inquire about previous abuse (61%), only 4% indicated that their health care provider asked about such incidents (77). Although more recent studies are not available that determine the extent to which health care providers ask about abuse history, we have no reason to believe that physicians have greatly increased such inquiry.

A study among adolescent women where physicians inquired about sexual victimization found that most of the abused accepted referrals for on-site psychotherapy (93%), with most keeping their initial appointments (81%) (78). Given the high prevalence of sexual abuse, the correlation of abuse with poor health status, and some indication that abused persons would seek psychological services if given such referrals, when should health practitioners ask about abuse? Inquiring about abuse makes sense when the clinical data are suggestive of abuse (79). For example, it makes sense when: (1) the patient has numerous painful chronic health symptoms (e.g., gastrointestinal, gynecologic, headache and panic related); (2) the patient has psychiatric symptoms consistent with PTSD, panic, depression, or dissociation; (3) the patient has difficulty establishing trust and has feelings of helplessness, shame, or guilt; and (4) the patient has extreme difficulty with medical procedures. The health practitioner should only ask about abuse if they have established rapport and trust with the patient, they feel comfortable discussing the topic, they can provide an environment where the patient feels safe, there is sufficient time within the medical visit to begin to discuss issues of abuse, such information will help improve the patient's care, and they have access to psychological referral resources for the patient. If the patient is under age 18, the health care provider is mandated to report sexual or physical abuse to the Department of Social Services. Continuing education of physicians and more support systems (e.g., case management, referral systems for consultation liaison, and behavioral health or self-help groups) might help physicians feel more at ease in dealing with issues of abuse.

There is no one right way to ask about sexual abuse history. Note that the method we suggest below for clinical settings is different than the questions used for research purposes (see Appendix). It has been suggested that one start with more general inquiry and then go to more specific questions (79). The health care practitioner might begin with, "Are there any experiences not yet discussed that have been particularly difficult or painful for you?" As a prelude to asking more specific questions about abuse, it is a good idea to normalize the experience for the patient. An introduction like the following may be helpful: "We know that many people have had un-

wanted sexual experiences as children or adults. These experiences may be so upsetting that they may not have been discussed with anyone. Sometimes they are forgotten for long periods of time, and sometimes they are frequently brought to mind. These experiences may have an impact on your current health and may help us suggest treatment for you, so we would like to know about them." After such an introduction, the following questions may be helpful: "It is not uncommon for people to have been sexually victimized at some time in their lives. Has that ever happened to you? Has anyone ever touched the sex parts of your body (your breasts, vagina, anus) when you did not want them to? Has anyone ever made you touch the sex parts of their body (penis, vagina, anus) when you did not want to?" Note that research has shown that using behaviorally specific questions is more useful than simply asking, "Have you ever been sexually abused?" (78,80). Within the context of asking about sexual abuse, you may also want to find out about physical abuse history. Some sample questions include: Have you ever felt unsafe at home? Have you ever or are you presently afraid of your partner? Has anyone, including family members or friends, ever beaten you up, hit you, kicked you, bitten you, or burned you? Sometimes you can find out about abuse more organically within the context of talking with the patient. For example, follow the patient's lead during the interview. If she says, "Things were pretty bad back then," encouraging elaboration might reveal a history of abuse. For a more thorough discussion of how and when to talk with patients about abuse, see Drossman et al. (79).

What Can We Do? Psychologically Based Treatments

It seems obvious to recommend referral for psychologically or psychiatrically based treatment for persons who have been sexually abused who also show signs of PTSD or other psychiatric disorders. What is the evidence that cognitive behavioral interventions will help those with sexual abuse history, years after such experiences occur? Cognitive behavioral approaches, especially exposure therapy, with or without cognitive therapy have the most research supporting their efficacy (81). Exposure therapy involves confronting feared but not dangerous situations that are associated with a trauma (e.g., sleeping without lights on, going to public places) and imaginal exposure to the trauma (e.g., reliving the memory of the rape as vividly as possible). Exposure therapy facilitates emotional processing by helping patients react with less fear to memories or cues of the event. This therapy is often combined with cognitive behavioral-type treatments (e.g., cognitive-processing therapy, stress-inoculation therapy).

Two meta-analyses of the PTSD literature show that behavioral-type therapies (mostly exposure plus other modalities) are efficacious in treating PTSD and often more efficacious than medication (82,83). Comparing prolonged exposure to 2 other treatments, stress inoculation training (e.g., coping skills training, including thought stopping, cognitive restructuring, and stress management), and supportive counseling, Foa and colleagues (84) found that the first 2 treatments were superior

to support in reducing PTSD symptoms among rape victims. Only prolonged exposure had long-term treatment effects. In later studies, these investigators found that combining prolonged exposure with stress inoculation training or cognitive restructuring was not superior to either one alone, and prolonged exposure tended to have a larger effect size (85,86). Among female rape victims, Resick et al. (87) compared prolonged exposure to cognitive processing therapy (e.g., combination of exposure in the form of writing and reading about the trauma and cognitive therapy) and to a minimal attention condition. These researchers found that both active treatments were highly efficacious in reducing PTSD symptoms compared with the control group. There is also some evidence that eye movement desensitization and reprocessing (EMDR) may help reduce symptoms of PTSD (81,83,88). EMDR involves saccadic eye movements or other repetitive left/right alternating stimuli, done in conjunction with exposure (focus on disturbing memories, emotions, and cognitions). It is unclear whether the saccadic eye movement component of the treatment has therapeutic value over and above exposure. Thus, it appears that some form of exposure, with or without cognitive therapy or saccadic eye movements, may be beneficial for reducing PTSD symptoms in rape victims. It is important to note that none of the above-cited studies have addressed whether these cognitive behavioral approaches have any effect on the chronic medical conditions that are so common among persons with abuse and other trauma history.

Another exposure paradigm, writing about one's worse trauma (emotional disclosure) has been tested among students and persons with chronic medical illness; it has not been placebo-control tested in a reasonably powered sample with sexual abuse history or PTSD. Most emotional disclosure studies have shown that writing about trauma, compared with writing about trivial events, has salutary health effects (e.g., reduction in depression, pain, physical symptoms, and health center visits, and improvement in physical functioning) (89-95). Smyth and colleagues (90) reported that written emotional disclosure in patients with asthma or rheumatoid arthritis was related to improved clinical health outcomes at 4-month follow-up. One meta-analysis of emotional disclosure studies found that writing about traumatic experiences has been associated with large improvements in psychological well-being (effect size = 0.66) (91). Another meta-analysis of 9 emotional disclosure studies limited to nonstudent clinical samples (e.g., physical or psychological disorders) showed that expressive writing was only effective in improving physical health but not psychological well-being (95). The emotional-disclosure literature provides some evidence that exposure-type therapy may have an impact on the poor physical health of persons with sexual abuse history or PTSD symptoms.

In addition to the emotional expression literature, there is a large literature showing that cognitive behavioral treatments also may reduce pain and disability among patients with chronic pain conditions (96). And there is a large literature on

the use of prolonged exposure with and without cognitive behavioral therapy on reducing PTSD symptoms among rape victims and those with other trauma-related PTSD (82,83). What is missing is a literature examining the efficacy of prolonged exposure with and without cognitive behavioral therapy on chronic pain and physical symptoms among sexually assaulted patients with PTSD and other psychiatric conditions. This is a significant hole in the current literature. We do not really know which psychological treatments might be efficacious in treating abused or other victimized patients with dysphoria and multiple physical symptoms, despite the fact that we currently recommend that such patients be referred for psychological treatment. Will standard treatments for PTSD have an impact on the chronic pain conditions evidenced among those with abuse history? These are important questions that have fallen between the cracks of psychosomatic medicine and trauma psychology.

CONCLUSIONS

This clinical review has demonstrated that (1) sexual abuse is common among women, especially in those patients with chronic pain; (2) sexual abuse history is associated with poor health status, more functional disability, more utilization of health services, and more physical symptoms, particularly gastrointestinal, gynecologic, panic related, and headache; (3) the poor health effects associated with abuse are also seen in men; (4) abuse involving penetration and multiple incidents appears to be the most harmful; (5) other childhood trauma and neglect does not explain the relationship of abuse with poor health status; (6) research has not determined what mechanisms might account for the association of abuse with poor health status, although behavioral, psychological, psychophysiological, and neuroanatomic explanations have been suggested; (7) despite the high prevalence and detrimental health effects associated with abuse, this trauma history remains hidden from most health care practitioners; and (8) we need more research examining psychological treatments that might be efficacious in treating the physical health problems often seen in sexually abused or other victimized patients.

Appendix: Sexual Abuse Interview Items for Research

We know that many people have had unwanted "sexual" or violent experiences as children or adults. These experiences may be so upsetting that they may not have been discussed with anyone. Sometimes they are forgotten for long periods of time, and sometimes they are frequently brought to mind. Please try to remember whether any of the following has occurred to you.

1. Before your 13th birthday, did an adult or someone at least 5 years older than you ever touch the sex organs of your body when you did not want this? By touch we mean with hands, mouth, or objects on your sex parts, that is (males: penis, pubic area or anus; females: breasts, vagina, pubic area or anus).

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0. NO 1. YES
2. Before your 13th birthday, did an adult or someone at least 5 years older than you ever make you touch the sex organs of their body when you did not want this? By touch we mean with hands, mouth, or objects on their sex parts.
0. NO 1. YES
3. Before your 13th birthday, did an adult or someone at least 5 years older than you ever have sexual intercourse (including vaginal or anal intercourse) with you when you did not want this?
0. NO 1. YES
4. Since your 13th birthday, did anyone ever touch the sex organs of your body by using force or threatening to harm you? By touch we mean with hands, mouth, or objects on your sex parts, that is (males: penis, pubic area, or anus; females: breasts, vagina, pubic area, or anus).
0. NO 1. YES
5. Since your 13th birthday, did anyone ever make you touch the sex organs of their body by using force of threatening to harm you? By touch we mean with hands, mouth, or objects on their sex parts.
0. NO 1. YES
6. Since your 13th birthday, did anyone ever make you have sexual intercourse (vaginal or anal intercourse) by using force or threatening to harm you?
0. NO 1. YES
7. Have you had any other forced or unwanted sexual experiences not mentioned above?
0. NO (skip #8) 1. YES
8. IF yes, can you please briefly describe that experience.

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