

# Childhood Sexual Abuse, Psychological Distress, and Medical Use Among Women

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**Objective:** This study examined the relationships between reported history of childhood sexual abuse (CSA), psychological distress, and medical utilization among women in a health maintenance organization (HMO) setting. **Methods:** Participants were 206 women aged 20 to 63 years who were recruited from an HMO primary care clinic waiting area. Participants were classified, using screening questionnaires and the revised Symptom Checklist 90, as 1) CSA-distressed, 2) distressed only, 3) CSA only, or 4) control participants. Medical utilization rates were generated from the computerized database of the HMO for 1) nonpsychiatric outpatient, 2) psychiatric outpatient, 3) emergency room (ER), and 4) inpatient admissions. **Results:** CSA-distressed and distressed only groups both used significantly more nonpsychiatric outpatient visits than CSA only and control participants but were not different from one another. CSA only and control participants did not differ on nonpsychiatric outpatient utilization. CSA-distressed participants used significantly more ER visits and were more likely to visit the ER for pain-related complaints than other participants. Among CSA-distressed participants, those who met criteria for physical abuse had significantly more ER visits than those who did not. There were no differences among the four groups in inpatient utilization rates. **Conclusions:** Psychological distress is associated with higher outpatient medical utilization, independent of CSA history. History of CSA with concomitant psychological distress is associated with significantly higher ER visits, particularly for those with a history of physical abuse. History of CSA without distress is not associated with elevated rates of medical utilization. Screening for psychological distress, CSA, and physical abuse may help to identify distinct subgroups with unique utilization patterns. **Key words:** sexual abuse, medical utilization, psychological distress, pain.

CSA = child sexual abuse; ER = emergency room; GSI = Global Severity Index; HMO = health maintenance organization; SCL-90-R = revised Symptom Checklist 90.

## INTRODUCTION

Evidence suggests that 20% to 30% of primary care patients meet criteria for a psychiatric disorder (1–5). Such patients often present with physical symptoms as opposed to psychological distress (6). Concerns that this subpopulation may use more medical services than nondistressed populations with similar levels of medical illness has sparked interest in the relationship between psychological distress and medical utilization.

Considerable evidence documents that depression or psychological distress is associated with increased medical utilization (5, 7–11). Such distress is associated with higher costs even after controlling for med-

ical morbidity (12–15) and costs of mental health treatment (14). However, few researchers have investigated utilization patterns among subgroups within the distressed population.

One subgroup that has received attention in utilization studies comprises those with a history of CSA. Conservative estimates indicate that at least 20% of North American women experienced some type of sexual abuse during childhood (16). Several characteristics of those reporting a history of CSA have stimulated interest in their utilization patterns. First, despite methodological problems in identifying the specific effects of CSA (17, 18), findings in this area have been sufficiently consistent for reviewers to conclude that a history of CSA is a major risk factor for psychological problems in adulthood (19–21). Difficulties associated with CSA include depression and anxiety (22–28), posttraumatic stress disorder (29–31), increased suicidal ideation (27, 32), history of suicide attempts (26, 33), substance abuse (34–37), personality disorders (33, 38), as well as general psychological distress (39). Furthermore, a history of CSA is associated with a higher risk of subsequent victimization, including adult sexual assault (40–44).

Second, CSA is associated with numerous medical problems in adulthood (45). These include chronic pelvic pain (46–50), other gynecologic symptoms (51, 52), obesity (53), headaches (46, 51), gastrointestinal complaints (46, 48, 54), irritable bowel symptoms (46, 55), asthma (46), neurological problems (48), as well as more general physical complaints (48, 55).

However, compared with the aggregate of findings

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in psychologically distressed populations, less is known about the relationship between CSA and medical utilization. Relatively few studies have examined this issue, and those reporting objective utilization data are rare. Several studies have investigated the link between lifetime history of sexual assault and medical utilization. Findings based on self-reported data indicate significantly more lifetime surgeries (56, 57) and more physician visits (58–60) among this group. Koss et al. (61, 62) reported higher rates of physician visits among female crime victims, including victims of rape, using objective utilization data.

Among the few studies investigating whether CSA is a specific marker for higher rates of medical utilization, findings suggest higher self-reported rates of physician visits (46, 51), abdominal surgeries (55), and hospitalizations (63). Only two studies focusing specifically on the relationship between CSA and medical utilization have reported objective visit data (53, 64). Both investigations compared HMO members with and without a history of CSA and reported significantly higher utilization rates among those with a history of CSA.

In general, the literature of research investigating relationships between CSA and medical utilization and that of research investigating relationships between psychological distress and utilization have developed separately. The absence of data comparing the medical utilization patterns of distressed individuals with a history of CSA, distressed individuals without CSA, and those with CSA only leaves several important questions unanswered. Specifically, given the high rate of unexplained medical symptoms and psychological distress among those with a history of CSA, does this subpopulation use more services than distressed individuals without a history of CSA? In addition, do those reporting a history of CSA but no psychological distress use fewer services than CSA-distressed individuals?

The goal of this study was to examine the relationships among reported CSA history, psychological distress, and rates of objective medical utilization in an HMO population. Participants were divided into four groups: 1) those with current psychological distress and a reported history of CSA (CSA-distressed), 2) those with current psychological distress without a reported history of CSA (distressed only), 3) those with no current psychological distress and a reported history of CSA (CSA only), and 4) those with no current psychological distress and no reported history of CSA (control participants).

We hypothesized that 1) the CSA-distressed group would use significantly more medical services than any of the other three groups; 2) the distressed only

and CSA only groups would demonstrate equivalent rates of medical service utilization; and 3) when compared with the control group, all three of the other groups would use significantly more medical services.

## METHODS

### Sample and Procedure

Participants were members of Kaiser Permanente, a large HMO in California. The study was approved by the institutional review boards of both Stanford University and Kaiser Permanente Medical Center. Patients waiting to be seen in the general internal medicine clinics at one Kaiser Permanente medical center were approached by a trained research assistant and asked to complete a brief screening measure to determine whether they might be eligible for a study examining the relationships between psychological factors and medical utilization. To be eligible for participation, patients had to be female, literate in English, physically well enough to complete questionnaires, aged 20 to 65 years, and a participating member of the HMO. Patients who completed the screening measure and met eligibility criteria were then given a consent form and asked whether they would be willing to complete an additional set of questionnaires and to allow access to their medical records. Patients who gave consent and returned completed questionnaires were paid \$25 for their participation.

We identified 906 eligible participants. Seventy-five percent agreed to complete the screening measure. Of the 682 patients who agreed to be screened, we asked 464 patients to complete an additional packet of questionnaires and to permit access to their medical records; of those, 148 patients refused (32%). We restricted the number of those asked to complete the additional questionnaires to maintain groups that were reasonably equal in size and to avoid having a disproportionate number of control participants. The 316 patients who agreed to complete the questionnaire packet were given an informed consent form, a questionnaire packet, and a stamped, self-addressed return envelope. We obtained completed questionnaires from 218 patients.

### Measurement

*Screening Packet.* This packet included three brief self-report measures: 1) a demographic information form, 2) a psychological distress screen, and 3) a sexual abuse history screen. The purpose of the latter two screens was to ensure that we did not expend disproportionate resources on nondistressed, non-CSA individuals, who were considerably more numerous than the other participants.

*Demographic information form.* Participants indicated their date of birth, level of highest education, employment status, total household income, racial/ethnic background, and relationship/marital status on this measure.

*Distress screen.* We constructed a seven-item psychological distress screen adapted from the PRIME-MD (5) that probed for mood, anxiety, and somatoform symptoms during the previous month. "Yes" and "no" answers were coded as 1 and 0, respectively.

*Sexual abuse history screen.* The sexual abuse history screen consisted of three questions developed for the National Population Survey of Canada (65) and used in subsequent research (56, 60): "During your childhood (before 15 years old), has anyone 5 years or more older than you ever: 1) touched the sex organs of your body against your will?, 2) made you touch the sex organs of their body?, or 3) tried forcefully or succeeded in having sex with you when you didn't want this?" Participants responded using a four-point scale (1 = "never," 4 = "often").

Final assignment to a comparison group was based on responses to more detailed questionnaires, which are described below.

**Questionnaire Packet.** Childhood sexual abuse. The presence of a history of CSA and its extent was assessed in greater detail by asking participants to indicate retrospectively the frequency of nine different sexual events with someone 5 or more years older before age 15 (eg, Did anyone 5 or more years older than you ever touch your body in a sexual way, make you put your mouth on their sexual organs, or try to put their penis in your vagina or anus?). Participants rated the frequency of each event on a four-point Likert-type scale (1 = "never," 2 = "once or twice," 3 = "3–10 times," 4 = "11 or more times"). This questionnaire was a modified form of an instrument used in several other studies (55, 56, 60) that has been shown to have adequate test-retest reliability (81%) when administered several months apart (66). Agreement between the questionnaire- and interview-gathered data on sexual abuse was also 81%, indicating adequate criterion validity (66). The principal modification in our study involved changing responses from "yes" or "no" to greater specification regarding frequency as described above. Respondents also indicated their age when the CSA events first began and their relationship to the perpetrator(s). Subjects were considered sexually abused only if they reported experiencing sexual contact before age 15 with someone 5 or more years older. This definition is consistent with recent data suggesting that contact sexual abuse produces more severe psychological sequelae in adulthood than noncontact abuse (57).

Other abuse experiences. Patients were asked whether they had experienced other types of abusive experiences, such as childhood physical abuse (before the age of 15) and sexual assault in adulthood (since age 15). For childhood physical abuse, patients rated the frequency of nine different physically assaultive events (eg, Did anyone ever hit you with something, like a belt or hairbrush?) on a four-point Likert-type scale (1 = "never," 2 = "once or twice," 3 = "3–10 times," 4 = "11 or more times").

Because most of the items on this measure assessed experiences that could be construed by participants as physical discipline rather than physical abuse, we constructed a three-item physical abuse subscale (Cronbach's  $\alpha = 0.71$ ) that assessed the frequency of highly punitive events (vs. physical discipline): 1) being assaulted with a gun or knife; 2) being beaten up; and 3) being kicked, bitten, or hit with a fist. Patients who indicated scores of 2 or higher on the first item and scores of 3 or 4 on the second and third items were considered to have been physically abused. This rigorous operationalization of physical abuse was derived from past research showing life-threatening abuse to be associated with poorer health status and higher rates of medical utilization (57).

One item assessed sexual assault in adulthood. Patients indicated on a four-point Likert-type scale (1 = "never," 2 = "once or twice," 3 = "3–10 times," 4 = "11 or more times") how frequently they had experienced sexual assault since the age of 15.

**Psychological distress.** Psychological distress was measured with the GSI from the SCL-90-R (67), a 90-item self-report inventory. The GSI score combines information on numbers of symptoms and intensity of distress across nine primary symptom dimensions (eg, depression) and is commonly used as a summary measure of psychological distress. Participants were considered psychologically distressed if their GSI scores were 1 SD above norms for nondistressed individuals (mean = 0.31, SD = 0.31) (67).

**Objective Medical Utilization.** Medical utilization data over a 2-year period (1995–1997) were obtained from the Kaiser Permanente HMO computerized database for four visit types: 1) nonpsychiatric outpatient, 2) ER, 3) inpatient admission, and 4) outpatient psychiatry. Pregnancy-related visits were excluded.

## Statistical Analysis

Demographic variables were analyzed with  $t$  tests and  $\chi^2$  tests for continuous and categorical variables, respectively. Nonparametric analyses (Kruskal-Wallis analyses of variance, Mann-Whitney  $U$  tests) were used for the medical utilization variables and the SCL-90-R, because these data were considerably skewed. Rom's modified Bonferroni procedure (68) was used to control for Type I error.

## RESULTS

### Refusers vs. Nonrefusers

Comparison of the total score on the psychological distress screen for the 148 individuals who refused participation with scores for those who agreed to enter the study ( $N = 316$ ) showed that refusers were significantly less distressed (mean = 2.0, SD = 1.9) than nonrefusers (mean = 3.4, SD = 2.0;  $t(430) = 7.1$ ,  $p < .001$ ).

### Participants Who Completed the Questionnaire vs. Noncompleters

Of those who were asked and agreed to complete the longer questionnaire battery ( $N = 316$ ), 218 individuals (69%) returned the questionnaires. Persons who completed the battery did not differ from noncompleters in age, marital status, employment status, education, or distress level. However, compared with completers, noncompleters reported lower total household income (<\$40,000 vs. >\$60,000 per year, respectively;  $\chi^2(2, N = 279) = 11.3$ ,  $p = .004$ ). In addition, noncompleters were more likely than completers to be African American (14% vs. 10%, respectively) or Latina (30% vs. 11%, respectively) than white (44% vs. 69%, respectively;  $\chi^2(4, N = 280) = 26.8$ ,  $p = .0001$ ).

### Sample Characteristics

**Demographic Data.** Because 12 participants had missing data, only 206 cases were included in the present analyses. The majority of participants were highly educated; 46% had completed at least some college courses and a sizable minority, 34%, had a bachelor's or advanced degree. Two-thirds of the sample were white, and 66% were married. Seventy percent of participants worked full time. Participants also reported a high level of yearly household income, with the median of \$60,000 per year. No differences emerged among any of the four comparison groups for any demographic variables.

**Experience of CSA.** All participants meeting criteria for CSA ( $N = 96$ ) were evaluated to determine the frequency of three types of contact sexual abuse: 1)

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abuse that involved only kissing the participant or touching the participant's body, 2) abuse that involved receiving or performing oral sex, and 3) abuse that involved attempted or completed intercourse. The most common form of self-reported sexual abuse involved kissing or touching, with 74.5% of CSA participants reporting such contact. In contrast, only a minority of CSA participants had received or performed oral sex (21.9%) or experienced abuse involving attempted or completed intercourse (33.8%).

To determine whether distressed participants reported more severe CSA than nondistressed participants, we compared the two groups on frequency of contact sexual abuse.  $\chi^2$  analyses revealed that distressed CSA participants reported significantly more frequent abuse that involved kissing or touching ( $\chi^2(3, N = 94) = 10.5, p = .015$ ) and receiving or performing oral sex ( $\chi^2(3, N = 96) = 13.5, p = .004$ ) than CSA only participants. However, the two groups did not differ significantly on the frequency of attempted or completed intercourse.

*Experience of Childhood Physical Abuse and Adult Sexual Assault.* Fifty participants (24.3%) of the total sample reported physical abuse as previously defined. Analyses revealed that CSA-distressed participants were more likely to report childhood physical abuse (43.1%) than CSA only (18.4%), distressed only (25.5%), and control participants (8.9%) ( $\chi^2(3, N = 203) = 18.9, p = .0001$ ). No other significant differences emerged for childhood physical abuse.

Of the total sample, 22.2% reported experiencing sexual assault after the age of 15. CSA-distressed participants reported a higher incidence of sexual assault as an adult (48.1%) than CSA only (14.3%), distressed only (12.5%), and control participants (11.1%) ( $\chi^2(3, N = 189) = 27.9, p < .0001$ ). No other significant differences were found for sexual assault.

*Psychological Distress on the SCL-90-R.* CSA-distressed and distressed only participants scored significantly higher on the GSI (mean = 1.3, SD = 0.7 and mean = 1.1, SD = 0.4, respectively) than CSA only and control participants (mean = 0.3, SD = 0.2 and mean = 0.3, SD = 0.2, respectively;  $\chi^2(3, N = 187) = 144.0, p < .0001$ ). Both distressed groups scored

within the range of published norms for psychiatric outpatients (ie, mean = 1.3, SD = 0.7), and both non-distressed groups scored within the range for nonpatient normal persons (ie, mean = 0.3, SD = 0.3) (67).

### Relationship of Sexual Abuse, Psychiatric Distress, and Medical Utilization

Age, income, race, and education were not significantly related to any of our dependent variables and thus were not included as covariates in the tests of our hypotheses. Table 1 lists the means, standard deviations, and significance levels obtained with Kruskal-Wallis analyses across four medical utilization categories: total outpatient medicine visits, inpatient hospital visits, psychiatry outpatient visits, and ER visits.

*Nonpsychiatric Outpatient Visits.* Analyses revealed a significant effect for total nonpsychiatric outpatient medicine visits ( $\chi^2(3, N = 202) = 12.0, p = .0075$ ). Post hoc tests showed that CSA-distressed and distressed only participants each used a greater number of these visits than both the CSA only ( $p = .05$  and  $p = .0005$ , respectively) and control participants ( $p = .05$  and  $p = .007$ , respectively). CSA-distressed and distressed only participants did not significantly differ in this type of visit.

*Inpatient Hospital Admissions.* The groups did not differ significantly in number of inpatient hospital admissions ( $\chi^2(3, N = 201) = 5.9, p = .12$ ).

*Psychiatric Outpatient Visits.* Analyses revealed a significant effect for number of psychiatric visits ( $\chi^2(3, N = 202) = 8.1, p = .05$ ), with post hoc tests showing that control participants used significantly fewer psychiatric visits than participants of all three other comparison groups (distressed only,  $p = .006$ ; CSA-distressed,  $p = .009$ ; CSA only,  $p = .02$ ). No other significant differences were detected.

*ER Visits.* Analyses revealed a significant effect for number of ER visits ( $\chi^2(3, N = 202) = 12.5, p = .006$ ), with post hoc tests indicating that the CSA-distressed group visited the ER significantly more often than all three of the other comparison groups (distressed only,  $p = .003$ ; CSA only,  $p = .006$ ; control,  $p = .03$ ).

TABLE 1. Means and Standard Deviations for Medical Utilization Data Across Comparison Groups<sup>a</sup>

Type of Visit	CSA-distressed (N = 59)	Distressed only (N = 52)	CSA only (N = 38)	Control (N = 57)	p
Total outpatient medicine visits	7.4 (7.0) <sup>a</sup>	7.5 (6.0) <sup>a</sup>	4.4 (2.0) <sup>b</sup>	4.7 (2.9) <sup>b</sup>	.008
Inpatient hospital visits	0.2 (0.5) <sup>a</sup>	0.2 (0.4) <sup>a</sup>	0.1 (0.3) <sup>a</sup>	0.1 (0.2) <sup>a</sup>	NS
ER visits	1.7 (3.4) <sup>a</sup>	0.5 (1.0) <sup>b</sup>	0.3 (0.4) <sup>b</sup>	0.5 (0.7) <sup>b</sup>	.006
Psychiatry outpatient visits	0.7 (1.8) <sup>a</sup>	0.4 (1.0) <sup>a</sup>	0.3 (0.7) <sup>a</sup>	0.1 (0.8) <sup>b</sup>	.05

<sup>a</sup> Means that do not share subscripts reflect significant differences in posthoc analyses. Standard deviations are given in parentheses.

Control, distressed only, and CSA only participants did not significantly differ on ER visits.

Given previous findings of high rates of pain complaints among those reporting a history of CSA (45), we wondered whether the CSA-distressed participants were more likely to visit the ER for pain-related problems than participants in the other three groups. We obtained the diagnoses given to patients for each ER visit from the HMO database and coded each diagnosis as either 0 (not pain related; eg, cardiac arrhythmia) or 1 (pain related; eg, migraine headache). In a post hoc  $\chi^2$  analysis, we found that of the individuals who utilized the ER, CSA-distressed participants were more likely to visit for pain-related diagnoses than participants of the other three groups ( $\chi^2(3, N = 202) = 10.0, p = .018$ ). Table 2 shows the frequency of participants who utilized the ER for pain- vs. nonpain-related visits across the four groups.

*Patterns of Utilization Between Sexually Assaulted and Nonassaulted CSA-distressed Participants.* Because half of the CSA-distressed participants reported a history of sexual assault in adulthood, we compared those with a sexual assault history ( $N = 25$ ) with those without a sexual assault history ( $N = 27$ ; 7 participants had missing data on this item). The two groups did not significantly differ on total outpatient medicine visits, inpatient hospital visits, psychiatric outpatient visits, or ER visits.

*Patterns of Utilization Between Physically Abused and Nonphysically Abused CSA-distressed Participants.* Because 43.1% of the CSA-distressed participants reported a history of childhood physical abuse, we compared the subgroup meeting our criteria for childhood physical abuse ( $N = 25$ ) with those in the CSA-distressed group without childhood physical abuse ( $N = 33$ ). Participants who reported being physically abused in childhood made significantly more ER visits than participants who did not report being physically abused in childhood ( $p < .01$ ) but did not differ significantly on total outpatient medicine visits, inpatient hospital visits, or psychiatric outpatient visits.

**TABLE 2. Differences Among Comparison Groups for Pain-Related vs. Nonpain-Related ER Visits**

Comparison Group	Patients Making Pain-Related Visits (%)	Patients Making Nonpain-Related Visits (%)
CSA-distressed	15 (43.0)	20 (57.0)
Distressed only	2 (11.0)	17 (90.0)
CSA only	2 (13.0)	13 (87.0)
Control	4 (16.0)	21 (84.0)

## DISCUSSION

Four major findings emerged from our investigation. First, no significant differences in outpatient medical utilization were detected between distressed only and CSA-distressed participants. Both groups used significantly more services than the nondistressed groups. Second, distressed CSA participants used significantly more ER visits than participants from all three of the other groups. Third, increased ER utilization in the CSA-distressed group was strongly related to pain complaints. Fourth, nondistressed CSA participants did not differ from control participants in nonpsychiatric medical utilization, although differences in psychiatric visit utilization were significantly higher.

The finding that distressed participants used significantly more outpatient services than nondistressed individuals is consistent with results of previous studies (5, 14). Our hypothesis, however, that CSA-distressed participants would use more outpatient services than those who were distressed only was not supported. This prediction was based on findings of high levels of unexplained medical problems, such as chronic pelvic pain, as well as somatization symptoms (47, 49, 50) characteristic of the CSA population. We reasoned that the combination of these factors and distress would be additive, leading to higher utilization among CSA-distressed individuals compared with distressed only participants. However, all of the above studies (47, 49, 50) compared women with chronic pelvic pain to those being treated for infertility or tubal ligation. Although all three reports noted higher rates of depression or other psychiatric problems among abused subjects, the studies did not investigate the relative strength of associations between psychological distress and medical problems. Thus, it remains unclear how those with a history of CSA compare with those who are distressed only in both organic and functional medical complaints. Our study, by comparing those with a history of CSA and distress with those with distress only, suggests that for outpatient medical utilization, the main effects are attributable to distress rather than a history of CSA.

On the other hand, we found that CSA-distressed participants used significantly more ER visits than participants from all other groups; distressed only participants did not use more of these services than nondistressed individuals. The question arises of why the CSA-distressed group demonstrated a unique ER utilization pattern but not a unique outpatient service use pattern when compared with distressed only group. We offer two possible explanations for the discrepancy. First, somatic complaints that drive ER utiliza-

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tion among abused populations may differ from those associated with outpatient use. Pain complaints accounted for a significantly higher percentage of ER visits in the CSA-distressed group than in the other groups. Chronic pain may be a specific sequela of CSA (47, 49, 50, 69) as well as other forms of abuse (70–72). High ER utilization may be characteristic of a wide variety of individuals with chronic pain or, alternatively, may constitute a unique treatment-seeking pattern among distressed individuals with CSA and/or other abusive experiences and chronic pain. For example, our results indicated significantly higher rates of physical abuse and adult sexual assault among CSA-distressed participants when compared with participants in the other three groups, including the CSA only group. Our analyses also indicated that within the CSA-distressed group, those with (vs. without) a history of childhood physical abuse had significantly more ER visits.

Features of the physician-patient relationship in the CSA-distressed group may also account for the discrepant findings regarding ER and outpatient visits. CSA history is associated with a variety of interpersonal problems, including impaired trust (73, 74), greater fear of both men and women (34), and interpersonal discomfort and hypersensitivity (75). The presence of psychological distress may amplify such difficulties to a point where relationships with primary care physicians are compromised. A patient lacking a trusting relationship with a primary care physician may wait longer than the average patient to seek care when ill or in pain and thus be more prone to a crisis. One study reported patient-physician difficulties in more than 40% of a group of high utilizers in an HMO population (76).

Although data from our sexual abuse questionnaire did not reveal different rates of completed intercourse among the distressed and nondistressed CSA participants, our data do suggest that the former group suffered more extensive abuse. A recent study found a graded relationship between a variety of adverse child experiences, including sexual, physical, and emotional abuse, and adult disease states (77). Although our assessment was limited to physical and sexual abuse as well as adult sexual assault, our findings suggest that greater exposure to abusive experiences is associated with increased adult distress and higher medical utilization.

Given the association between history of CSA and unexplained medical symptoms, we had predicted that service utilization among CSA only participants would be approximately as high as that of the distressed only individuals. However, the finding that nondistressed CSA participants did not use more non-

psychiatric medical services than control participants emphasizes the point that comparisons of abused vs. nonabused individuals fail to account for individual differences among those with a reported history of CSA. Not everyone with a history of CSA experiences adult distress (19); our data suggest that in the absence of distress, medical utilization among those reporting CSA history is not different from that of control participants.

Our study has several limitations. First, as is common in studies relying on retrospective accounts of CSA, we have no independent verification that our respondents are properly classified with respect to abuse category. Accurate reports of the incidence of sexual abuse years after the fact are limited by such factors as inaccurate recall, stigmatization, and repression (17, 78–80), which could lead to false-negative results. Indeed, in a study investigating the reliability and validity of the questionnaire we adapted for our study, subjects were more likely to endorse a history of CSA on the second questionnaire than on the first. In addition, when comparing questionnaire and interview responses, false-negative results on the questionnaire were substantially more common than false-positive results (66). We cannot rule out the possibility that false-positive results may also be present in our sample. Second, the Global Severity Index of the SCL-90-R, which we used to group participants regarding distress, contains nine subscales, one of which is somatization. The presence of somatization items in the predictor measure introduces a potential confounder because those with higher levels of somatic symptoms would be expected to use more services. However, we did not remove the somatization items to avoid compromising the reliability and validity of the scale. Differences in somatization between the distressed and nondistressed groups were consistent with national norms (67), and there were no significant differences between the two distressed groups (ie, CSA-distressed and distressed only). Third, all of our participants were recruited while waiting to see a physician. Thus, our sample was biased toward those who make use of medical services and excluded those who may avoid using such services. Finally, the sample was recruited in a stepwise manner, with 25% refusing to be screened, 32% refusing to participate further, and 31% of the final sample failing to return questionnaires. Thus, the response rate limits the conclusions that may be drawn.

However, our study had several strengths. Our data were obtained from medical records and thus not subject to recall bias. Our population was drawn from an HMO sample as opposed to populations seeking specialty care. In addition, our study combined the liter-

ature of two fields of research concerned with correlates of medical utilization that were previously proceeding in a parallel manner, namely studies examining abuse history and those concerned with psychological distress.

Our findings have practical implications for physicians. Psychological distress as well as CSA history are present in a significant percentage of primary care patients. Consistent with other studies (56, 60), we found that patients are generally willing to complete a psychosocial screen, which can identify those with problems in these areas. Although screening for distress may help to identify high utilizers of medical services, assessment of CSA and physical abuse history seems to add important information, as our data regarding ER utilization indicate.

Our study raises several important issues that require follow-up in future investigations. First, the different patterns of utilization among the groups we surveyed argue for preserving distinctions between CSA-distressed, distressed only, and CSA only individuals in future studies of utilization. Follow-up investigations of recent studies that have ventured beyond CSA and found relationships between both sexual and nonsexual forms of child maltreatment and adult medical morbidity (77) should also consider the role of psychological distress. Second, potential mediating variables, such as coping style, social support, and life stress, that might help to explain the patterns we found should also be investigated. Third, interview-gathered data to formulate accurate psychiatric diagnoses would be helpful in planning interventions. Our investigation suggests that designing effective interventions for high utilizers will be complicated by their heterogeneity. The finding of high ER utilization among distressed individuals with a history of CSA combined with the evidence of high numbers of pain complaints suggests that this group is likely to prove distinct and to require intervention geared toward managing chronic pain more effectively as well as reducing psychological distress.

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