A Brief 2-Item Screener for Detecting a History of Physical or Sexual Abuse in Childhood

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ABSTRACT

Background: A number of medical practice guidelines and recommendations call for screening adult patients for a history of physical or sexual abuse in childhood, but no brief screening tools exist. The objective of this study was to assess the accuracy of a 2-item screener for physical or sexual abuse in childhood.

Methods: Cross-sectional study of randomly-selected women (aged 18-65) from a large HMO in Seattle, Washington. Patients were administered a version of the Childhood Trauma Questionnaire – Short-Form (CTQ-SF), which included the two items included in the brief screener: [1] "When I was growing up people in my family hit me so hard that it left me with bruises or marks" and [2] "When I was growing up someone tried to touch me in a sexual way, or tried to make me touch them." A subset of patients completed a semi-structured interview for a history of physical or sexual abuse in childhood.

Results: 1,225 women completed the CTQ-SF, including the 2 screening items, and a subset of 216 women completed the ELS interview. The 2-item screener was sensitive (84.8%) and specific (88.1%) for detecting a history of physical or sexual abuse in childhood.

Conclusions: The two item screener provides an accurate tool, which is easily integrated into a comprehensive health questionnaire or administered verbally by a clinician, to assess for history of abuse. It is hoped that the combined accuracy and brevity of the screening tool will improve the ability of clinicians to screen for physical and sexual abuse in childhood.

INTRODUCTION

Adult patients with histories of physical or sexual abuse in childhood experience poorer overall health[1, 2] and utilize health care resources at significantly higher rates than patients without abuse histories.[3, 4] High rates of physical and sexual abuse in childhood are found among patients with gastrointestinal disorders,[5] headache,[6] fibromyalgia,[7] chronic pelvic pain,[8] other chronic pain conditions,[9] and chronic fatigue syndrome.[7] A history of physical or sexual abuse in childhood is also disproportionately prevalent in adult psychiatric disorders,[10, 11] including posttraumatic stress disorder,[12] depression,[13] anxiety disorders,[10, 12] eating disorders,[14] substance abuse,[10, 12] and personality disorders.[15]

Physical or sexual abuse in childhood is reported in 20% to 50% of primary care patients.[16] Screening for a history of physical or sexual abuse in childhood is recommended in the context of a number of psychiatric and non-psychiatric medical conditions.[5, 17-20] The ability to effectively screen for a history of physical or sexual abuse in childhood would be useful if it could rapidly identify patients with histories of abuse who may not improve with standard treatment of their medical condition and who may benefit from the integration of standard medical treatments with psychological treatments, such as psychotherapy or psychotropic medication.[21-23]

Primary care providers, however, have limited time with each patient and are responsible for screening for many different disorders and conditions. Thus, in practice, inquiry about abuse is not part of routine care, even when clinicians believe that it may be relevant to patient management.[24, 25] When screening does take place in medical clinics, it often involves embedding broad screening questions, such as “Have you ever been physically, sexually, or

emotionally abused?" into an initial intake form. Inquiries that use broad labeling questions, however, have been shown to be generally ineffective in screening for a history of abuse in childhood.[16, 26]

A brief screening tool for physical or sexual abuse in childhood that could be easily integrated into a comprehensive health questionnaire or administered to patients individually would be optimal in the context of the competing demands of the primary care setting. Short screening tools of only a few items have been used to detect intimate partner violence[27-30] and psychiatric disorders, including depression,[31] posttraumatic stress disorder,[32] and alcohol abuse.[33] Existing questionnaire and rating-scale instruments for physical or sexual abuse in childhood, however, tend to be too time consuming to function as a brief screening tool.[34]

In a recent study that used 2 large community-based samples,[26] 2 items from the 28-item Childhood Trauma Questionnaire – Short Form (CTQ-SF)[35] successfully identified a large proportion of respondents who reported physically or sexually abusive experiences from childhood on any other CTQ-SF items: [1] "When I was growing up people in my family hit me so hard that it left me with bruises or marks," and [2] "When I was growing up someone tried to touch me in a sexual way, or tried to make me touch them." In the current study, we evaluated the ability of those 2 items to effectively identify female members of a large metropolitan HMO with histories of physical or sexual abuse in childhood as determined by a semi-structured interview. The objective was to develop a 2-item screening tool for physical or sexual abuse in childhood that could be easily integrated into a comprehensive health questionnaire or administered verbally by a clinician in the medical setting.

METHODS

Sample Selection and Procedure

Data for the study were collected during 1996-1997 from female members of a large staff model HMO in Seattle, Washington as part of a larger study on the effects of sexual victimization on women's health. A randomly-selected sample of 1,963 English-speaking women ages 18-65 from the enrolled membership of the HMO were mailed an introductory letter announcing the study, followed by a 22-page questionnaire about health status and victimization history. The study was reviewed and approved by the Human Subjects committees of the HMO (Group Health Cooperative of Puget Sound) and the University of Washington.

The postal questionnaire included a preliminary version of the CTQ-SF, a self-report questionnaire that is designed to assess for abuse and neglect in childhood.[35] Based on their responses, a sample of women who returned the postal survey was selected for further evaluation with a semi-structured interview, the Evaluation of Lifetime Stressors (ELS).[36, 37] to assess for a history of physical or sexual abuse in childhood. Since a major hypothesis of the overall study involved the effects of sexual victimization on health, women who answered "yes" to one or more of three items about sexual abuse in childhood in the postal survey were recruited to participate in the ELS interview. An approximately equal number of women who answered "no" to all three screening questions about sexual abuse in childhood were selected at random for recruitment into the ELS portion of the study. The ELS interview was conducted by a psychiatric nurse who was blinded to CTQ-SF responses.

Measures

Childhood Trauma Questionnaire (CTQ-SF)[35]*:* The CTQ-SF is a 28-item self-report questionnaire that assesses both abuse and neglect in childhood and includes separate scales for

physical and sexual abuse. The item response options of the CTQ-SF reflect the frequency of maltreatment experiences (1-5; *never, rarely, sometimes, often, very often*). Bernstein et al. reported good internal consistency of the CTQ-SF for the physical (.83 to .86) and sexual abuse (.92 to .95) scales in 4 different patient samples.[38] A preliminary 34-item version of the CTQ-SF was administered in this study. Two items from the CTQ-SF were identified in a recent study as potentially effective screening items for physical or sexual abuse in childhood: [1] "When I was growing up people in my family hit me so hard that it left me with bruises or marks," and [2] "When I was growing up someone tried to touch me in a sexual way, or tried to make me touch them."[26] In the current study, subjects were considered to screen positive for a history of physical or sexual abuse in childhood if they answered anything other than *never* on either item.

Evaluation of Lifetime Stressors (ELS)[36]*:* Each subject was evaluated as positive or negative for physical and sexual abuse in childhood using the ELS. The ELS is a questionnaire/semi-structured interview package that is designed to assess for traumatic events in childhood and adulthood. The first part of the ELS consists of a questionnaire that inquires about behaviors and experiences that may reflect traumatic events. This is followed by a systematic assessment interview in the second part of the ELS. The full ELS interview typically requires 2-3 hours to complete, but is designed in modules. Only results from the modules on physical and sexual abuse in childhood were considered in this study. Histories of physical and sexual abuse in childhood were obtained from the ELS based on the following definitions: Physical abuse in childhood was defined as *bodily assaults on a child by an adult or older person that posed a risk or resulted in injury*. Sexual abuse in childhood was defined as *sexual contact or conduct between a child younger than 17 years of age and an adult or older person (at least 5 years*

older than the child). A recent study of male military veterans found high rates of agreement in ELS diagnoses of physical abuse in childhood (87%) and sexual abuse in childhood (91%) across two interviews conducted by different interviewers 2 to 7 days apart.[39]

Statistical Analyses

Demographic variables for subjects in the current study were compared to those of subjects who completed questionnaires, but were not interviewed as part of the current study, using χ^2 tests for categorical variables and 2-tailed *t* tests for continuous variables. Sensitivity and specificity for detecting an ELS classification of physical abuse in childhood were calculated based on the item "When I was growing up people in my family hit me so hard that it left me with bruises or marks," for ELS classification of sexual abuse in childhood based on the item "When I was growing up someone tried to touch me in a sexual way, or tried to make me touch them," and for an ELS assessment of either physical or sexual abuse in childhood based on a positive response to either item. In addition to calculating sensitivity and specificity, we computed positive likelihood ratios, which reflect the likelihood of a positive screen in the presence of an abuse history divided by the probability of a positive screen in the absence of an abuse history. We did not calculate positive or negative predictive values because these are affected by prevalence, and the sample selection procedure used in this portion of the study likely altered the prevalence of abuse in childhood from what would have occurred in a random sample. All analyses were conducted using SPSS version 13.0 (Chicago, IL).

RESULTS

Of the 1,963 surveys initially mailed, 1,225 were completed (62.4%). A total of 317 women answered "yes" to at least one of three screening items for sexual abuse in childhood and

were recruited for the ELS interview. Of these, 164 women (51.7%) were successfully contacted and 137 of the 164 (83.5%) agreed to participate. In addition, 250 women were selected at random from those who answered "no" to all three screening questions. Of these, 128 (51.2%) were successfully contacted, and 97 of the 128 (75.8%) agreed to be interviewed. A total of 216 women completed the ELS interview. As shown in Table 1, women who completed the ELS interview who were included in the present study were not significantly different from women who did not complete the ELS in terms of age, marital status, education level, or income, although they did tend to be somewhat older and less likely to be married. Women who participated in the ELS interview were significantly more likely to be White than non-participants ($p < .01$).

Based on ELS interviews, the prevalence of physical abuse in childhood was 24.5% (N = 53), and the prevalence of sexual abuse in childhood was 56.9% (N = 123). Of the 216 women in the study, 38.9% (N = 84) had no history of physical or sexual abuse in childhood, 40.7% (N = 88) experienced either physical or sexual abuse in childhood, and 20.4% (N = 44) experienced both physical and sexual abuse in childhood.

Table 2 displays the sensitivity, specificity, and positive likelihood ratios for single-item queries about physical abuse in childhood and sexual abuse in childhood and for the 2-item screener for physical or sexual abuse in childhood. The item "When I was growing up people in my family hit me so hard that it left me with bruises or marks" was 69.8% sensitive and 93.9% specific to cases of physical abuse in childhood as defined by the ELS. The item "When I was growing up someone tried to touch me in a sexual way, or tried to make me touch them" was 82.1% sensitive and 89.2% specific to cases of sexual abuse in childhood. The 2-item screener

was 84.8% sensitive and 88.1% specific for detecting a history of physical or sexual abuse in childhood.

DISCUSSION

The main finding of this study is that the 2-item screener was effective for detecting a history of physical or sexual abuse in childhood. Compared to classification by semi-structured interviews with 216 women from a HMO in Seattle, Washington, single items from the 2-item screener were adequately sensitive and specific for detecting both physical and sexual abuse in childhood. The 2-item tool was a very effective screener for a history of physical or sexual abuse in childhood in terms of both sensitivity (84.8%) and specificity (88.1%).

It is noteworthy that the 2-item screening tool performed as well as or better than short screening tools that have been developed to detect current intimate partner or domestic violence. Sensitivity and specificity of the 3-item Partner Violence Screen (PVS), for instance, were reported by Felhhaus et al. to be from 64.5% to 71.4% and 80.3% to 84.4%, respectively, depending on the criterion measure[27] and by Halpern et al. to be 92% and 56%.[40] Halpern et al. found the 2-item short-Woman Abuse Screening Tool (short-WAST)[28] to be 58% sensitive and 49% specific.[40] Sensitivity and specificity for the 3-item Abuse Assessment Screen (AAS)[29] were reported by Reichenheim and Moraes to be 61% and 98%.[41]

When the intent is to definitively document a patient's history of abuse in childhood or to assess levels of abuse in research settings, a semi-structured interview, such as the ELS, or the full CTQ-SF with scale scores for each type of abuse are the preferred instruments. In the primary care setting, however, the purpose of an initial screen for a history of physical or sexual abuse in childhood is not to definitively diagnose a history of abuse in childhood or to evaluate

abuse severity. Rather, in the busy medical setting, the purpose of an initial screen is to assess patients using a reasonably accurate, but brief tool, as part of a two-stage screening process. Evidence from this study suggests that the 2-item screening tool described here is an effective instrument for this purpose. Patients who screen positive for a history of physical or sexual abuse in childhood on the 2-item screener should be further screened with a more thorough assessment tool, such as the CTQ-SF, or with an interview by the primary care physician or a mental health professional to clarify their abuse history.

Screening for a history of physical or sexual abuse in childhood, however, is not typically part of routine practice in primary care and specialty medicine clinics.[24, 25] Friedman et al. reported that only 6-7% of patients in primary care are ever asked about physical or sexual abuse, even though most are in favor of including abuse screening as part of the standard health interview.[24] Inquiry about physical and sexual abuse in childhood is not standard practice in mental health clinics either,[42, 43] even though spontaneous disclosure of a history of abuse is very rare.[42, 44] Of adult psychiatric patients who disclose physical or sexual abuse in childhood as part of research studies, only 10-30% report that their abuse history has been previously identified by clinicians as part of their psychiatric care.[42, 43]

Screening for abuse has the potential to identify patients with abuse histories who often go from one treatment provider to another and who may receive various medical diagnoses without recognition of their underlying psychological condition. Accurate identification of these patients with appropriate triage to mental health services could potentially reduce suffering while also decreasing the use of expensive medical resources. One study found that treatment with psychotherapy or paroxetine produced significantly greater improvement in symptom severity

among irritable bowel syndrome patients with a history of sexual abuse in childhood compared to patients without an abuse history.[22] Improvement occurred whether or not patients had a concurrent psychiatric diagnosis.[45] Furthermore, health care costs in the year following treatment were less for patients treated with psychotherapy or paroxetine than for patients who received treatment as usual.[46]

There are limitations that should be taken into consideration in interpreting results from this study. First, as is the case in most retrospective studies of childhood maltreatment, data in this study was limited to self-report. Cutoff scores derived from CTQ-SF scales, however, have been shown to predict verified cases of abuse reasonably well when corroborative evidence was available.[38] Second, subjects in the study completed the items included in the 2-item screener as part of a preliminary 34-item version of the CTQ-SF. Whether or not this would produce different results compared to a study in which respondents are administered only the 2-items and interviewed with the ELS is an empirical question for future research. Finally, this study included only women and did not report on the diagnostic accuracy of the 2 items for men. A recent study that we conducted on the measurement invariance of the CTQ-SF between women and men, however, found that the items used in the 2-item screener were invariant across sex (in review). The finding of measurement invariance indicates that these items did not exhibit bias related to sex and that women and men with similar abuse histories would be expected to respond to these items in the same way.

In summary, this study demonstrates that clinicians can effectively screen for a history of physical or sexual abuse in childhood using only 2 items: [1] “When I was growing up people in my family hit me so hard that it left me with bruises or marks” and [2] “When I was growing up

someone tried to touch me in a sexual way, or tried to make me touch them." These items can be easily embedded into an initial comprehensive health questionnaire or administered verbally by a clinician. It is hoped that the accuracy of the 2-item screener combined with its brevity and ease of administration will increase routine screening for physical and sexual abuse in childhood in primary care and specialty medicine clinics.

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Table 1: Demographic Characteristics of Current Study Sample Compared to Subjects who Completed Questionnaires Only

	Current Study Sample (N = 216)	**Questionnaire Only (n = 1009)**	**P Value**
Age (years) (mean ± SD)	43.2 ± 10.9	41.5 ± 11.6	.06
Married	45.4%	51.8%	.09
College graduate	60.6%	56.4%	.25
Household income < $40,000	53.7%	50.8%	.45
White	87.0%	76.2%	<.01

Table 2: Sensitivity, Specificity, and Positive Likelihood of 1-item Screening Items for Physical Abuse in Childhood and Sexual Abuse in Childhood and for the 2-item Screening Tool for Physical or Sexual Abuse in Childhood

	Physical Abuse in Childhood N = 53	**Sexual Abuse in Childhood N = 123**	**Physical or Sexual Abuse in Childhood N = 132**
Sensitivity	69.8%	82.1%	84.8%
Specificity	93.9%	89.2%	88.1%
Positive Likelihood Ratio	11.4	7.6	7.1