Long-Term Physical Health Problems Associated With Sexual Assault History

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The acute and long-term mental health correlates of sexual assault have been well documented for over a decade (Browne & Finkelhor, 1986; Burgess & Holmstrom, 1974; Wyatt & Powell, 1988) Although sexual assault was also known to have immediate physical consequences, including physical trauma (Geist, 1988) and somatic symptoms (Browne & Finkelhor, 1986; Burgess & Holmstrom, 1974), little was known about its potential long-term physical health effects (Koss, Woodruff & Koss, 1990) Studies in medical patient populations had suggested associations of sexual assault history with gynecologic problems, such as chronic pelvic pain (Harrop-Griffiths et al , 1988; Drossman et al., 1990) and sexual dysfunction (Briere & Runtz, 1987; Harrop-Griffiths et al., 1988); other chronic pain syndromes (Haber & Sitley, 1987; Wurtele, Kaplan & Keairnes, 1990), such as headache (Domino & Haber, 1987) and fibromyalgia (Boisset-Pioro, Esdaile & Fitzcharles, 1995); and gastrointestinal disorders, such as irritable bowel syndrome (Drossman et al , 1995) Sexual assault history had also been shown to be related to somatization disorder (Coryell & Norten, 1981; Morrison, 1989).

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This article summarizes the results of a comprehensive, large-scale study of the long-term physical health correlates of sexual assault history in general populations The article first describes the associations of sexual assault history with general health, specific health problems, and the functional impact of health problems It then considers the extent to which the results indicate a causal relationship of sexual abuse with health problems Finally, the studies addressed sexual abuse that occurred at any time during the participant's life Each analysis assessed whether people who experienced sexual abuse during childhood had higher or lower risks for health problems than people who were first assaulted as adults. When health problems were associated with sexual assault history, they were usually associated with assaults that occurred at any time during the person's life That is, both childhood sexual abuse and sexual assault during adulthood were associated with these health problems. Health problems associated more strongly with childhood sexual abuse are also described.

The Study

The study involved analysis of data from seven surveys of randomly-selected household residents, representing a total of over 13,000 individuals These were the Los Angeles and North Carolina sites of the Epidemiologic Catchment Area study (LA-ECA and NC-ECA, respectively), the National Study of Health and Life Experiences of Women (NSHLEW), the National Health and Social Life Survey (NHSLS), the Adolescent Health Risk Study (AHRS), the National Survey of Children (NSC), and the Puerto Rico Methodologic Epidemiologic Catchment Area study (PR-MECA). Characteristics of the surveys are summarized elsewhere (Golding, Cooper & George, 1997).

When it was justified, data from multiple data sets were pooled for analysis; when data were pooled, empirical tests were conducted to evaluate empirically whether the results differed across studies. In other analyses, data from multiple studies were combined using meta-analysis (Hedges & Olkin, 1985) Both strategies allowed evaluation of the extent to which associations of sexual assault with health were similar across studies, genders, and ethnic groups The comparisons across studies were important because studies differed in their methodology Differences in measurement of sexual assault were particularly important because characteristics of measures are related to their sensitivity in detecting sexual assault history (Koss, 1993; Peters, Wyatt & Finkelhor, 1986). In spite of this, associations of sexual assault history with health problems were always similar across the studies in which they were examined Gender differences were assessed, because it was thought that the experience or meaning of sexual assault may differ by gender, and because many past studies had included only women and thus it was not known whether results generalized to men. There was a possible gender difference in the relationship of sexual assault to health perceptions (see below) but not to other health indicators With regard to ethnicity, the surveys included sufficient numbers of African Americans, European Americans, and Latinos for analysis Few ethnic differences occurred; these are summarized below

Sexual Assault History and General Health

Health perceptions served as an indicator of global health status. Associations of sexual assault with health perceptions were estimated in all seven data sets (Golding et al., 1997). Health perceptions were operationalized in all seven surveys using an item asking the respondent to rate her or his health as excellent, very good, good, fair, or poor (or some minor variation of this). This may seem like a subjective measure that could be contaminated by psychological factors that are related to sexual assault, such as depression. However, people's perceptions of their own health are reliably correlated with physician-assessed health and mortality (Idler & Angel, 1990; Kaplan & Camacho, 1983;

McCallum, Shadbolt & Wang, 1994; Okun & George, 1984) The present study found that people who had been sexually assaulted at some time in their life were over 50 percent more likely than others to report "poor" or "fair" physical health When the presence of depression was controlled statistically, the relationship between sexual assault and health perceptions persisted. Although meta-analysis indicated that the results were similar regardless of gender, the data also suggested the possibility that the association might be stronger among women

Sexual Assault History and Specific Health Problems

The survey responses of the 1,610 women in the LA-ECA study were used to evaluate in greater detail the associations of sexual assault history with specific health problems (Golding, 1994). These analyses addressed the assumption that sexual assault was related only, or primarily, to symptoms with no clear medical explanation (somatization disorder symptoms) Associations of sexual assault with both medically explained and medically unexplained symptoms were estimated. The analysis also addressed the assumption that sexual assault was related only, or primarily, to gynecologic symptoms, by estimating associations of sexual assault with symptoms in multiple body systems.

Like previous studies that found relationships of sexual assault to somatization disorder, this analysis indicated that women with a history of sexual assault were about four times more likely than those without such a history to have at least six "medically unexplained" physical symptoms. (The criterion of six symptoms has been used to indicate a sub-threshold form of somatization disorder [Escobar, et al., 1987; Swartz, et al., 1991]; it was extremely rare to find persons meeting the full DSM-III-R criteria in general population samples) However, assaulted women were also more than twice as likely to have more than six "medically explained" symptoms. Sexually assaulted women were more likely than non-assaulted women to have at least one medically explained symptom in all of the categories studied: gastrointestinal, pain, cardiopulmonary, neurologic, sexual, and reproductive Results were similar when "unexplained" symptoms were considered, except that assaulted and non-assaulted women did not differ in symptoms of sexual dysfunction. Many individual symptoms such as abdominal pain, fainting, painful intercourse, and menstrual irregularity were also more common among sexually assaulted women These results indicated that the health problems experienced by sexually assaulted women are not limited to somatization disorder symptoms and are not limited to gynecologic problems.

Further analyses took an additional perspective on the extent to which sexual assault is related to medically explained illness and/or somatization disorder. Specifically, some theorists have suggested that somatization disorder might represent a pattern of illness behavior, rather than actual symptom experience (Woodruff, Clayton & Guze, 1971). That is, people with and without somatization disorder might have similar experience of symptoms, but those with somatization disorder might be more likely to seek health care for those symptoms. It was already known that people with a history of sexual assault were more likely than those without to seek health care (Felitti, 1991; Golding, et al, 1988; Kimerling & Calhoun, 1994; Koss, Koss & Woodruff, 1991), and there was some evidence to suggest that this could be accounted for by poorer subjective health of persons with a history of sexual assault (Golding et al , 1988)

To address the question of whether sexually assaulted and non-assaulted persons with the same symptoms differed in their likelihood of seeking health care for those symptoms, data from the LA-ECA and NC-ECA surveys were pooled (Golding, 1999b). Each of 21 symptoms was studied individually; for example, abdominal pain, nausea, chest pain, palpitations, headache, back pain. Assaulted and non-assaulted people with 18 of the 21 symptoms were equally likely to seek medical care for each of the 18 symptoms Among those who sought care, assault was not related to whether symptoms were medically explained Taken together, the results suggested that associations of sexual assault with medical care seeking are mainly due to the greater likelihood that assaulted people will experience physical symptoms.

Gynecologic symptoms were also studied in greater depth. Data from the 3,419 women interviewed in LA-ECA and NC-ECA were pooled to assess in greater detail the associations of sexual assault with reproductive symptoms and sexual dysfunction (Golding, 1996b). Women with a history of sexual assault were more likely than women without to report painful, irregular, or heavy menstrual periods; burning sensation in the genital area; and painful or non-pleasurable sexual intercourse Associations of sexual assault history with medically explained symptoms were generally similar when demographic characteristics were controlled statistically However, there were ethnic differences in the associations of sexual assault with medically unexplained symptoms Sexual assault had a stronger association with medically unexplained menstrual irregularity among African American women than among European American women Further analyses suggested that this pattern might be due to the different circumstances of assaults reported by women in the two ethnic groups (which, one could speculate, might itself be due to the tendency of African American women to have been part of the North Carolina sample and differences in the way the question about sexual assault was asked

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at the two sites) Sexual assault was related to medically unexplained sexual indifference only among Latina women, and there were no ethnic differences in circumstances of assault that appeared to account for this result It could be speculated that this result might be due to ethnic differences in values and attitudes related to sexual assault and sexuality (Fontes, 1993; Lefley et al , 1993)

Data from the 1,567 women in the NC-ECA and NSHLEW samples were used to evaluate the association of sexual assault history with premenstrual distress (Golding & Taylor, 1996) Odds of premenstrual distress were more than twice as great for assaulted than for non-assaulted women Results did not change markedly when depression was controlled statistically

A somewhat different approach was taken in analyses that evaluated the prevalence of sexual assault history among women in the LA-ECA, NC-ECA, and NSHLEW samples (pooled N = 4,094) who reported no, one, two, or three common gynecologic symptoms (Golding, Wilsnack & Learman, 1998) This approach was used to evaluate whether the presence of these symptoms could help alert physicians to the possibility of sexual assault history The odds of sexual assault history approximately doubled with each added symptom for women under 45 and were also significantly increased for women 55 and older However, because many asymptomatic women had also been assaulted, it was concluded that physicians should not limit sexual assault screening to symptomatic women The importance of interpersonal sensitivity in screening was emphasized

The association of sexual assault history with headache was assessed among the 7,502 respondents in the LA-ECA, NC-ECA, NSHLEW, AHRS, and PR-MECA samples (Golding, 1999a) Odds of headache were more than 50 percent greater for assaulted than for non-assaulted respondents

Sexual Assault History and Physical Functioning

Clearly, the study indicated that people who had been sexually assaulted were more likely to experience a wide range of health problems What is the day-to-day impact of such health problems? To address this question, associations of sexual assault history with physical functioning were estimated among the 6,024 participants in the LA-ECA and NC-ECA surveys (Golding, 1996a) People with a history of sexual assault were more likely than those who had not been sexually assaulted to spend days in bed and to restrict their normal activities because of physical health problems Statistically, these relationships were accounted for by the greater prevalence of significant physical symptoms among sexually assaulted respondents People who had been assaulted had more symptoms, and people with more symptoms had more limitations in their functioning There was no difference between assaulted and non-assaulted people in the extent to which symptoms were related to functional limitations Greater prevalence of depression among assaulted respondents did not account for the association between assault and functional status

The study also addressed relationships of sexual assault history to eating disorder symptoms Eating disorders had long been thought to be related to sexual assault (Bushnell, Wells & Oakley-Browne, 1992; Calam & Slade, 1989; Hall et al , 1989), although the research in this area had been criticized (Pope & Hudson, 1992) The present study was the first in the United States to estimate this association using general population surveys Using data from the 6,025 LA-ECA and NC-ECA respondents, associations of sexual assault history with symptoms of anorexia nervosa were estimated (Laws & Golding, 1996) Assaulted people were more likely than non-assaulted people to report thinking they were too fat, losing at least 15 pounds, weight loss to 85% of normal weight, at least one DSM-III-R anorexia nervosa symptom, and sudden weight change Sexual assault was more strongly related to self-perception as fat among Latina/Latino respondents than among European American respondents, to loss of at least 15 pounds among low-income respondents, and to sudden weight change among younger adults

Are the Associations of Sexual Assault with Health Causal?

The study examined the types or circumstances of sexual assault that were associated with each of the health problems described above: those that bear on the possibility of a causal relationship between sexual assault and health problems, and those that address childhood sexual abuse in particular

Sexual Assault At Any Age and Health Problems

Hill (1965) proposed nine criteria by which to evaluate whether observational data suggest a causal relationship One of these is strength of association Risk factors more strongly related to health problems are more likely to be causally related to them In the present study, many of the relationships of sexual assault to health problems reach or approach epidemiologic criteria for "large" effects, i e an adjusted odds ratio of 2.5 or more (Fleiss, Williams & Dubro, 1986) These include the associations of sexual assault with at least one physical symptom, at least one pain symptom, at least one sexual symptom, premenstrual distress, and sudden weight change Many other associations were statistically reliable, but not large by this criterion

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Another criterion for inferring causality is the presence of a dose-response pattern (Hill, 1965) in which the greater the exposure to sexual assault (operationalized in this research as more assaults and repeated assault by the same offender), the greater the likelihood of health problems. There was some evidence for dose-response relationships in the present study. Persons assaulted more than once were more likely to report poor or fair health and gynecologic symptoms than persons assaulted once. Women assaulted repeatedly by the same person were at higher risk than other assaulted women for restrictions of normal activities, missing two menstrual periods, and premenstrual distress.

Taken together, these results are consistent with the possibility of a causal relationship between sexual assault and health problems, although they do not provide overwhelming evidence for causality.

Childhood Sexual Abuse and Health Problems

People who were sexually assaulted during childhood were more likely than those first assaulted as adults to report medically unexplained menstrual pain, loss of at least 15 pounds, sudden weight change, and headache. The relationship with headache is interesting in light of hypotheses that headache may be related to dissociation (Braun, Sachs & Frischholz, 1992) and findings that dissociation is common among survivors of childhood sexual abuse (Briere & Runtz, 1987; Chu & Dill, 1990). The findings related to eating disorder symptoms are consistent with the hypothesis that eating disorders are specifically related to childhood sexual abuse (Laws, 1993a). In general, however, the results suggest that sexual assault at any age may be related to physical health problems.

People with a history of sexual assault were more likely than those who had not been sexually assaulted to spend days in bed and to restrict their normal activities because of physical health problems.

Implications for Practice

The findings have implications for both physical and mental health care.

Implications for Physical Health Care

The findings of this research suggest that patients with poor general health, limitations in physical functioning, and/or specific symptoms (such as pain and gynecologic, gastrointestinal, cardiopulmonary, or neurologic symptoms, particularly if multiple symptoms in several different body systems are present) may be more likely than others to have a history of sexual abuse. This traumatic history can complicate medical diagnosis and treatment (Courtois, 1998), particularly in the context of many survivors' tendency to neglect health care (Courtois, 1998), difficulty with trust in physician-patient relationships (Campling, 1992), and low probability of spontaneously disclosing this history to physicians (Golding et al, 1989; Springs & Friedrich, 1992). Consequently, "practitioners ... must be willing to ask about abuse and to develop hypotheses, but should never assume or suggest abuse" (Courtois, 1998, p. 48). Suggestions of ways to screen for sexual abuse history and to meet survivors' needs in providing health care are given by others (Courtois, 1998; Drossman, et al., 1995; Laws, 1993b; Felitti, Laws, & Walker, 1993). Successful experiences with medical treatment provide a new form of interpersonal relating that may help break the cycle of abusive experiences, poor health, and avoidance of health care, eventually improving both physical and mental health (Courtois, 1998).

Implications for Mental Health Care

The finding that sexual abuse, particularly in childhood, is related to eating disorder symptoms suggests that mental health professionals treating patients with eating disorders should be aware of the possible role of sexual abuse and should screen these patients appropriately. Mental health professionals consulting with physicians also need to be aware of the possibility that sexual abuse history may contribute to, and/or complicate, assessment and treatment of physical health problems. Collaboration with physicians may be helpful in strengthening the ability of patients coping with medical procedures to become more empowered, rather than repeating an abusive experience (Courtois, 1998). Practitioners can use the research findings to improve recognition of and screening for sexual abuse history, to optimize treatment, and, ultimately, to enhance patients' physical and emotional well-being.

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References

Boisset-Pioro, M. H., Esdaile, J. M., & Fitzcharles, M. A. (1995). Sexual and physical abuse in women with fibromyalgia syndrome. *Arthritis and Rheumatism 38*. 235-241.

Braun, B., Sachs, R. G., & Frischholz, E. J. (1992). Headaches and early child abuse. In S. Diamond & M. Maliszewski (Eds.), *Sexual aspects of headaches*. Madison, CT: International Universities Press. pp. 379-388.

Briere, J., & Runtz, M. (1987). Post sexual abuse trauma: Data and implications for clinical practice. *Journal of Interpersonal Violence 2*. 367-379.

Browne, A., & Finkelhor, D. (1986). Initial and long-term effects: A review of the research. In D. Finkelhor (Ed.), *A sourcebook on child sexual abuse*. Beverly Hills: Sage pp. 143-179.

Burgess, A. W., & Holmstrom, L. L. (1974). Rape trauma syndrome. *American Journal of Psychiatry* 131. 981-986.

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Bushnell, J A., Wells, J E, & Oakley-Browne, M A (1992) Long-term effects of intrafamilial sexual abuse in childhood *Acta Psychiatrica Scandinavica 85* 136-142

Calam, R M & Slade, P D (1989) Sexual experience and eating problems in female undergraduates *International Journal of Eating Disorders 8* 391-397

Campling, P. (1992) Working with adult survivors of child sexual abuse: Much can be learnt from what goes wrong *British Medical Journal 305* 1375-1376

Chu, J A, & Dill, D L. (1990) Dissociative symptoms in relation to childhood physical and sexual abuse *American Journal of Psychiatry 147* 887-892

Coryell, W., & Norten, S G (1981) Briquet's syndrome (somatization disorder) and primary depression: Comparison of background and outcome *Comprehensive Psychiatry 22* 249-256

Courtois, C A (1998) The impact of child sexual abuse on psychological and physical health: A treatment update for primary care *Primary Psychiatry* (April). 45-50

Domino, J. V., & Haber, J D. (1987) Prior physical and sexual abuse in women with chronic headache: Clinical correlates *Headache 27* 310-314

Drossman, D. A, Leserman, J, Nachman, G, Li, Z, Gluck, H, Toomey I C, & Mitchell, C M (1990). Sexual and physical abuse in women with functional or organic gastrointestinal disorders *Annals of Internal Medicine 113* 828-833

Drossman, D A., Talley, N J, Leserman, J, Olden, K. W., & Barreiro, M A. (1995) Sexual and physical abuse and gastrointestinal illness: Review and recommendations *Annals of Internal Medicine 123* 782-794

Escobar, J I, Burnam M A., Karno, M, Forsythe, A, & Golding, J M. (1987). Somatization in the community *Archives of General Psychiatry 44* 713-718

Felitti, V. J (1991). Long-term medical consequences of incest, rape and molestation. *Southern Medical Journal 84* 328-331

Felitti, V J., Laws A, & Walker E A (1993) Women abused as children *Patient Care* 169-180

Fleiss, J. L., Williams, J B, W, & Dubro, A F. (1986) The logistic regression analysis of psychiatric data *Journal of Psychiatric Research 20,* 195-209

Fontes, L (1993). Considering culture and oppression: Steps toward an ecology of sexual child abuse *Journal of Feminist Family Therapy 5* 25-54

Geist, R. F (1988) Sexually related trauma *Emergency Medicine Clinics of North America 6* 439-466

Golding, J M. (1994). Sexual assault history and physical health in randomly selected Los Angeles women *Health Psychology 13* 130-138

Golding, J M (1996a) Sexual assault history and limitations in physical functioning in two general population samples *Research in Nursing and Health 19* 33-44

Golding, J M (1996b). Sexual assault history and women's reproductive and sexual health *Psychology of Women Quarterly 20* 101-121

Golding, J M. (1999a) Sexual assault history and headache: Five general population studies *Journal of Nervous and Mental Disease 187* 624-629

Golding, J M (1999b) Sexual assault history and medical care seeking: The roles of symptom prevalence and illness behavior *Psychology and Health 14* 949-957

Golding, J. M, Cooper, M. L, & George L K (1997) Sexual assault history and health perceptions: Seven general population studies *Health Psychology 16* 417-425

Golding, J. M, Siegel, J M, Sorenson, S B, Burnam, M A, & Stein, J. A (1989) Social support sources following sexual assault *Journal of Community Psychology 17* 92-107

Golding, J. M, Stein, J. A, Siegel, J. M., Burnam, M A, & Sorenson S. B (1988) Sexual assault history and use of health and mental health services *American Journal of Community Psychology 16* 625-644

Golding, J. M., & Taylor, D L (1996). Sexual assault history and premenstrual distress in two general population samples *Journal of Women's Health 5* 143-152

Golding, J M., Wilsnack, S C, & Learman, L A (1998) Prevalence of sexual assault history among women with common gynecologic symptoms *American Journal of Obstetrics and Gynecology 179* 1013-1019

Haber, J D & Sitley, K N. (1987) The identification of long term abuse in a chronic care setting." Paper presented at Mental Disorders in General Health Care Settings: A Research Conference Seattle WA June 2000

Hall, R C W., Beresford, T P., Wooley, B, & Hall A K (1989) Sexual abuse in patients with anorexia nervosa and bulimia *Psychosomatics 30* 73-79

Harrop-Griffiths, J, Katon W, Walker E, Holm, L, Russo J, & Hickok L (1988). The association between chronic pelvic pain, psychiatric diagnoses, and childhood sexual abuse *Obstetrics and Gynecology 71* 589-594

Hedges L. V., & Olkin I (1985) *Statistical methods for meta-analysis* Orlando: Academic Press

Hill A B (1965) The environment and disease: Association or causation? *Proceedings of the Royal Society of Medicine 58* 295-300

Idler, E L., & Angel, R. J (1990). Self-rated health and mortality in the NHANES-I Epidemiologic Follow-up Study *American Journal of Public Health 80* 446-452

Kaplan, G A & Camacho, T. (1983) Perceived health and mortality: A nine-year follow-up of the Human Population Laboratory cohort *American Journal of Epidemiology 117* 292-304

Kimerling, R, & Calhoun, K S (1994) Somatic symptoms, social support, and treatment seeking among sexual assault victims *Journal of Consulting and Clinical Psychology 62* 333-340

Koss, M P (1993) Detecting the scope of rape: A review of prevalence research methods *Journal of Interpersonal Violence 8* 198-222

Koss, M P., Koss, P G., & Woodruff, W J (1991) Deleterious effects of criminal victimization on women's health and medical utilization *Archives of Internal Medicine 151* 342-347

Koss, M P., Woodruff, W J, & Koss P G (1990). Relation of criminal victimization to health perceptions among women medical patients *Journal of Consulting and Clinical Psychology 58* 147-152

Laws A (1993a). Does a history of sexual abuse in childhood play a role in women's medical problems? A review *Journal of Women's Health 1* 165-172

Laws, A (1993b). Sexual abuse history and women's medical problems *Journal of General Internal Medicine 8* 441-443

Laws, A, & Golding J M (1996) Sexual assault history and eating disorder symptoms among White, African American, and Hispanic women and men *American Journal of Public Health 86* 579-582

Lefley H P Scott, C S Llabre, M, & Hicks, D (1993) Cultural beliefs about rape and victims response in three ethnic groups *American Journal of Orthopsychiatry 63* 623-632

McCallum J., Shadbolt, B, & Wang, D. (1994) Self-rated health and survival: A 7-year follow-up study of Australian elderly *American Journal of Public Health 84* 1100-1105

Morrison, J (1989) Childhood sexual histories of women with somatization disorder *American Journal of Psychiatry 146* 239-241

Okun, M A & George, L K (1984) Physician- and self-ratings of health, neuroticism and subjective well-being among men and women *Personality and Individual Differences 5* 533-539

Peters S D Wyatt, G E, & Finkelhor D (1986) Prevalence In D Finkelhor (Ed) *A sourcebook on child sexual abuse* Beverly Hills: Sage pp 15-59

Pope, H G & Hudson, J I (1992) Is childhood sexual abuse a risk factor for bulimia nervosa? *American Journal of Psychiatry 149* 455-463

Springs F E., & Friedrich, W N (1992) Health risk behaviors and medical sequelae of childhood sexual abuse *Mayo Clinic Proceedings 67* 527-532

Swartz, M, Landerman, R, George, L K Blazer D G, & Escobar J (1991) Somatization disorder In L N. Robins & D A Regier (Eds), *Psychiatric disorders in America* pp 220-257 New York: Free Press

Woodruff, R. A, Jr, Clayton, P. J, & Guze, S B (1971) Hysteria: Studies of diagnosis, outcome, and prevalence *Journal of the American Medical Association 215* 425-428

Wurtele, S K., Kaplan, G M, & Keairnes M (1990) Childhood sexual abuse among chronic pain patients *Clinical Journal of Pain 6* 110-113

Wyatt, G. E, & Powell G. J (eds). (1988) *Lasting effects of child sexual abuse* Newbury Park, CA: Sage Publications