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The National Center for PTSD
VA Medical and Regional Of-
fice Center (116D)
215 North Main Street
White River Junction
Vermont 05009-0001 USA

☎ (802) 296-5132

FAX (802) 296-5135

Email: ptsd@dartmouth.edu

<http://www.ncptsd.va.gov>

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PREVALENCE OF PTSD IN PRIMARY CARE SETTINGS

Laurie B. Slone, Ph.D.
*National Center for PTSD and
Dartmouth Medical School*

As many as one in five primary care patients have significant mental health problems, including posttraumatic stress disorder (PTSD). In national probability samples in the U.S., the lifetime prevalence of PTSD is estimated at 6.8% (Kessler et al., 2005) and current prevalence in the past 12 months at 3.5% (Kessler et al., 2005). PTSD is related to higher levels of health-related problems (Schnurr & Green, 2004) and to lower levels of functioning (Thorp & Stein, 2005). The same experiences that qualify for DSM-IV PTSD criterion A (e.g., war, disaster, sexual abuse, severe physical injury) also commonly lead to medical visits. Taken together, these findings suggest that PTSD may be prevalent in primary care settings. The goal of this report is to summarize the current literature that examines the prevalence of PTSD in primary care settings. Results based on archival reviews and self-reports are contrasted, and the methods used in the research to date are considered.

Archival Studies

A patient's trauma history is often undetected during routine medical visits unless the patient mentions trauma as the main reason for the visit. A few archival studies examined existing medical records to uncover how often patients reported trauma or PTSD. These studies were not conducted to provide accurate estimates of prevalence via direct questions to patients but to show what occurs when a focus on trauma and PTSD is absent. One study conducted in the Netherlands (Mol et al., 2002) examined prevalence of trauma exposure commonly recorded in general practice and found that only 0.1 - 0.3% of patients were listed as reporting a traumatic event. In a random sample of existing emergency room charts, Briere and Zaidi (1989) found that 6% of patients reported abuse. In this same setting, when clinicians were instructed to inquire about abuse, the rates increased to 70%. Likewise, PTSD often goes undetected in primary care. An archival study conducted in Australia examined the medical records of over 50,000 patients. The prevalence of PTSD was less than 0.09%, far below the rates found in community samples (Gauvin & Wilson, 2002). Another study showed that general practitioners diagnosed only 7% of

actual PTSD cases. Zimmerman and Mattia (1999) administered structured interviews to 500 Rhode Island patients to identify cases of PTSD. During the patients' visit, the physicians diagnosed PTSD in 7% of this sample, but an additional 19% met criteria based on results of the structured interview.

Self-Report Studies: Methodological Issues

To provide more accurate estimates of the prevalence of PTSD in primary care, many investigators have used self-reports in the form of questionnaires or interviews instead of record reviews. Throughout these studies, sampling strategies, response rates, and assessment approaches differ; therefore the extent to which these studies yielded generalizable results varies. These methodological differences potentially create sampling biases that posed less of a challenge for the archival studies summarized above. Unlike traditional epidemiologic studies of large probability samples, studies conducted in medical settings have often used smaller convenience samples. In some studies, samples were drawn from waiting rooms, and in others, patients that attended a primary care facility were contacted at a later time to complete the study. In waiting rooms, undoubtedly research assistants were more likely to reach some patients than others, and many patients may have been called away to their appointments before completing the protocol. However, there are examples in the literature of nationally representative samples (Afana et al., 2002; Thulesius et al., 2004).

Another sampling issue in interpreting this research is whether there were eligibility requirements beyond presence in primary care. Some studies report prevalence in samples of individuals who have been selected because of the possibility of psychiatric disorder. For example, prevalence estimates reported in the Primary Care Anxiety Project (PCAP) (Bruce et al., 2001; Rodriguez et al., 2003; Weisberg et al., 2002) were based on a sample of adults who had already completed a screening questionnaire for depression or anxiety and had been referred for consultation. Other studies have used samples that were selected based on injury or other trauma (e.g., motor vehicle and other accidents).

As in other types of survey research, response rates also determine the accuracy of prevalence data obtained in primary care settings. Although some studies maintain high response rates of

Author Address: Laurie B. Slone, Ph.D., National Center for
PTSD (116D), 215 North Main Street, White River Junction,

VT 05009-0001

Email: Laurie.B.Slone@Dartmouth.edu

80-90% (Afana et al., 2002; Thulesius et al., 2004), others have response rates lower than 60% (Escalona et al., 2004; McQuaid et al., 2001; Prins et al., 2003; Stein et al., 2000).

A wide array of assessment tools have been used in the various studies and this also can lead to variations in prevalence estimates. To determine prevalence of PTSD, some studies used self-report questionnaires (Davis et al., 2003; Hankin et al., 1999; Mori et al., 2003; Taubman-Ben-Ari et al., 2001; Thulesius et al., 2004), whereas others used structured interviews (Deykin et al., 2001; Escalona et al., 2004; Lang & Stein, 2005; Magruder et al., 2005; Prins et al., 2003; Stein et al., 2000). Whether DSM III, III-R or IV was used to ascertain diagnosis will also influence estimates.

General Population Studies of PTSD in Primary Care

Stein and colleagues (2000) used a structured interview to assess a sample ($N = 368$; response rate = 48%) of primary care visitors in San Diego, CA. This sample was collected in the waiting room and composed of mostly white, educated, middle class persons (67% female). This research examined the utility of a self-report measure as a screen for PTSD as well as comorbidities, functional disability, and patterns of health care utilization. Current one-month prevalence of PTSD was 9.8%, and lifetime prevalence was 22%. Thulesius et al. (2004) sampled over 1,000 persons across 10 health centers (response rate = 80%) in the Nordic region. Using self-report questionnaires to assess PTSD, they reported current PTSD prevalence at 6.5% (no lifetime PTSD reported). Taubman-Ben Ari et al. (2001) conducted a survey in Israel by using a national probability sample of primary care sites and surveying every third visiting patient (response rate = 80%). Using a self-report measure, they found current DSM-III PTSD prevalence of 7.5% in men and 10.5% in women. This investigation also reported on lifetime prevalence of PTSD for those who had experienced a trauma—37% for men and 40% for women.

Veteran Studies of PTSD in Primary Care

The majority of research conducted in primary care settings has been conducted on veteran populations. Two studies reported on primary care samples composed partially of veterans. Lang and Stein (2005) tested a screen for PTSD in two studies, sampling from VA and university primary care sites. In study 2, they used a screening tool as well as a structured interview (part sample only) in a small sample of 154 patients (response rate = 60%) from San Diego, and estimated current prevalence of PTSD at 16.0%. The other study (Escalona et al., 2004) that assessed a sample of half veterans and half spouses of veterans was conducted only on women at a VA primary care site in New Mexico ($N = 264$; response rate = 44%). Using a computer-assisted structured interview, they estimated lifetime prevalence of PTSD at 27.3%.

Two other studies focused exclusively on female veterans. In a study screening for substance abuse and psychiatric disorders in VA primary care, Davis and colleagues (2003) sampled over 1,200 female veterans in Washington State (response rate = 65%). Using a self-report measure,

they reported lifetime prevalence of 32.6%. Lang et al. (2003) assessed 49 female veterans in primary care by using a structured interview and found that 31% met diagnostic criteria for PTSD.

One study focused exclusively on male veterans. In a sample of 156 male veteran patients in Boston (no response rate reported) who were selected based on low and high medical services use (high use was defined as at least 2 visits in the past year), Deykin et al. (2001) used a structured interview and found current prevalence of PTSD to be 23.1%.

Most veteran studies have included both men and women. Hankin et al. (1999) collected data across several Boston medical facilities for the Veterans Health Study ($N = 1257$; response rate = 57%). They reported current PTSD prevalence of 20%. Mori et al. (2003) collected data from 300 veterans in a waiting room in Boston (response rate = 77%). Current prevalence of PTSD was 11.5%. Magruder and colleagues (2005) used a structured interview to assess 746 veterans who had visited primary care sites in the southeastern U.S. (response rate = 74%) and also found a current PTSD prevalence of 11.5%. Prins et al. (2003) assessed a sample of 188 veterans in primary care waiting areas (response rate = 56%) and found a current prevalence of 24.5%.

Special Population Studies of PTSD in Primary Care

A handful of other investigations report current rates of PTSD found in medical settings that have special characteristics. These samples were selected from special populations, such as inner-city young adults (50%; Leskin et al., 1999), a poor rural African town (20%; Carey et al., 2003), the Gaza Strip (29%; Afana et al., 2002), and alternative medical treatment seekers in the U.S. and U.K. (6%; Davidson et al., 1998).

Screening for PTSD

Because health practitioners are extremely busy and have so many things to assess when seeing their patients, effective and efficient screening for those who are mostly likely to be suffering from mental disorders is essential. The review presented here indicates that PTSD is prevalent in primary care settings. Identification of patients with PTSD is important because the disorder may have implications. PTSD patients may present with special needs, and may have treatment compliance issues that are more effectively dealt with if the provider is aware of their current mental health status. In some cases the patient may need referral to more appropriate care. Screens must be easy to administer, short and quick, and they must accurately identify symptoms. Several PTSD screens are now being used or are under development and were being tested in many of the studies reported here (Mori et al., 2003; Lang & Stein, 2005; Prins et al., 2003).

Summary

In summary, the existing literature suggests that PTSD is more prevalent in primary care settings than in general populations. At the same time, in most existing

studies the methodology applied does not produce prevalence estimates that generalize to all primary care settings in the population. More research using nationally representative samples is needed to establish accurate prevalence figures of PTSD in primary care. Research is also needed to improve our understanding of the specific needs of this subgroup of patients. Overall, findings still indicate a need for education, screening, and policy or system change within primary care settings in order to identify these cases and to accommodate the needs of those suffering from PTSD.

SELECTED ABSTRACTS

AFANA, A.H., DALGARD, O.S., BJERTNESS, E., GRUNFELD, B., & HAUFF, E. (2002). **The prevalence and associated socio-demographic variables of posttraumatic stress disorder among patients attending primary health care centres in the Gaza Strip.** *Journal of Refugee Studies*, 15, 283-295. This study is part of an epidemiological investigation of mental health problems among patients in primary health care clinics in the Gaza Strip. It was conducted in 10 primary health care clinics selected at random, both amongst governmental and the main non-governmental primary health care providers. The objective of the study was to investigate the prevalence of PTSD among patients attending primary health care clinics in the Gaza Strip and the association between socio-demographic variables and PTSD. Every second patient in each clinic aged between 16 and 55 years, except those who came for referrals, vaccinations, insurance or driver's license examinations, prenatal care, reports, pregnancy problems, or emergencies, was approached and invited to participate. A total of 670 patients were asked to participate in the study, after consulting their general practitioner, with 661 agreeing to take part. It was found that the overall prevalence of PTSD symptoms in primary health care patients was 29%, and significantly higher among females than in males ($p = 0.001$). Prevalence of PTSD among those exposed to traumatic events was 36%. Highly educated patients were more often exposed to traumatic events, but the prevalence of PTSD was lower than among less educated patients. Males exposed to traumatic events reported a lower prevalence of PTSD than traumatized females.

CAREY, P.D., STEIN, D.J., ZUNGU-DIRWAYI, N., & SEEDAT, S. (2003). **Trauma and posttraumatic stress disorder in an urban Xhosa primary care population: Prevalence, comorbidity, and service use patterns.** *Journal of Nervous & Mental Disease*, 191, 230-236. Despite increased awareness of the prevalence and morbidity of psychiatric illnesses, relatively few studies have been undertaken in primary care settings in the African context. The authors determined the prevalence of trauma exposure and PTSD in a South African township primary health care clinic and assessed associated demographic factors, comorbidity, service use, service satisfaction, and quality of life. Subjects were directly interviewed using translated, standardized instruments to assess variables described. Retrospective chart analysis assessed clinician case identification and psychotropic drug-prescribing habits. Of the 201 participants, 94% reported exposure to traumatic events (mean, 3.8). Trauma was associated with single status ($p = .01$), and PTSD was associated with poverty and single status ($p = .04$). Both sexes were equally likely to

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KESSLER, R.C., BERGLUND, P., DEMLER, O., JIN, R., & WALTERS, E.E. (2005). **Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication.** *Archives of General Psychiatry*, 62, 593-602.

KESSLER, R.C., CHIU, W. T., DEMLER, O., & WALTERS, E. E. (2005). **Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication.** *Archives of General Psychiatry*, 62, 617-627.

THORP, S.R., & STEIN, M.B. (2005). **Post-traumatic stress disorder and functioning.** *PTSD Research Quarterly*, 16(3), 1-7.

develop PTSD. PTSD (current; 19.9%), depression (37%), and somatization disorder (18.4%) were the most common diagnoses. Comorbidity with PTSD was high and included depression (75%; $p < .01$), somatization (35%; $p < .01$), and panic disorder (25%; $p < .01$). Levels of functional impairment were higher for subjects with PTSD, depression, and somatization than for those without ($p < .05$). PTSD comorbid with depression compounded impairment ($p = .04$). Levels of trauma, PTSD, and depression did not increase service use or dissatisfaction with services. Clinicians did not identify trauma (0%) or psychopathology (0%), and psychotropic medication was prescribed for only 1% of participants. In this population, trauma and PTSD were highly prevalent and associated with significant unidentified morbidity and comorbidity. Patients remain untreated for years in the current system of primary care consultations.

DAVIS, T.M., BUSH, K.R., KIVLAHAN, D.R., DOBIE, D.J., & BRADLEY, K.A. (2003). **Screening for substance abuse and psychiatric disorders among women patients in a VA health care system.** *Psychiatric Services*, 54, 214-218. *Objective:* This study of women Veterans Affairs (VA) health care patients screened for the prevalence of past-year smoking, hazardous and problem drinking, other drug abuse, and psychiatric disorders. *Methods:* A survey was mailed to women veterans who had received care from VA Puget Sound Health Care System between October 1, 1996, and January 1, 1998. Screening measures included questions about cigarettes; questions from the Alcohol Use Disorders Identification Test about consumption (hazardous drinking); the TWEAK test (problem drinking); a drug abuse screen; the Patient Health Questionnaire (psychiatric conditions); and the PTSD Checklist. *Results:* Of eligible patients, 1,257 (65%) returned surveys with complete substance use data. Patients reported a relatively high rate of past-year smoking (29.1%) and hazardous drinking, problem drinking, or both (31.1%). The rate of past-year drug use was much lower (4.9%). Younger age was strongly associated with greater substance abuse: 59% of women under age 35 screened positive for smoking, hazardous or problem drinking, or drug abuse. Screening positive for a psychiatric condition ($N = 504$) was also associated with substance abuse: The rate of past-year drug abuse among women screening positive for a psychiatric condition (9.7%) was double the rate for the entire sample. Of the women who screened positive for depression, PTSD, eating disorders, or panic disorders, 57% screened positive for substance abuse (including smoking). *Conclusions:* Substance abuse is com-

mon among women VA patients and is associated with younger age and with screening positive for other psychiatric conditions. Providers are expected to follow up on positive screening tests, and these data indicate substantial provider burden.

DEYKIN, E.Y., KEANE, T.M., KALOUPEK, D.G., FINCKE, G., ROTHENDLER, J., SIEGFRIED, M., & CREAMER, K. (2001). **Post-traumatic stress disorder and the use of health services.** *Psychosomatic Medicine*, 63, 835-841. *Objective:* Prior research has demonstrated increased use of medical services among persons with anxiety and depression. This investigation examined the possible association of PTSD with the use of nonmental health services. *Method:* A case-comparison design enrolled 102 high users of health services and 54 low users who were assessed for PTSD diagnosis and severity of PTSD symptoms. Subjects were male veterans receiving services from the primary care clinics of the VA Boston Healthcare System during an 18-month period. Data were collected by interview by use of standardized instruments including the Clinician Administered PTSD Scale for DSM-IV, the Life Events Checklist, and the Beck Depression Inventory. Data analysis employed odds ratios, linear and logistic regression, and path analyses. *Results:* High users of health care were almost twice as likely as low users (27.5% vs. 14.8%) to meet diagnostic criteria for current PTSD. The two groups differed significantly on both symptom frequency and intensity. Path analyses showed an indirect positive association between PTSD and health services use, with physician-diagnosed health conditions as a mediating variable. Auxiliary analysis demonstrated that the combined mental health burden of PTSD and depression symptoms also is positively associated with number of health conditions. *Conclusions:* The findings indicate that PTSD, alone and in combination with depression, has a direct negative relationship with physical health that, in turn, is associated with more frequent use of primary health care services. These results do not suggest that PTSD leads to inappropriate (eg, distress-motivated) use of services.

ESCALONA, R., ACHILLES, G., WAITZKIN, H., & YAGER, J. (2004). **PTSD and somatization in women treated at a VA primary care clinic.** *Psychosomatics*, 45, 291-296. The authors examined the association between trauma, PTSD, and somatization in 264 women attending a Department of Veterans Affairs primary care clinic. Traumatic events were reported by 81% of the women while 19% reported somatization. PTSD was the best predictor of somatization after control for demographic variables, veteran status, and other mood and anxiety disorders. Psychological numbing symptoms of PTSD emerged as a particularly strong predictor of somatization. This link deserves further study.

HANKIN, C.S., SPIRO, A., MILLER, D.R., & KAZIS, L. (1999). **Mental disorders and mental health treatment among U.S. Department of Veterans Affairs outpatients: The Veterans Health Study.** *American Journal of Psychiatry*, 156, 1924-1930. *Objective:* The authors examined the self-reported presence and treatment of current depressive disorder, PTSD, and alcohol-related disorder in a group of outpatient veterans. *Method:* Data were obtained from the Veterans Health Study, a longitudinal investigation of male veterans' health. A representative sample of 2,160 outpatients (mean age = 62 years) was drawn from Boston-area U.S. Department of Veterans Affairs (VA) outpatient facilities. The participants completed screening measures for depression, PTSD, and alcohol-related disorder. Mental health treatment was assessed by interviews. *Results:* The screening criteria for at least one current mental disorder were satisfied by 40% ($N = 856$) of the patients. Screening rates were 31% ($N = 676$) for depression, 20% ($N = 426$)

for PTSD, and 12% ($N = 264$) for alcohol-related disorder. Patients who screened positively for current mental disorders were younger, less likely to be married or employed, and more likely to report traumatic exposure than were those without mental disorders. Of those who met the screening criteria for any of the targeted mental disorders, 68% ($N = 579$) reported receiving mental health treatment. Younger, Caucasian men and those who reported more traumatic exposure were more likely to report receiving mental health treatment than were others who screened positively for mental disorders. *Conclusions:* Screening rates of depression and PTSD and rates of mental health treatment were considerably higher among these VA outpatients than among similar patients in primary care in the private sector. Although the VA is currently meeting the mental health care needs of its patients, future fiscal constraints could affect most adversely the treatment of non-Caucasian and older patients and those with a history of traumatic exposure.

LANG, A.J., LAFFAYE, C., SATZ, L.E., DRESSELHAUS, T.R., & STEIN, M.B. (2003). **Sensitivity and specificity of the PTSD Checklist in detecting PTSD in female veterans in primary care.** *Journal of Traumatic Stress*, 16, 257-264. PTSD affects a substantial number of women in medical settings and is associated with significant distress and impairment. There are effective methods of treating trauma-related distress, but a minority seek such care. Thus, primary care is an important setting in which to identify individuals with PTSD. We sent questionnaires, including the PTSD Checklist Civilian Version (PCL-C), to 419 female veterans who were seen in our primary care clinic in 1998; 56% ($N = 221$) returned the measures. A random subset ($n = 49$) was interviewed to establish psychiatric diagnoses. The results provide qualified support for the use of the PCL-C total score with a lowered cutoff score as a screening measure for PTSD in female veterans in primary care.

LANG, A.J., & STEIN, M.B. (2005). **An abbreviated PTSD checklist for use as a screening instrument in primary care.** *Behaviour Research and Therapy*, 43, 585-594. Although the importance of recognizing PTSD in primary care has been well-established, routine screening for PTSD remains unfeasible for many primary care clinics because of the length of the available screening instruments. Thus, the purpose of this work was to develop and validate a brief screening tool for PTSD. In Study 1, four short forms of the PTSD Checklist-civilian version were identified that captured a majority of the variance in the measure. In Study 2, the performance of these short forms was evaluated in a separate sample of primary care patients. We found that both two-item and six-item versions have adequate psychometric properties for screening purposes and suggest that the selection of one version over the other depends on the specific needs of each primary care clinic.

MAGRUDER, K.M., FREUH, B.C., KNAPP, R. G., DAVIS, L., HAMNER, M.B., MARTIN, R.H., GOLD, P. B., & ARANA, G.W. (2005). **Prevalence of posttraumatic stress disorder in Veterans Affairs primary care clinics.** *General Hospital Psychiatry*, 27, 169-179. Although PTSD is relatively common in community epidemiologic surveys (5-6% for men, 10-12% for women), and psychiatric patients with PTSD are known to have poor functioning and high levels of psychiatric comorbidity, there are no studies that address PTSD prevalence, functioning, and burden in primary care settings. This article reports on (1) the prevalence of PTSD using DSM-IV diagnostic criteria in Veterans Affairs (VA) primary care settings, (2) associated sociodemographic charac-

teristics and comorbidities, (3) functional status related to PTSD, (4) the extent to which PTSD was recognized by providers, and (5) health services use patterns (including specialty mental health) of PTSD patients. Patients were randomly selected from those who had an outpatient visit in FY 1999 at one of four VA hospitals; 888 patients consented (74.1% of 1198 contacted); 746 patients (84.0% of consenting patients; 62.3% of contacted patients) were reached for telephone diagnostic interviews. Diagnostic interviews with the Clinician Administered PTSD Scale yielded estimates of current PTSD prevalence of 11.5%. At statistically significant levels, PTSD was positively associated with a variety of comorbid psychiatric disorders, war zone service, age < 65 years, not working, less formal education, and decreased functioning. Of patients diagnosed with PTSD by study procedures, 12-month medical record review indicated that providers identified only 46.5% and only 47.7% had used mental health specialty services. PTSD-positive patients who used mental health care in the past 12 months were more apt to be identified as having PTSD than nonmental health service users (78.0% vs. 17.8%). Although PTSD-positive patients had more medical record diagnoses than PTSD-negative patients (6.28 vs. 4.95), their use of primary care, urgent care, and inpatient care was not different from PTSD-negative patients.

MORI, D. L., LAMBERT, J. F., NILES, B. L., ORLANDER, J. D., GRACE, M., & LOCASTRO, J. S. (2003). **The BAI-PC as a screen for anxiety, depression, and PTSD in primary care.** *Journal of Clinical Psychology in Medical Settings, 10*, 187-192. Despite the prevalence of psychiatric disorders in medical settings, mental health problems often go undetected and patients do not receive appropriate treatment. The main goal of this study is to provide additional information about the Beck Anxiety Inventory - Primary Care (BAI-PC), a brief instrument that screens for patients with anxiety. This study provides information on the performance of the BAI-PC as a screening instrument for depression and PTSD in addition to its original purpose as a screening instrument for anxiety. This efficient tool can identify patients who can benefit from effective psychological treatments and facilitate referrals to psychologists working in medical settings.

PRINS, A., OUIMETTE, P.C., KIMERLING, R., CAMERON, R. P., HUGELSHOFER, D. S., SHAW-HEGWER, J., THRAILKILL, A., GUSMAN, F. D., & SHEIKH, J.I. (2003). **The primary care PTSD screen (PC-PTSD): Development and operating characteristics.** *Primary Care Psychiatry, 9*, 9-14. PTSD is a frequently unrecognized anxiety disorder in primary care settings. This study reports on the development and operating characteristics of a brief 4-item screen for PTSD in primary care (PC-PTSD). 188 VA primary care patients completed the PC-PTSD, the PTSD Symptom Checklist (PCL), and the Clinician Administered Scale for PTSD (CAPS). The prevalence of PTSD was 24.5%. Signal detection analyses showed that with this base rate, the PC-PTSD had an optimally efficient cutoff score of 3 for both male and female patients. A cutoff score of 2 is recommended when sensitivity rather than efficiency is optimized. The PC-PTSD outperformed the PCL in terms of overall quality, sensitivity, specificity, efficiency, and quality of efficiency. The PC-PTSD appears to be a psychometrically sound screen for PTSD with comparable operating characteristics to other screens for mental disorders. (A Corrigendum appears in *Primary Care Psychiatry, 9*, 151 [2004].)

STEIN, M.B., MCQUAID, J.R., PEDRELLI, P., LENOX, R., & MCCAHERILL, M.E. (2000). **Posttraumatic stress disorder in the primary care medical setting.** *General Hospital Psychiatry, 22*, 261-269. PTSD is a prevalent disorder that adversely affects 2-5% of the general population. Little is known about PTSD in the primary care setting. The purpose of the present study was to evaluate the utility of a screening instrument for PTSD (the PCL-C) in primary care and to examine comorbidity, disability, and patterns of healthcare utilization among persons with PTSD in this setting. Adult, English-speaking patients attending for routine medical care ($N = 368$) participated in a two-stage screening consisting of the administration of a self-report measure for PTSD (the PCL-C) followed by a structured diagnostic interview. Current (1-month) prevalence of PTSD was determined, as were current comorbid disorders. Brief functional impairment and disability indices were administered, and healthcare utilization in the prior 6 months was ascertained. 11.8% (standard error 1.7%) of primary care attendees met diagnostic criteria for either full or partial PTSD. Comorbidity with major depression (61% of cases of PTSD) and generalized anxiety disorder (39%) was common, but less so with social phobia (17% and panic disorder (6%). Substance use disorder comorbidity (22%) was also fairly common. Patients with PTSD reported significantly more functional impairment than patients without mental disorders. Patients with PTSD also made greater use of healthcare resources than not mentally ill patients. PTSD frequently is encountered in primary care, and is associated with considerable functional impairment and healthcare utilization. Comorbidity with other mood and anxiety disorders is extensive. It remains to be seen if greater awareness and more aggressive treatment of PTSD in primary care will lead to improved functioning and reduced (or more appropriate) healthcare utilization. These are topics for further study.

TAUBMAN-BEN-ARI, O., RABINOWITZ, J., FELDMAN, D., & VATURI, R. (2001). **Post-traumatic stress disorder in primary-care settings: Prevalence and physicians' detection.** *Psychological Medicine, 31*, 555-560. *Background:* Little is known about the prevalence of PTSD in primary-care settings and regarding the ability of primary-care physicians to detect PTSD. The current study examines prevalence of PTSD in a national sample of primary-care attenders and primary-care physicians' detection of PTSD and general psychological distress in PTSD patients. *Methods:* Data are from a national study of 2,975 primary-care attenders in Israel. Demographic data, responses to the GHQ-28, PTSD Inventory, and physicians' diagnoses were examined. *Results:* 23% of all patients who attended clinics ($N = 684$) reported traumatic events, 39% of whom (males 37%, females 40%) met criteria for PTSD on the PTSD Inventory. 80% of the males and 92% of the females with PTSD were distressed according to the GHQ. According to physicians, 37% of persons who reported trauma (40% of the women, 32% of the men) suffered from psychological distress. Only 2% of patients meeting PTSD criteria on the self-report measure were given a diagnosis of PTSD by physicians. *Conclusions:* Many primary-care patients suffer from PTSD, which is usually accompanied by major psychological distress. Attention by primary-care physicians to a history of trauma could improve physicians' detection of this disabling disorder.

THULESIUS, H., ALVEBLOM, A-K., & HÅKANSSON, A. (2004). **Post-traumatic stress associated with low self-rated well-being in primary care attenders.** *Nordic Journal of Psychiatry, 58*, 261-266. A total of 1,113 out of 1,378 consecutive attenders (response rate 81%) to 10 health centres were assessed. A horizontal visual analogue scale (VAS; 0-100 mm) resembling the EuroQoL (quality of life) health barometer was used for evaluating well-

being. Trauma was reported by 325 attenders (29.2%) when applying DSM-IV trauma criteria. Prevalence of possible PTSD was 6.5%. The two most common traumas in the PTSD group were accidents (2.0%), followed by cancer (1.3%). When excluding diseases and unspecified death as trauma, the rate of possible PTSD was 3.5%.

Mean VAS-QoL score was 39.6 mm in the PTSD group, and 64.7 mm in the non-PTSD group with a reported trauma. Self-rated well-being showed the strongest association with possible PTSD, followed by sexual assault, female gender, immigrant status, and less than 2 years since trauma.

ADDITIONAL CITATIONS

Annotated by the Editor

BRIERE, J.N., & ZAIDI, L.Y. (1989). Sexual abuse histories and sequelae in female psychiatric emergency room patients. *American Journal of Psychiatry*, 146, 1602-1606.

Charts of 100 nonpsychotic female patients in a psychiatric emergency room were reviewed to locate references to history of sexual molestation: 50 charts were selected at random from emergency room files, and 50 charts had been written by clinicians asked to query abuse history. A substantially higher rate of sexual abuse was found for patients who had been directly asked about sexual molestation (70%) than for the random sample (6%). [Adapted from Text]

BRUCE, S.E., WEISBERG, R.B., DOLAN, R.T., MACHAN, J.T., KESSLER, R.C., MANCHESTER, G., CULPEPPER, L., & KELLER, M.B. (2001). Trauma and posttraumatic stress disorder in primary care patients. *Primary Care Companion to the Journal of Clinical Psychiatry*, 3, 211-217.

This article examines the nature of psychological trauma and PTSD in 504 patients recruited from primary care settings [as part of the Primary Care Anxiety Project]. Patients were screened for anxiety in waiting rooms at 14 general medical settings, and those with a sufficient number and severity of anxiety symptoms were administered a standardized diagnostic clinical interview. Those who met DSM-IV criteria for an anxiety disorder and who were willing to participate were included in this study. Of the 504 patients, 185 met DSM-IV criteria for PTSD. Results indicated that 418 (83%) of primary care patients in our sample reported at least 1 traumatic event in their lifetime. Examination of clinical characteristics indicated a high rate of comorbidity of psychiatric disorders among patients with PTSD, including high rates of alcohol/substance abuse, depression, and suicide attempts. These findings emphasize the continued need to assess patients presenting at general medical facilities about trauma history. [Adapted from Text]

DAVIDSON, J.R.T., RAMPES, H., EISEN, M., FISHER, P., SMITH, R. D., & MALIK, M.L. (1998). Psychiatric disorders in primary care patients receiving complementary medical treatments. *Comprehensive Psychiatry*, 39, 16-20.

This study investigated lifetime and current rates of axis I diagnoses and the personality traits of neuroticism and extraversion in patients receiving complementary medical care in the United Kingdom and United States. Participants were drawn from the Royal London Homoeopathic Hospital ($n = 50$) and a holistic family practice in North Carolina ($n = 33$). High rates of lifetime (69%) and current (40%) axis I disorders were found, with no substantial differences between the groups, apart from lifetime PTSD and current social phobia, which were higher in the US sample. We conclude that psychiatrists may need to be aware that patients with depressive or anxiety disorders are likely to seek out complementary treatments for a wide range of medical problems, and should inquire as to use of these in their patients. They may also need to cultivate greater awareness of the health beliefs of such patients. [Adapted from Text]

GAUVIN, C.L., & WILSON, I.G. (2002). Post-traumatic stress disorder in a group of Australian general practices. *Australian Family Physician*, 31, 1049-1051.

Some authorities regard PTSD as a well characterized condition that is under diagnosed in general practice. We aimed to explore its prevalence in Australian general practice. 'Medic-GP' contains the records of 58,941 patients over a period of six years. We searched the database for PTSD and synonyms in individual records, looking for diagnostic criteria and comorbidities. PTSD was diagnosed in 337 patients, an annual incidence of 88/100,000 patients over a 6.5 year period. Specialists diagnosed 312 (93%) after referral by general practitioners. The GPs diagnosed 25 (7%) themselves. General practitioners diagnosed PTSD infrequently, and at levels lower than that seen in the community. The usual psychiatric criteria were seldom recorded. Comorbid conditions were common. [Adapted from Text]

LESKIN, G.A., RUZEK, J.I., FRIEDMAN, M.J., & GUSMAN, F.D. (1999). Effective clinical management of PTSD in primary care settings: Screening and treatment options. *Primary Care Psychiatry*, 5, 3-12.

The aim of this article is to provide a rationale for ongoing screening, detection, and treatment for PTSD. Evidence suggests that many patients with medical problems (e.g., chronic pain) and diagnoses (i.e., gastrointestinal) have histories of traumatic exposure and undetected PTSD. Several studies suggest a strong link between poor physical functioning and PTSD. However, most of these patients do not readily discuss their traumatic experiences with their primary care providers unless directly asked. Appropriate clinical management of PTSD in medical settings includes screening patients for symptoms of PTSD and making referrals for psychological treatment. Suggestions are made for specific types of cognitive-behavioral, psychodynamic, and psychopharmacological interventions for early intervention and treatment of chronic PTSD. [Adapted from Text]

MCQUAID, J.R., PEDRELLI, P., MCCAHERN, M.E., & STEIN, M.B. (2001). Reported trauma, posttraumatic stress disorder and major depression among primary care patients. *Psychological Medicine*, 31, 1249-1257.

Three hundred eighty-six primary care patients completed psychiatric symptom measures during their clinic visit. A subset of 132 participants completed a diagnostic interview within 2 weeks following the screening. Most patients reporting traumas did not meet criteria for a mental disorder. Patients reporting traumas were more likely to experience current MDD (28%) than current full or partial PTSD (20%) although a high percentage of patients with traumas (41%) had experienced full or partial PTSD diagnosis in their lifetime. Respondents reporting assaultive events as their most severe trauma, when compared with those whose most severe trauma was non-assaultive, were more likely to have met criteria for either full or partial PTSD in their lifetime, and were more likely to have current MDD. [Adapted from Text]

MOL, S.S.L., DINANT, G.J., METSEMAKERS, J.F.M., & KNOTTNERUS, J.A. (2002). **Traumatic events in the Netherlands: Comparison data from national registration systems, population surveys and studies in general practices—a literature review.** In S. S. L. Mol, *Trauma, life events and PTSD: a challenge for patients and family doctors* (pp. 13-28). Proefschrift, Universiteit Maastricht.

Literature searches were done about the frequencies of accidents, fires, murder, robbery, and physical and sexual abuse listed in electronic databases and relevant catalogues covering 1986-1998, after which more references were searched via the references found, going back to 1984. There were large discrepancies between frequencies found in the various studies, such as surveys in the open population ($n = 10$), national registration systems ($n = 4$), and studies in general practice ($n = 4$). The incidences (per 1000 persons per year) of physical abuse were 66, 2.7, and 1-3 for surveys in the open population, police, and general practitioners' registration systems respectively. For sexual abuse the figures were 21, 0.025, and 0.2-2.9 respectively. Different definitions and methods were used in the studies. Considering the variation in the data from various sources, incidences of traumatic events must be approached with care. Regarding physical and sexual abuse: general practitioners are aware of only a fraction of the abuse that their patients have experienced. [Adapted from Text]

RODRIGUEZ, B.F., WEISBERG, R.B., PAGANO, M.E., MACHAN, J.T., CULPEPPER, L., & KELLER, M.B. (2003). **Mental health treatment received by primary care patients with posttraumatic stress disorder.** *Journal of Clinical Psychiatry*, 64, 1230-1236.

The authors described the characteristics of mental health treatment received by primary care patients diagnosed with PTSD. Patients from 15 primary care, family practice, or internal medicine clinics ($N = 4,383$) were screened for anxiety symptoms using a self-report questionnaire developed for the study. Those found positive for anxiety symptoms ($N = 539$) were interviewed with the Structured Clinical Interview for DSM-IV. Of these patients, 197 met diagnostic criteria for PTSD and, of those, nearly half (48%) were receiving no mental health treatment at the time of intake to the study. Of those receiving treatment, psychopharmacologic interventions were most common. Few patients were receiving empirically supported psychosocial interventions. Results suggest a need for better identification and treatment of PTSD in the primary care setting. [Adapted from Text]

SCHNURR, P.P., & GREEN, B.L., (Eds.) (2004). *Trauma and health: Physical health consequences of exposure to extreme stress.* Washington: American Psychological Association.

This book provides a comprehensive summary of findings on trauma and physical health and aims to integrate these findings with research on the health effects of nontraumatic stress. It is based on a model, described fully in the final chapter, in which PTSD and other psychological reactions to traumatic exposure are the essential mechanism through which exposure affects physical health.

WEISBERG, R. B., BRUCE, S. E., MACHAN, J. T., KESSLER, R. C., CULPEPPER, L., & KELLER, M. B. (2002). **Nonpsychiatric illness among primary care patients with trauma histories and posttraumatic stress disorder.** *Psychiatric Services*, 53, 848-854.

The authors examined the relationship between PTSD, trauma, and self-reported nonpsychiatric medical conditions in a sample of 502 primary care patients with one or more anxiety disorders. Of 502 participants with at least one anxiety disorder, 84 (17%) reported no history of trauma, 233 (46%) had a history of trauma but no PTSD, and 185 (37%) met DSM-IV criteria for PTSD. Patients with PTSD reported a significantly greater number of current and lifetime medical conditions than did participants with other anxiety disorders but without PTSD. Primary care patients with PTSD were more likely to have had a number of specific medical problems, including anemia, arthritis, asthma, back pain, diabetes, eczema, kidney disease, lung disease, and ulcer. PTSD was found to be a stronger predictor of reported number of medical problems than trauma history, physical injury, lifestyle factors, or comorbid depression. [Adapted from Text]

ZIMMERMAN, M., & MATTIA, J.I. (1999). **Is posttraumatic stress disorder underdiagnosed in routine clinical settings?** *Journal of Nervous and Mental Disease*, 187, 420-428.

The authors examined whether PTSD is under-recognized in routine clinical practice. One thousand patients were evaluated at the Rhode Island Hospital Department of Psychiatry outpatient practice. The first 500 patients completed a psychiatric diagnostic screening questionnaire that included a PTSD subscale. The next 500 individuals were interviewed with the Structured Clinical Interview for DSM-IV (SCID). In the first 500 patients, 36 (7%) patients were diagnosed by their clinicians with PTSD and an additional 19% screened positive on the questionnaire but were not diagnosed with PTSD. In the 500 patients interviewed with the SCID, the prevalence of PTSD was two times higher than in the 500 patients diagnosed with an unstructured clinical interview (14% vs. 7%). The results of this study suggest that PTSD is frequently overlooked in routine clinical practice when symptoms of PTSD are not the presenting complaint. [Adapted from Text]

THE EXECUTIVE DIVISION

This column is the second in a series of updates about NCPTSD's various divisions. The Executive Division, directed by Matthew J. Friedman, carries out strategic planning, directs the overall operation of the Center, and interfaces with VA and non-VA programs and organizations. It publishes the *PTSD Research Quarterly*, a newsletter reviewing the most important recent literature on PTSD, and is responsible for the production and maintenance of the Center's Web site and the PILOTS database.

When the Center started in 1989, the Executive Division's research efforts were primarily aimed at helping facilitate the research of the other Divisions and organizations within and outside VA. Soon the Division began a program of investigation on psychophysiology, elderly veterans, and the physical health consequences of traumatic exposure. Today, the Division is also actively engaged in research on treatment and on disaster mental health.

Matt Friedman and Paula Schnurr have served as co-chairs of two VA Cooperative Studies of cognitive behavioral treatment for PTSD. In the most recent study, CSP #494, they conducted a randomized clinical trial of Prolonged Exposure therapy for 284 female veterans and active duty personnel. That study, conducted in collaboration with Charles Engel at Walter Reed Army Medical Center, is the first VA Cooperative Study to focus exclusively on women. At press time, they had just learned that their proposed multi-site trial to facilitate implementation by primary care providers of the VA/DoD Practice Guideline for PTSD will be funded. Paula Schnurr has continued analyses of data from the prior VA Cooperative Study, extending her prior focus on the physical health consequences of PTSD to questions about quality of life and functioning.

Disaster mental health has become a major theme in the Executive Division's work in recent years. This work is supported by an ongoing interagency agreement with SAMHSA's Center for Mental Health Services as well as by grants from the National Institute of Mental Health. Patricia Watson collaborated with colleagues at the Edu-

cation Division and in the National Child Trauma Network to create a Psychological First Aid Manual that was disseminated widely after Hurricane Katrina. Jessica Hamblen has received a grant from the Baton Rouge Area Foundation to implement and evaluate her CBT for post-disaster distress which was previously used in New York and Florida. Fran Norris and Elizabeth Mercer are coordinating the evaluation of federally funded crisis-counseling programs across 18 states. This is the first time that these programs have followed a standardized evaluation plan. Through her membership in the National Consortium for the Study of Terrorism and Response to Terrorism, Fran Norris also heads new projects on community resilience and psychosocial impacts for the Department of Homeland Security. Fran Norris, Jessica Hamblen, Matt Friedman, and Patricia Watson also run a research education project in disaster mental health, which to date has made 10 mentoring awards to novice investigators across the country. Matt Friedman is also Co-PI of a randomized trial of two methods to deliver an educational program for veterans on bio-terrorism preparedness.

Fostering the work of junior investigators is also an important activity at the Executive Division. Laurie Slone is developing a program of research on war-related stress and PTSD, especially involving families of reserve component members who have served on OIF/OEF. Susie Stevens is serving as a Co-Investigator on work led by Candice Monson, of the Center's Women's Health Sciences Division, to refine and adapt a manualized Cognitive-Behavioral Couple's Therapy (CBCT) for PTSD, and to test it against a delayed treatment condition. This project also involves Paula Schnurr and Patti Resick. Susie Stevens also works on the community resilience project with Fran Norris.

The Center continues to support researchers at the six other Center Divisions, at other VAs, and at federal and nonfederal organizations. The underlying theme of this work is to promote the optimal connection between science and practice in understanding and treating traumatic stress.

National Center for PTSD (116D)
VA Medical and Regional Office Center
215 North Main Street
White River Junction, Vermont 05009-0001

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