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Physical Health Conditions Associated with Posttraumatic Stress Disorder in U.S. Older Adults: Results from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions

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Abstract

Background/Objectives—Trauma exposure and posttraumatic stress disorder (PTSD) may increase risk for medical conditions in older adults. We present findings on past-year medical conditions associated with lifetime trauma exposure, and full and partial PTSD, in a nationally representative sample of U.S. older adults.

Design, Setting, Participants, and Measurements—Face-to-face diagnostic interviews were conducted with 9,463 adults aged 60 and older in the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. Logistic regression analyses adjusting for sociodemographics and psychiatric comorbidity evaluated associations between PTSD status and past-year medical disorders; linear regression models evaluated associations with past-month physical functioning.

Results—After adjustment for sociodemographic characteristics and comorbid lifetime mood, anxiety, substance use, attention-deficit/hyperactivity, and personality disorders, respondents with lifetime PTSD were more likely than trauma controls to report being diagnosed by a healthcare professional with hypertension, angina pectoris, tachycardia, other heart disease, stomach ulcer, gastritis, and arthritis (odds ratios [ORs]=1.3–1.8); they also scored lower on a measure of physical functioning than controls and respondents with partial PTSD. Respondents with lifetime partial PTSD were more likely than controls to report past-year diagnoses of gastritis (OR=1.7), angina pectoris (OR=1.5), and arthritis (OR=1.4), and reported worse physical functioning. Number of lifetime traumatic event types was associated with most of the medical conditions

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assessed; adjustment for these events reduced the magnitudes of and rendered non-significant most associations between PTSD status and medical conditions.

Conclusion—Older adults with lifetime PTSD have elevated rates of several physical health conditions, many of which are chronic disorders of aging, and poorer physical functioning. Older adults with lifetime partial PTSD have elevated rates of gastritis, angina pectoris, and arthritis, and poorer physical functioning.

Keywords

posttraumatic stress disorder; medical; comorbidity; epidemiology; older adults

INTRODUCTION

Posttraumatic stress disorder (PTSD) is characterized by persistent re-experiencing, avoidance/numbing, and hyperarousal symptoms following the experiencing, witnessing, or confrontation with actual or potential death, serious physical injury, or a threat to physical integrity.¹ Partial or subsyndromal PTSD describes clinically significant PTSD symptoms in trauma-exposed individuals who do not meet full criteria for PTSD.² While prevalences of PTSD are generally low in older adults,^{3, 4} rates of subsyndromal or partial PTSD may be higher in this segment of the population.^{3, 5, 6} In a recent study of a nationally representative sample of 9,463 U.S. older adults, 4.5% met diagnostic criteria for full PTSD and 5.5% for partial PTSD.³ Studies of older adults recruited from the community,⁶ and primary care settings⁵ have similarly observed higher rates of partial PTSD in older adults.

Older adults are at risk for a broad range of medical morbidities, ranging from heart disease to arthritis, and PTSD symptoms may precipitate or exacerbate symptoms of these conditions.^{7–9} For example, a study of 605 male World War II and Korean War combat Veterans found that PTSD symptoms were associated with increased onset of physician-diagnosed arterial (e.g., peripheral vascular disease), lower gastrointestinal (e.g., irritable bowel), dermatologic (e.g., dermatitis), and musculoskeletal (e.g., arthritis) conditions, even after adjustment for age, smoking, alcohol use, and body weight.⁹

Epidemiologic studies of general adult samples have found that PTSD is associated with medical conditions including cardiovascular disease, arthritis, asthma, chronic pain, diabetes, and gastrointestinal disorders.^{10–13} Associations between PTSD and medical comorbidities were generally independent of sociodemographic factors and depression, though not all studies controlled for these variables.¹³ Despite the potential link between PTSD and physical health conditions and functioning in older adults, few studies have examined these associations specifically in older adults.^{6, 8, 9} While these studies provide important insight into possible physical health correlates of PTSD in older persons, no known study has examined the relation between trauma exposure, full and partial PTSD, and a comprehensive range of medical conditions in a large, general population-based sample of older adults. Further, previous studies did not comprehensively control for mood, anxiety, substance use, and personality disorders, which are independently linked to medical comorbidities.^{14, 15} Consequently, the unique relation between PTSD status and specific medical conditions in older adults is unknown.

This study examined a broad range of medical disorders associated with lifetime exposure to traumatic events, and DSM-IV PTSD and partial PTSD, in a large, nationally representative sample of 9,463 U.S. adults aged 60 years and older. Data were drawn from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), one of the largest psychiatric epidemiology surveys ever conducted. Wave 2, conducted between 2004 and 2005, included a module on PTSD, as well as assessment of a broad range of past-year

medical conditions with which respondents reported being diagnosed by healthcare providers. We hypothesized that, after adjustment for sociodemographics and psychiatric comorbidities, older adults with PTSD would have elevated rates of chronic medical disorders such as heart disease, arthritis, and gastritis; and that older adults with partial PTSD would experience intermediately elevated rates of these conditions compared to trauma controls and older adults with PTSD. We also expected that many of these associations would be attenuated after accounting for total number of lifetime traumatic event types.¹²

METHODS

The U.S. Census Bureau and U.S. Office of Management and Budget provided full ethical review and approved the entire protocol, including informed consent procedures.

The Wave 2 NESARC¹⁶ is the second wave follow-up of the Wave 1 NESARC conducted in 2001–2002 and described elsewhere.¹⁷ The Wave 1 NESARC surveyed a representative sample of the civilian adult population of the United States aged 18 and older (overall response rate=81%). Face-to-face interviews were conducted with 43,093 respondents; young adults aged 18 to 24 years, blacks, and Hispanics were oversampled.

Face-to-face reinterviews were attempted with all Wave 1 respondents in Wave 2. Excluding those ineligible because they were deceased, mentally or physically incapacitated, deported, or on active military duty over the entire follow-up period, the Wave 2 response rate was 86.7%, reflecting 34,653 completed interviews. The cumulative response rate at Wave 2, the product of the Wave 2 and Wave 1 response rates, was 70.2%. As in Wave 1, the Wave 2 NESARC data were weighted to reflect design characteristics of the survey and account for oversampling. Adjustment for nonresponse across sociodemographic characteristics and the presence of any lifetime Wave 1 psychiatric disorder or substance use disorder was performed at the household and person levels to ensure that the sample approximated the target population, i.e., the original sample minus attrition between Waves 1 and 2 due to death, incapacitation or institutionalization, deportation or permanent departure from the United States, and military service for the entire Wave 2 interviewing period. Weighted Wave 2 data were then adjusted to represent the civilian population on socioeconomic variables including region, age, race-ethnicity, and sex, based on the 2000 Decennial Census.

Posttraumatic Stress Disorder (PTSD)

Lifetime PTSD diagnoses were made in the Wave 2 NESARC using the NIAAA Wave 2 Alcohol Use Disorder and Associated Disabilities Interview Schedule-DSM-IV Version (AUDADIS-IV),¹⁸ a computerized, fully structured instrument designed for experienced lay interviewers. The PTSD section begins with an enumeration of 27 potentially traumatic event types that operationalize the DSM-IV Criterion A stressor definition.¹ The 6 event types involving terrorism were subdivided into those that did and did not occur on September 11, 2001. Respondents endorsing multiple event types were asked to designate their most stressful event, consistent with DSM-IV PTSD Criterion A.

Diagnoses of PTSD required respondents to endorse at least 1 symptom within Criterion B, at least 3 within Criterion C, and at least 2 within Criterion D, lasting at least 1 month (Criterion E), *subsequent to* the worst event they experienced that involved intense fear, helplessness, or horror, and the belief that they or someone close to them might die or be seriously injured or permanently disabled. Diagnoses of full PTSD also required respondents to meet the DSM-IV clinical significance criterion of impairment or distress. Test-retest reliability of lifetime PTSD was good ($\kappa=0.64$).¹⁹

Respondents were classified with partial PTSD if they endorsed at least 1 symptom within each of Criteria B, C, and D, lasting at least 1 month, in response to the worst event they experienced that involved intense fear, helplessness, or horror, or actual or threatened death, serious injury, or threat to their or someone else's physical integrity.² Respondents who reported a potentially traumatic event but met criteria for neither PTSD nor partial PTSD were classified as trauma controls.

Past-Year General Medical Conditions

Respondents were asked whether a physician or other health professional had told them during the past 12 months that they had any of 17 medical conditions, including diabetes mellitus, cardiovascular (hardening of the arteries or arteriosclerosis, heart attack or myocardial infarction, chest pain or angina pectoris, hypercholesterolemia ["high cholesterol"], high blood pressure or hypertension, rapid heart beat or tachycardia, any other form of heart disease, or stroke), liver (cirrhosis or any other form of liver disease), other gastrointestinal (stomach ulcer or gastritis), arthritis, and sexually transmitted (including HIV and AIDS) diseases.

Physical Functioning

Physical functioning was assessed using the Short-Form 12-Item Health Survey, version 2 (SF-12v2),²⁰ a reliable and valid measure of functioning. The SF-12v2 yields a Physical Component Summary (PCS) scale and 4 physical health-related (Physical Functioning, Role Physical, Bodily Pain, and General Health) domain-specific scores. Standard norm-based techniques were used to transform each score (range: 0–100) to yield a mean of 50 and a standard deviation of 10 in the U.S. general population. Lower scores indicate poorer function.

Other Psychiatric Disorders

Comorbid Wave 2 lifetime psychiatric disorders were included as covariates. Wave 2 AUDADIS-IV assessments of substance use (alcohol and drug-specific abuse and dependence and nicotine dependence), mood (primary major depressive, dysthymic, and bipolar I and II disorders), and additional anxiety (primary panic with and without agoraphobia, agoraphobia without panic, social and specific phobias, and generalized anxiety) disorders were identical to those in Wave 1 except for time frames. AUDADIS-IV methods to diagnose these disorders are described elsewhere.^{17, 21} DSM-IV "primary" diagnoses exclude substance-induced disorders and those due to general medical conditions. MDD diagnoses also exclude bereavement. Attention-deficit/hyperactivity disorder was assessed on a lifetime basis at Wave 2. Wave 2 lifetime diagnoses reflect disorders occurring at any time over the life course, assessed over both waves.

Extensive questions operationalized DSM-IV criteria for alcohol and drug-specific abuse and dependence, including sedatives, tranquilizers, opioids other than heroin, cannabis, cocaine or crack, stimulants, hallucinogens, inhalants and solvents, heroin, and other illicit drugs. Wave 2 lifetime abuse diagnoses required 1 or more of 4 abuse criteria, and dependence required 3 or more of 7 dependence criteria, to be met during the same 12-month period for the same substance (alcohol or the same drug class). Nicotine dependence was diagnosed similarly. Drug-specific abuse and dependence were aggregated in this study to yield diagnoses of any drug abuse and any drug dependence. All DSM-IV personality disorders (PDs) were assessed on a lifetime basis.¹⁶ To receive a PD diagnosis, respondents were required to endorse the specified number of symptom criteria, at least 1 of which must have caused social or occupational impairment. For antisocial PD, respondents were required to endorse the specified number of both conduct disorder symptoms before, and antisocial symptoms since, age 15.

Reliability^{19, 22, 23} and validity^{16, 17, 22} of AUDADIS-IV mood, anxiety, and personality disorder diagnoses were fair to good in both clinical and general population samples. Selected mood and anxiety disorder diagnoses showed good agreement with psychiatrist reappraisals.²² Reliability and validity of substance use disorders have likewise been documented extensively in both clinical and general population samples.²¹

Statistical Analysis

The sample for this report consists of Wave 2 NESARC respondents aged 60 years and older with full (n=469) and partial PTSD (n=545), and trauma controls (n= 7,519). Older adults who denied any exposure to potentially traumatic events at the beginning of the PTSD section of the AUDADIS-IV interview were excluded.

Weighted frequencies and crosstabulations were computed and their significance tested using chi-square statistics to compare sociodemographics and past-year prevalences of comorbid medical disorders. Two sets of multivariable logistic regression models were fit. The first examined associations between PTSD status and past-year medical disorders, controlling for sociodemographics and comorbid Axis I and II disorders. The second simultaneously examined associations of number of lifetime traumatic event types (each type counted only once, regardless of the number of times it was experienced) and PTSD status with each medical disorder, adjusting for sociodemographics and psychiatric comorbidity. To assess whether associations between PTSD status and medical conditions varied between men and women, sex x PTSD status product terms were tested for statistical significance in all multivariable models, with an alpha to stay of 0.05. Multivariable linear regression analyses adjusted for sociodemographic variables were used to compute adjusted weighted means and standard errors and pairwise contrasts by PTSD status for the SF-12v2 PCS and each physical health subscale. All analyses were conducted using SUDAAN, which uses Taylor series linearization to adjust for design characteristics of complex surveys.

RESULTS

Prevalence rates of PTSD and partial PTSD

Prevalences of PTSD and partial PTSD, and trauma histories in this sample are detailed elsewhere.³ Briefly, lifetime prevalences of PTSD and partial PTSD were 4.5% (SE= 0.25) and 5.5% (SE= 0.27), respectively. Rates were higher among women [(5.7% (SE= 0.37) and 6.5% (SE= 0.39)] than among men [3.1% (SE= 0.31) and 4.3% (SE= 0.37)], $\chi^2(3)= 55.25$, $p<.0001$. Respondents in the trauma control group reported a mean + SE (median) of 3.3 (SE=0.03, median=3) types of traumatic events, those with partial PTSD reported 4.7 (SE=0.13, median=4) types, and those with full PTSD reported 5.0 (SE=0.14, median=4) types.

Sociodemographic characteristics

Table 1 depicts sociodemographic characteristics and SF-12v2 PCS scores. All sociodemographic characteristics except education differed by PTSD status. Specifically, as detailed elsewhere,³ in a logistic regression with all sociodemographic variables entered simultaneously, respondents with full and partial PTSD were significantly more likely to be younger (ORs, ages 70–79 and 80–89 versus 60–69: 0.5–0.7 for full, 0.6–0.7 for partial PTSD), female (ORs, male sex: 0.6, both full and partial PTSD), and widowed/separated/divorced (ORs versus married/cohabiting: 1.5 for full, 1.3 for partial PTSD), than trauma controls. Respondents with full PTSD also reported lower household income (ORs, < \$19,999 and \$20,000–34,999 versus \$70,000+: 2.0) and were less likely to be never married (OR=0.5) or of Asian/Hawaiian/Pacific Islander race/ethnicity (OR=0.3).

The mean SF-12v2 PCS score for the PTSD group was lower than that of the control and partial PTSD groups; the partial PTSD group scored lower than controls.

Medical diagnoses

Table 2 shows past-year medical diagnoses by PTSD status. After adjustment for sociodemographics and psychiatric comorbidity, PTSD was associated with increased odds of hypertension, angina pectoris, tachycardia, other heart disease, stomach ulcer, gastritis, and arthritis (ORs=1.3 to 1.8). Partial PTSD was associated with increased odds of gastritis (OR=1.7), angina pectoris (OR=1.5), and arthritis (OR=1.4). No sex by PTSD status interactions were significant.

Table 3 shows past-year medical conditions associated with number of lifetime traumatic event types and PTSD status. Total number of event types was associated with most of the medical conditions assessed, except cirrhosis, hypercholesterolemia, stomach ulcer, and stroke. In this analysis, PTSD remained associated with stomach ulcer and gastritis; and partial PTSD with gastritis.

DISCUSSION

This study examined past-year medical comorbidity of lifetime PTSD and partial PTSD in a large, nationally representative sample of U.S. older adults. Consistent with previous studies of older adult^{6, 8, 9} and general adult^{10, 12} samples, full PTSD was associated with elevated rates of a broad range of medical conditions that represent chronic diseases of aging, most notably those affecting cardiovascular, gastrointestinal, and musculoskeletal systems, as well as worse physical functioning. While previous studies of older adults have found that trauma exposure²⁴ and partial PTSD⁶ were associated with poor physical health in general, the present results extend these findings to suggest that lifetime partial PTSD is linked to elevated odds of specific medical conditions, including gastritis, angina pectoris, and arthritis, as well as poorer physical functioning. Importantly, a greater number of lifetime traumatic event types was associated with most of the medical conditions assessed, suggesting that greater trauma burden may also be related to increased risk for these conditions.

Several mechanisms may explain associations between PTSD and elevated rates of physical health conditions, though little is known about how aging-related factors may influence these associations. Neurobiological abnormalities associated with PTSD, such as dysregulation of the hypothalamic-pituitary-adrenal axis, may increase vulnerability to or exacerbate severity of chronic medical conditions.^{10, 11} PTSD has been associated with genes implicated in stress reactivity (e.g., FKBP5),²⁵ as well as cardiovascular changes such as increased sympathetic tone, chronically elevated pro-inflammatory activity, and endothelial dysfunction,²⁶ which may increase risk of cardiovascular, gastrointestinal, and musculoskeletal conditions. PTSD is also associated with unhealthy behaviors, such as poor diet, physical inactivity, and smoking, which may increase the likelihood of developing a chronic medical condition.^{5, 11} Developing a serious medical condition may also precipitate PTSD symptoms; for example, elevated rates of PTSD have been observed following a myocardial infarction.²⁷ Finally, because individuals with full and partial PTSD utilize medical services at higher rates,^{6, 28} they may be more likely than trauma-exposed older adults without full or partial PTSD to be diagnosed with comorbid medical illnesses.

Results of this study have several clinical implications. First, elevated rates of past-year medical comorbidities among older adults with lifetime PTSD underscore the need for greater integration of mental health services in primary care settings and enhancement of primary care providers' skills in recognizing and assessing trauma exposure and PTSD. This

is especially important because older individuals may be more likely to report their psychological symptoms to primary care providers than to mental health specialists.²⁹ Second, screening for trauma exposure and PTSD may help identify older adults who require comprehensive treatment for PTSD, as interventions may otherwise target isolated symptoms of the disorder (e.g., sedative-hypnotics for sleep difficulties).⁷ Brief screenings for trauma and PTSD symptoms may be useful in identifying at-risk older adults, with lower cutpoints on commonly used screening instruments such as the PTSD Checklist (e.g., 36+ vs. 50+) optimizing the sensitivity and specificity of these instruments in detecting PTSD in this population.³⁰ Further research is needed to identify optimal cutpoints to detect partial PTSD in older adults.

Methodological limitations of this study must be noted. First, its cross-sectional design precludes the ascertainment of temporal associations of lifetime trauma exposures and PTSD symptoms with onsets or diagnoses of specific medical conditions. Second, retrospective recall and reporting biases, or cognitive difficulties, may have influenced the recollection of trauma, psychiatric symptoms, or medical diagnoses. Nevertheless, interviewers were instructed not to pursue interviews with respondents who appeared cognitively impaired and the response status of those individuals was reset to ineligible. Third, because individuals with PTSD often experience a greater number of traumatic events, it is difficult to disentangle medical conditions associated uniquely with cumulative trauma burden relative to those attributable to PTSD.¹² Fourth, associations with some of the medical conditions assessed (e.g., tachycardia) may simply reflect symptoms of underlying psychiatric conditions that co-occur with PTSD (e.g., panic disorder). Finally, different timeframes were used to assess PTSD (lifetime), medical disorders (past year), and physical functioning (past month). Nevertheless, given the chronicity of PTSD symptoms³ and many associated medical conditions, the magnitudes of these comorbidities would likely be comparable if corresponding time frames were employed.

Notwithstanding these limitations, this study provides the largest, most comprehensive, and most up-to-date characterization of medical conditions associated with PTSD and partial PTSD in a nationally representative sample of older adults. Findings suggest that PTSD is associated with a broad range of chronic and stress-related physical health conditions, and that partial PTSD is associated with past-year diagnoses of gastritis, angina pectoris, and arthritis. Longitudinal studies are needed to evaluate the causality of associations between lifetime traumatic exposure, PTSD status, and medical disorders, and the extent to which treatments for PTSD and partial PTSD may help mitigate symptoms of physical health conditions in older adults.

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Sociodemographic characteristics and physical functioning scores of Wave 2 NESARC respondents aged 60 years and older by PTSD status

Table 1

	No PTSD (Trauma Control)* (n=7519) % (SE)	Partial PTSD [†] (n=545) % (SE)	Full PTSD (n=469) % (SE)	χ^2 (df)	p
Age				15.35 (6)	0.018
60–69	44.9 (0.69)	51.1 (2.62)	51.0 (2.71)		
70–79	35.8 (0.68)	32.6 (2.29)	34.4 (2.61)		
80–89	17.0 (0.49)	13.7 (1.58)	12.7 (1.75)		
90+	2.3 (0.20)	2.5 (0.73)	1.9 (0.72)		
Sex				45.62 (2)	<0.001
Male	46.8 (0.66)	34.3 (2.45)	30.3 (2.47)		
Female	53.2 (0.66)	65.7 (2.45)	69.7 (2.47)		
Race/ethnicity				17.23 (8)	0.028
White	81.4 (1.32)	81.6 (1.94)	76.8 (2.56)		
Black	8.1 (0.59)	8.0 (1.09)	9.5 (1.65)		
Hispanic	5.3 (0.74)	6.3 (1.26)	9.7 (1.89)		
Asian/Hawaiian/Pacific Islander	3.1 (0.80)	2.6 (0.93)	0.9 (0.47)		
Native American	2.0 (0.23)	1.5 (0.68)	3.1 (0.98)		
Education				8.76 (4)	0.067
Less than high school	20.5 (0.69)	23.5 (2.10)	27.3 (2.53)		
High school	33.6 (0.83)	32.4 (2.46)	30.9 (2.57)		
Postsecondary	45.9 (0.93)	44.2 (2.57)	41.8 (2.97)		
Marital status				47.45 (4)	<0.001
Married/cohabiting	63.4 (0.64)	57.3 (2.37)	49.9 (2.71)		
Widowed/separated/divorced	32.6 (0.60)	40.3 (2.32)	48.3 (2.68)		
Never married	4.0 (0.25)	2.4 (0.57)	1.7 (0.49)		
Household income				29.85 (6)	<0.001
\$0–\$19,999	28.3 (0.70)	31.4 (2.26)	37.8 (2.77)		
\$20,000–\$34,999	24.7 (0.67)	23.7 (2.38)	30.3 (2.62)		

	No PTSD (Trauma Control) [*] (n=7519)	Partial PTSD [†] (n=545)	Full PTSD (n=469)	χ^2 (df)	p
	% (SE)	% (SE)	% (SE)		
\$35,000–\$69,999	30.2 (0.72)	29.2 (2.50)	22.3 (2.43)		
\$70,000+	16.8 (0.74)	15.7 (2.02)	9.7 (1.82)		
Functioning (SF-12v2)[‡]					
	mean (SE)	mean (SE)	mean (SE)		
Physical component summary ^{§,¶,¶}	44.6 (0.18)	43.0 (0.56)	40.6 (0.63)	18.91 (2.65)	<0.001
Physical functioning ^{§,¶,¶}	45.5 (0.17)	43.4 (0.59)	40.7 (0.70)	29.78 (2.65)	<0.001
Role-physical limitations ^{¶,¶,¶}	46.0 (0.18)	44.4 (0.54)	41.1 (0.61)	29.37 (2.65)	<0.001
Bodily pain ^{§,¶,¶}	47.9 (0.16)	45.4 (0.61)	42.5 (0.68)	32.96 (2.65)	<0.001
General health ^{§,¶,¶}	45.5 (0.18)	43.9 (0.61)	41.2 (0.72)	20.53 (2.65)	<0.001

* Respondents in this group reported experiencing a traumatic event but had neither full nor partial PTSD.

[†] Defined as experiencing a traumatic event; helplessness, horror, or fear of death or severe injury or disability; and at least one symptom each from Criteria B, C, and D and duration of at least one month (Criterion E).

[‡] Mean scores on the SF-12v2 are adjusted for sociodemographic characteristics; score range for all SF-12v2 scales: 0–100.

[§] Full PTSD < partial PTSD, $p < 0.01$.

[¶] Full PTSD < trauma control, $p < 0.0001$.

[#] Partial PTSD < trauma control, $p < 0.01$.

^{**} Partial PTSD < trauma control, $p < 0.001$.

^{††} Full PTSD < partial PTSD, $p < 0.001$.

^{‡‡} Partial PTSD < trauma control, $p < 0.05$.

Past-year medical conditions with which Wave 2 NESARC respondents aged 60 years and older reported being diagnosed by healthcare providers by PTSD status

Table 2

	No PTSD (Trauma Control)* (n=7519)	Partial PTSD† (n=545)	Full PTSD (n=469)	Partial PTSD vs. No PTSD AOR‡ (95%CI)	PTSD vs. No PTSD AOR‡ (95%CI)
	% (SE)	% (SE)	% (SE)		
Arteriosclerosis	6.0 (0.34)	8.6 (1.53)	6.7 (1.35)	1.4 (0.93–2.19)	1.1 (0.66–1.79)
Hypertension	49.5 (0.81)	55.0 (2.75)	58.6 (2.88)	1.2 (0.95–1.51)	1.3 (1.03–1.70)
Diabetes mellitus	17.2 (0.51)	16.4 (1.70)	21.6 (2.10)	0.9 (0.69–1.16)	1.1 (0.86–1.46)
Cirrhosis	0.3 (0.06)	0.1 (0.07)	0.1 (0.12)	0.2 (0.04–1.03)	0.2 (0.03–1.73)
Noncirrhotic liver disease	0.7 (0.10)	1.5 (0.62)	0.9 (0.40)	2.0 (0.79–5.22)	1.1 (0.46–2.64)
Angina pectoris	7.4 (0.38)	12.4 (1.79)	14.3 (1.82)	1.5 (1.02–2.16)	1.5 (1.11–2.10)
Tachycardia	8.2 (0.36)	11.4 (1.55)	16.0 (2.00)	1.2 (0.84–1.69)	1.6 (1.11–2.21)
Myocardial infarction	2.1 (0.20)	2.9 (0.95)	2.9 (0.87)	1.4 (0.64–2.88)	1.2 (0.62–2.48)
Hypercholesterolemia	36.7 (0.63)	37.8 (2.53)	37.9 (2.38)	1.0 (0.76–1.22)	0.9 (0.76–1.18)
Other heart disease	7.0 (0.33)	7.5 (1.41)	11.4 (1.66)	1.0 (0.67–1.54)	1.5 (1.06–2.18)
Stomach ulcer	2.4 (0.20)	5.0 (1.04)	6.2 (1.28)	1.6 (0.92–2.65)	1.8 (1.12–2.97)
HIV seropositivity	0.9 (0.03)	0.3 (0.29)	0.6 (0.60)	—§	—§
AIDS	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	n/a¶	n/a¶
Other sexually transmitted disease	0.1 (0.04)	0.0 (0.00)	0.0 (0.00)	—#	—**
Gastritis	7.3 (0.36)	14.5 (1.79)	16.9 (2.18)	1.7 (1.24–2.38)	1.8 (1.27–2.66)
Arthritis	45.1 (0.72)	56.6 (2.66)	60.6 (2.92)	1.4 (1.08–1.74)	1.4 (1.09–1.84)
Stroke	1.9 (0.18)	1.4 (0.53)	2.5 (0.82)	0.7 (0.30–1.57)	1.2 (0.56–2.51)

* Respondents in this group reported experiencing a traumatic event but had neither full nor partial PTSD.

† Defined as experiencing a traumatic event; helplessness, horror, or fear of death or severe injury or disability; and at least one symptom each from Criteria B, C, and D and duration of at least one month (Criterion E).

‡ Odds ratios adjusted for sociodemographic variables and mood, anxiety, substance use, attention-deficit/hyperactivity, and personality disorders.

§ Odds ratios not computed because of zero cells in multiple covariates.

n/a: not applicable (no cases of AIDS in the analysis sample)

Odds ratio not computed because no cases of the target medical condition were observed among respondents with partial PTSD.

** Odds ratio not computed because no cases of the target medical condition were observed among respondents with full PTSD.

Table 3

Adjusted^a odds ratios (95% confidence intervals) for past-year medical conditions associated with total number of event types ever experienced and PTSD status

	OR (95% CI)		
	Per Event Type ^b	Partial PTSD ^c vs. Trauma Control ^d	Full PTSD vs. Trauma Control
Arteriosclerosis	1.09 (1.04–1.15)	1.28 (0.83–1.97)	0.95 (0.58–1.56)
Hypertension	1.04 (1.01–1.07)	1.14 (0.90–1.45)	1.25 (0.97–1.62)
Diabetes mellitus	1.06 (1.02–1.10)	0.83 (0.63–1.08)	1.03 (0.78–1.35)
Cirrhosis	1.00 (0.88–1.14)	0.21 (0.04–1.08)	0.23 (0.03–1.99)
Noncirrhotic liver disease	1.16 (1.04–1.28)	1.71 (0.66–4.43)	0.88 (0.38–2.05)
Angina pectoris	1.17 (1.12–1.22)	1.22 (0.83–1.79)	1.21 (0.87–1.69)
Tachycardia	1.12 (1.07–1.18)	1.03 (0.73–1.47)	1.33 (0.93–1.90)
Myocardial infarction	1.11 (1.03–1.21)	1.17 (0.52–2.63)	1.04 (0.48–2.24)
Hypercholesterolemia	1.03 (1.00–1.06)	0.93 (0.74–1.17)	0.91 (0.73–1.13)
Other heart disease	1.17 (1.12–1.22)	0.83 (0.56–1.25)	1.21 (0.83–1.75)
Stomach ulcer	1.05 (0.97–1.13)	1.46 (0.86–2.50)	1.70 (1.03–2.81)
HIV seropositivity	— ^e	— ^e	— ^e
AIDS	n/a ^f	n/a ^f	n/a ^f
Other sexually transmitted disease	— ^{g,h}	— ^g	— ^h
Gastritis	1.09 (1.04–1.15)	1.55 (1.11–2.16)	1.63 (1.11–2.38)
Arthritis	1.08 (1.05–1.11)	1.25 (0.98–1.60)	1.27 (0.98–1.66)
Stroke	1.02 (0.93–1.13)	0.66 (0.28–1.56)	1.15 (0.55–2.41)

^a Odds ratios for each medical diagnosis are derived from a multivariable logistic regression model containing total number of event types, PTSD status, and sociodemographic and comorbid mood, anxiety, substance use, personality disorder, and attention-deficit/hyperactivity disorder covariates.

^b Refers to total event types ever experienced (maximum possible: 27).

^c Defined as experiencing a traumatic event; helplessness, horror, or fear of death or severe injury or disability; and at least one symptom each from Criteria B, C, and D and duration of at least one month (Criterion E).

^d Respondents in this group reported experiencing a traumatic event but had neither full nor partial PTSD.

^e Odds ratios not computed because of zero cells in multiple covariates.

f N/a: not applicable (no cases of AIDS in the analysis sample)

g Odds ratio not computed because no cases were observed among respondents with partial PTSD.

h Odds ratio not computed because no cases were observed among respondents with full PTSD.