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Symptoms of Posttraumatic Stress Disorder Among Urban Residents

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Abstract

Previous studies indicate a high risk of Posttraumatic Stress Disorder (PTSD) among women and low-income, urban-residing African Americans. This study examined PTSD symptoms among urban-residing, socioeconomically diverse, working age, African Americans and whites. Participants completed the PTSD Checklist-Civilian Version. Of the 2,104 participants, 268 (12.7%) screened positive for PTSD symptoms. Women (13.8%) were more likely than men (11.3%), white participants (13.8%) were more likely than African Americans (11.9%), and younger participants (16.1%) were more likely than older (10.2%) to screen positive for PTSD symptoms. A significant interaction ($p = .05$) revealed that white women living below the 125% poverty level were most likely to report PTSD symptoms. These findings highlight the importance of PTSD screening in low-income, urban neighborhoods.

Keywords

Symptoms of Posttraumatic Stress Disorder; civilians; urban residents

Exposure to a traumatic event over the course of an individual's lifetime is common in the United States. One epidemiological study found an exposure rate of 60.7% in men and 51.2% in women (Kessler, et al., 1995). Though many may be exposed to a qualifying traumatic event at some point over their lifespan, only some individuals develop posttraumatic stress disorder (PTSD). PTSD is defined as re-experiencing a traumatic event, avoidance of stimuli associated with the trauma and emotional numbing, and increased arousal. The lifetime prevalence of PTSD is reported as 7.8% in one study (Kessler, et al., 1995) and 9.2% in another (Breslau, et al., 1998) but the National Comorbidity Survey-Replication more recently reported a slightly lower prevalence rate of 6.8% (Kessler, et al., 2005).

Studies have consistently reported a higher rate of PTSD for women than for men (Alim, Graves, et al., 2006; Breslau, Davis, Andreski, et al., 1997; Helzer, et al., 1987; Kessler, et al., 1995; Norris, 1992). Resnick and colleagues found a lifetime prevalence of 12.3% among adult women (Resnick, et al., 1993). This rate is somewhat higher than reported national averages. Breslau found that women were two times as likely as men (30.2% vs. 13%, respectively) to develop PTSD following a traumatic event despite no sex difference in number of exposures to traumatic events (Breslau, Davis, Andreski, et al., 1997). There is

some evidence that the higher rates of PTSD among women may be due in part to the type of trauma experienced, with women experiencing more interpersonal violence (Olf, et al., 2007). However, other studies have found comparable sex differences that cannot be explained by differences in types of trauma experienced or numbers of traumas. This suggests that women may be more susceptible than men to developing PTSD following a traumatic event (Alim, Graves, et al., 2006; Breslau, et al., 1998; Kessler, et al., 1995).

Other studies have indicated higher rates of undiagnosed PTSD among low socioeconomic status (SES), urban-dwelling, African Americans (Davis, et al., 2008; Schwartz, et al., 2005). Schwartz and her colleagues found a PTSD incidence rate of 44% (Schwartz, et al., 2005) in which the majority of cases were undiagnosed and all participants were African Americans residing in an urban area. In their 2006 review, Alim, Charney, and Mellman (Alim, Charney, et al., 2006) suggest that race alone does not explain the elevated rates in this population. They suggest that more research is needed on the interaction of PTSD with lower socioeconomic status, urban residency, and race. Many previous studies of the relationship between race and PTSD have utilized a majority of African American, low-income participants (Alim, Graves, et al., 2006; Schwartz, et al., 2005), making it difficult to determine if elevated rates were due to race or poverty.

The Detroit Area Survey of Trauma examined PTSD in the Detroit Metropolitan area (Breslau, et al., 1998) in a sample of majority suburban whites (77%). They found an alarming lifetime prevalence of trauma exposure of 89.6% in the entire sample. Assaultive violence had the highest risk of PTSD and was more likely to have been experienced by non-whites and in lower SES groups who resided predominantly in central-city. The study also found the risk for PTSD among non-whites (80% of whom were African Americans) was two times that for whites (14% vs 7.3%, respectively). However, this difference was not significant after adjusting for other variables, such as central-city residence and rate of trauma exposure.

A subsequent study by Breslau et al. (2004) focused on PTSD among urban residents (Breslau, et al., 2004). The sample consisted primarily of African Americans (71%). The lifetime prevalence of PTSD was 7.1%. There were no significant race differences. In contrast with the Detroit Area Survey, this sample experienced more assaultive violence, which was the traumatic event likely to lead to a PTSD diagnosis. Though the overall rate of PTSD was lower in this urban sample than the previous majority suburban sample, there was greater risk of assaultive violence exposure in men. Given the majority African American sample used, this study seems to indicate that the higher PTSD rates observed in previous studies was not due to race, but to some other factor such as low SES.

The purpose of the present study was to examine the relationship between sociodemographic characteristics and symptoms of PTSD in a sample of multi-racial, working age, urban-residing civilians of various income levels.

Methods

Participants

Data for the present study were obtained from the Healthy Aging in Neighborhoods of Diversity across the Lifespan (HANDLS) study (Evans, et al., 2010). The HANDLS study is an epidemiological, longitudinal, observational study of health disparities in an area probability sample of Baltimore City, Maryland. Data for the present study were from baseline examinations, which were completed between 2004 and 2009. Participants were 3,722 socioeconomically diverse African Americans and whites between the ages of 30 and 64. Of the 3,722 participants, 2,104 completed the PTSD Checklist-Civilian version (PCL-

C) and were included for further study. Sample characteristics are described in Table 1. Poverty status was determined using the 125% poverty level as defined by the Department of Health and Human Services (Department of Health and Human Services, 2003).

Materials

Participants completed a self-administered Audio Computer Assisted Self-Interview (ACASI) questionnaire that included the PCL-C, a 17-item inventory that evaluates self-reported PTSD symptoms resulting from a stressful experience from the past and based on the DSM-IV diagnostic criteria of (a) re-experiencing the traumatic event; (b) avoidance of stimuli associated with the event and/or numbing of general responsiveness; and (c) increased arousal (American Psychiatric Association, 2000). Participants rate how much they have been bothered by each symptom in the last month using a scale from 1 (not at all) to 5 (extremely).

Statistical analysis

Binary logistic regression was conducted to examine the relationship between scores on the PCL-C while adjusting for the effects of demographic variables. We used a combined scoring method utilizing the cut-off score of 44 that has been recommended for use in civilian populations (Blanchard, et al., 1996; Ruggiero, et al., 2003) with subscale criteria. To be classified as screen positive for PTSD symptoms, participants had to score above 44 and endorse a score of 3 or above on at least one re-experiencing criteria (items 1–5), at least 3 avoidance criteria (items 6–12), and at least 2 hyperarousal criteria (items 13–17). The Statistical Package for Social Sciences (SPSS version 17.0) was used for all analyses (SPSS for Macintosh, 2008).

Results

Prevalence of PTSD Symptoms

Positive PTSD symptoms were indicated in 268 participants (12.7%) who scored above 44 on the PCL-C and met minimum criteria for each of the subscales. Women were more likely than men to screen positive on the PCL-C (OR = 1.98, 95% CI = 1.10–3.57). The rate of positive PTSD symptoms was 13.8% among women and 11.3% among men. White participants (13.8%) were more likely to screen positive than African Americans (11.9%) (OR = 1.89, 95% CI = 1.08–3.33). Those below the median age of 47 (16.1%) were more likely to screen positive for PTSD than those above age 47 (10.2%) (OR = 2.01, 95% CI = 1.23–3.29).

There was a significant poverty status X race X sex interaction (OR = 0.33, 95% CI = 0.11–0.98) such that white women below the 125% poverty level were more likely to screen positive for PTSD. Scores were similar to white men below the 125% poverty level. Overall, men above the 125% poverty level had the lowest scores across race as shown in Figure 1.

Discussion

This study examined the relationship between symptoms of PTSD assessed by the PCL-C and demographic variables in a working-age, urban sample of African Americans and whites. The overall rate of significant PTSD symptoms in our study (12.7%) was higher than the most recent national lifetime prevalence reported in the National Comorbidity Survey-Replication (6.8%) (Kessler, et al., 2005). This suggests that those living in an urban environment may be more likely to develop PTSD symptoms than those in suburban or rural environments.

Previous studies have shown that PTSD onset occurs primarily in young adulthood (Breslau, Davis, Peterson, et al., 1997). Our findings indicate age-related differences despite utilizing a working age population. The current study found that people aged 30–47 years (16.1%) were more likely to report symptoms of PTSD than those aged 47–64 years (10.2%). The lower limit of our age group was older than some prior studies. We found a rate of 16.1% among the younger participants in our study (30–47 years) while Breslau, et al. (2004) reported only a 7.1% prevalence in a group of 19–24 year olds (Breslau, et al., 2004).

Though the rates of PTSD were higher in our sample than among national averages, they were lower than the rates reported by previous studies of urban-dwelling, low-SES African Americans (Davis, et al., 2008; Schwartz, et al., 2005). This is likely due to the difference in SES of the populations studied. Our sample consisted of participants of all income levels whereas prior studies utilized more homogeneous groups. These findings differ than those reported in the Detroit Area Survey of Trauma (Breslau, et al., 1998). Breslau et al. (1998) found a prevalence of 9.2%, which is more consistent with national averages. They did not report any significant differences by income level. Our study also included participants who identified as white, which enabled us to examine the effect of race on the development of PTSD symptoms.

Alim et al. (2006) posited that the higher rates of PTSD among African American populations reported in previous studies were more a function of urban environment and SES than of race (Alim, Charney, et al., 2006). Our findings provide support for this hypothesis. White participants in our sample were more likely than African Americans to screen positive for PTSD. Additionally, we found that white men and women living below the poverty level had the highest risk. Though poverty status was not significant in the overall model, Figure 1 shows that those living below the 125% poverty level had slightly higher scores on the PCL-C than those living above the 125% poverty level. Rates of positive PTSD symptoms were 16.5% for those below the 125% poverty level and 9.9% for those above the 125% poverty level. Also, our overall rates in this urban sample were higher than national averages. Given these two findings, it seems that urban environment and low SES play a more important role in risk for PTSD symptoms than race alone.

We also examined the impact of each neighborhood's crime rate on the risk of the development of PTSD symptoms. Crime rate was not a significant factor, suggesting that exposure to crime does not in itself increase the rate of PTSD symptoms. There may be something else about the urban environment and SES that has a greater impact on symptomatology. Perhaps those individuals with a higher income level have some experience, such as education, that increases resilience to PTSD. Future studies should examine the impact of education level on the development of PTSD symptoms.

There are several limitations to this study. First, the PCL-C does not assess traumatic qualifying events, the first DSM-IV criteria for diagnosis. Ours is a study of PTSD symptoms rather than diagnoses. Information on specific trauma types was not available. Second, our sample was limited to Baltimore residents; thus the findings may have limited generalizability to other regions, even though the overall composition of Baltimore is similar to other medium-sized cities in the United States. Third, the presence of symptoms was determined by self-report rather than a structured clinical interview. The limits of self-report measures are an important consideration.

PTSD is often underdiagnosed in civilians (Mueser, et al., 1998; Schwartz, et al., 2005), yet it is vital to evaluate due to the implications for health outcomes. Individuals with PTSD are more likely to engage in negative health behaviors, putting them at further risk for HIV and substance use (Brief, et al., 2004). Studies have reported that PTSD is associated with health

issues such as chronic pain, hypertension, coronary artery disease, thyroid disorder and other medical symptoms (Asmundson, et al., 2002; Gill, et al., 2009; Schwartz, et al., 2006). PTSD's high rate of comorbidity (Kessler, et al., 1995) with other mental disorders is an important consideration for patient care so clinicians can be aware of and treat a variety of symptoms. PTSD is common among patients in primary care settings (Bruce, et al., 2001; Samson, et al., 1999; Stein, et al., 2000), which further emphasizes the importance of accurate diagnosis and treatment. Preventative and integrative treatment would be especially useful in treating these populations. Our findings signify the importance of screening in urban clinics, particularly those that primarily serve low-income individuals.

In conclusion, this study provides further support for the argument that elevated symptoms of PTSD are likely to occur in low-income, urban residing individuals and that this risk is not associated with being African American. Also, PTSD symptoms appear to be more prevalent in urban populations than national averages. This could be due to higher exposure to traumatic events in urban settings, particularly violence. This information is useful for treatment of civilian PTSD. Future research should focus on PTSD in other minority populations to further investigate the relationship of PTSD to race. Continued research across various income levels is needed to fully understand the impact of SES on the development of PTSD. Studies focusing on neighborhood differences and PTSD could further delineate the relationships between these factors.

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FIGURE 1. Relationship between race, sex, poverty status, and PCL-C scores. PCL-C indicates PTSD Checklist–Civilian Version; PTSD, posttraumatic stress disorder.

Table 1

Descriptive Statistics of Sample Characteristics

Total (n)	2104
Sex	
Female	1177 (55.9%)
Male	927 (44.1%)
Race	
White	898 (42.7%)
African American	1206 (57.3%)
Poverty Status	
Above 125% of Poverty	
Level	1208 (57.4%)
Below 125% of Poverty	
Level	896 (42.6%)
Age	
Below age 47	894 (42.5%)
Above age 47	1210 (57.5%)