



Brief Original Report

Association between asthma and serious psychological distress among male veterans compared to civilian counterparts

Benjamin J. Becerra^a, Monideepa B. Becerra^{b,*}^a School of Public Health, Loma Linda University, Loma Linda, CA 92350, United States^b Department of Health Science and Human Ecology, California State University, San Bernardino, 5500 University Parkway, San Bernardino, CA 92407, United States

ARTICLE INFO

Available online 5 December 2014

Keywords:

Asthma
Mental health
Serious psychological distress
Veteran
Males
California Health Interview Survey

ABSTRACT

Objective. Identify the association between current asthma status and serious psychological distress among males who served in the U.S. Armed Forces as compared to civilians.

Methods. A secondary analysis was performed utilizing the 2009 and 2011 California Health Interview Survey, including 9993 veteran males and 26,999 civilian males. All analyses used replicate weights to account for complex survey design. Descriptive statistics and chi-square analyses were generated to describe the population. Multivariable logistic regression analyses were utilized to model the effect of asthma and other covariates on past year and past month serious psychological distress, stratified by veteran status.

Results. After model adjustment, current asthma status was significantly associated with past month and year serious psychological distress among veterans only. In addition, while race/ethnicity and risk behaviors of smoking and/or binge drinking were significantly associated with distress among civilians, no such association was noted among veterans.

Conclusion. To the authors' knowledge, this was the first study to demonstrate that the relationship between asthma and serious psychological distress varies by veteran status. Several unique correlates among veterans were also noted. Future preventive strategies for mental health disorders should incorporate these reported differences, including that of asthma co-morbidity among veterans.

© 2014 Elsevier Inc. All rights reserved.

Introduction

The empirical literature highlights the putative association between asthma and prevalence of mental health outcomes, including agoraphobia, anxiety, depressive disorders, and panic attacks, among those with asthma (Shavitt et al., 1992; Goodwin et al., 2003; Scott et al., 2007; Chun et al., 2008). Despite the evidence on the asthma mental health nexus, research addressing such a co-morbidity among veterans remains limited. Veterans face a heightened prevalence of mental health outcomes, including post-traumatic stress disorder (PTSD), depression, and substance abuse (Hankin & Spiro, 1999; Hoge et al., 2006; Thomas et al., 2010; Maguen et al., 2010). In addition, a recent study demonstrated that exposure to killing during combat was significantly associated with PTSD symptoms, alcohol abuse, and hostility/anger (Maguen et al., 2010). Such mental health outcomes remain a significant concern among the veteran population due to increased future risk of mortality (Boscarino, 2008; Williams et al., 2004).

While asthma prevalence among veterans is significantly understudied, some researchers have highlighted increased likelihood of asthma among veterans resulting from exposure to oil fire smoke

(Cowan et al., 2002). Similarly, in a study evaluating new-onset of asthma among soldiers, Szema and colleagues noted that deployment to Iraq was associated with higher odds of new-onset of asthma as compared to stateside soldiers (Szema et al., 2010). Given the increased risk of psychiatric disorders among veterans and potential risk of asthma due to exposures during deployment, understanding the putative association between asthma and mental health would be valuable in implementing early preventive strategies for the population. As such, this study evaluated the association between current asthma status and serious psychological distress (SPD) among veteran males as compared to their civilian counterparts utilizing a population-based survey.

Methods

A secondary analysis of the adult portion of the public access California Health Interview Survey 2009 and 2011/2012 data was conducted. CHIS, a biennial survey using a random-digit dial system, is considered the largest state health survey in the nation. CHIS respondents who stated serving on active duty in the Armed Forces for whom length of time served was ascertained were considered veterans in this study. A total of 9993 veteran and 26,999 civilian males were included, representing approximately 4 million and 23 million veteran and civilian males, respectively. Using the California Behavioral Risk Factor Surveillance System (BRFSS) response rate calculation methodology, CHIS

* Corresponding author.

E-mail address: mbecerra@csusb.edu (M.B. Becerra).

combined (landline and cell phone) response rate for 2011/2012 was 35.1% as compared to 35.4% for California BRFSS. Historically, such surveys have reported comparable response rates. Details of CHIS methodology can be found elsewhere (California Health Interview Survey and UCLA Center for Health Policy Research, 2012).

CHIS utilizes the Kessler 6-scale, a validated measure of mental health outcomes (Kessler et al., 2002; Kessler et al., 2005) as a measure of psychological distress. The scale is comprised of six questions (Likert-scale) related to depressive and anxiety symptoms with scores ranging from one through five for each question. The lowest possible score is six, indicating no distress, while a score of 30 indicates severe distress (Andrews & Slade, 2001; Kessler et al., 2003). CHIS defines a score of 13 or higher as serious psychological distress.

The primary exposure variable for the study was current asthma. CHIS researchers asked respondents “Has a doctor ever told you that you have asthma?” and if answered yes follow-up questions stated, “Do you still have asthma?” and “During the past 12 months, have you had an episode of asthma or an asthma attack?”. In this study, those responding yes to still having asthma or having an asthma episode/attack were considered as current asthmatics. Control variables included age, race/ethnicity, marital status, education, poverty, employment status, insurance, general health status, and risk behaviors defined as binge drinking in past 12 months and/or currently smoking.

Using design-based *F* values, chi-square analyses for categorical variables and survey-weighted linear regression for continuous variables were conducted

to evaluate differences in sociodemographic characteristics. Next, survey-weighted multivariable logistic regression analyses were employed to evaluate the association between current asthma and SPD among veteran and civilian males. SAS 9.4 (SAS Institute, Inc., Cary, NC) was used for all statistical analyses. The project was reviewed and considered exempt by California State University, San Bernardino.

Results

Table 1 displays the sociodemographic and other characteristics of the study populations: veteran and civilian males. Significant differences were noted for several population characteristics. For example, a higher percent of veterans reported having at least some college (some college, vocational, Associate = 30.69%; Bachelor's or higher = 37.13%) as compared to the civilian population (some college, vocational, Associate = 20.83%; Bachelor's or higher = 34.32%). Prevalence of currently smoking or binge drinking in the past 12 months was higher among civilians (38.46%) than veterans (29.42%). While prevalence of current asthma and past month SPD was not significantly different between veterans and civilians, more civilians reported past year SPD (6.34%) as compared to veterans (4.67%).

Table 1
Sociodemographic and other characteristics of study population, CHIS 2009 and 2011.

Mean age + SE ^{***}	Veteran males		Civilian males	
	n = 9993	N	n = 26,999	N
	N = 4,035,828		N = 22,903,786	
	60.03 ± 0.40		41.36 ± 0.06	
	n (%)		n (%)	
Race/ethnicity^{***}				
White, non-Hispanic	8268 (71.89)	2,901,226	15,388 (42.47)	9,726,775
Hispanic	389 (8.39)	338,438	4722 (28.30)	6,480,880
African-American/Black	524 (7.97)	321,566	987 (5.05)	1,157,521
Asian American and Pacific Islander	287 (4.75)	191,744	3753 (14.73)	3,373,764
Other	525 (7.01)	282,853	2149 (9.45)	2,164,848
Education^{***}				
High school degree or less	2382 (32.18)	1,298,779	9652 (44.85)	10,271,776
Some college, vocational, Associate	3202 (30.69)	1,238,493	5878 (20.83)	4,770,949
Bachelor's or higher	4409 (37.13)	1,498,556	11,469 (34.32)	7,861,060
Poverty^{***}				
Less than 200% FPL	1792 (18.73)	755,983	8192 (35.17)	8,054,938
At or above 200% FPL	8201 (81.27)	3,279,845	18,807 (64.83)	14,848,848
Employment^{***}				
Not currently employed	6440 (51.82)	2,091,417	9099 (26.60)	6,092,449
Currently employed	3553 (48.18)	1,944,411	17,900 (73.40)	16,811,337
Marital status^{***}				
Not currently married/living with partner	3569 (27.23)	1,098,986	10,274 (41.26)	9,449,446
Currently married/living with partner	6424 (72.77)	2,936,841	16,725 (58.74)	13,454,340
Insurance^{***}				
Not insured all past 12 months	445 (7.94)	320,356	5602 (28.81)	6,599,575
Insured all past 12 months	9548 (92.06)	3,715,471	21,397 (71.19)	16,304,212
General health status				
Fair or poor	1930 (17.94)	724,140	5345 (18.24)	4,177,331
Excellent/very good/good	8063 (82.06)	3,311,688	21,654 (81.76)	18,726,455
Risk behaviors^{***}				
Smoke and binge drink	407 (6.66)	268,825	2037 (9.87)	2,259,997
Smoke or binge drink	2454 (29.42)	1,187,406	9244 (38.46)	8,808,064
None	7132 (63.92)	2,579,596	15,718 (51.68)	11,835,726
Current asthma				
Yes	631 (5.85)	236,076	1714 (5.99)	1,373,060
No	9362 (94.15)	3,799,752	25,285 (94.01)	21,530,726
Serious psychological distress in past month				
Yes	211 (2.75)	110,896	760 (2.82)	646,351
No	9782 (97.25)	3,924,932	26,239 (97.18)	22,257,435
Serious psychological distress in past year^{**}				
Yes	340 (4.67)	188,442	1550 (6.34)	1,451,804
No	9653 (95.33)	3,847,386	25,449 (93.66)	21,451,982

SE = standard error, n = sample size, N = average annual population estimate, % = weighted percent, FPL = federal poverty level.

** p < 0.005.

*** p < 0.0001.

Download English Version:

<https://daneshyari.com/en/article/6046857>

Download Persian Version:

<https://daneshyari.com/article/6046857>

[Daneshyari.com](https://daneshyari.com)