Journal of Affective Disorders 217 (2017) 197–204

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research paper

Religion, spirituality, and mental health of U.S. military veterans: Results from the National Health and Resilience in Veterans Study

Vanshdeep Sharma[a,b,*], Deborah B. Marin[a,b], Harold K. Koenig[c], Adriana Feder[a], Brian M. Iacoviello[a], Steven M. Southwick[d,e], Robert H. Pietrzak[d,e]

[a] Department of Psychiatry, Icahn School of Medicine at Mount Sinai, New York, NY, USA
[b] Center for Spirituality and Health, Icahn School of Medicine at Mount Sinai, New York, NY, USA
[c] Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC, USA
[d] Department of Psychiatry, Yale University School of Medicine, New Haven, CT, USA
[e] National Center for Posttraumatic Stress Disorder, VA Connecticut Healthcare System, West Haven, CT, USA

ARTICLE INFO

Keywords:
Religion
Spirituality
Resilience
Posttraumatic stress
Depression
Alcohol

ABSTRACT

Background: In the last three decades, there has been increased interest in studying the association between religion/spirituality (R/S), and mental health and functional outcomes.
Methods: Using data from a contemporary, nationally representative sample of 3151 U.S. military veterans maintained by GfK Knowledge Networks, Inc., we evaluated the relation between R/S and a broad range of mental health, and psychosocial variables. Veterans were grouped into three groups based on scores on the Duke University Religion Index: High R/S (weighted 11.6%), Moderate R/S (79.7%) and Low R/S (8.7%).
Results: A "dose-response" protective association between R/S groups and several mental health outcomes was revealed, even after adjustment for sociodemographic and military variables. High R/S was associated with decreased risk for lifetime posttraumatic stress disorder (odds ratio [OR] = 0.46), major depressive disorder (MDD; OR = 0.50), and alcohol use disorder (OR = 0.66), while Moderate R/S was associated with decreased risk for lifetime MDD (OR = 0.66), current suicidal ideation (OR = 0.63), and alcohol use disorder (OR = 0.76). Higher levels of R/S were also strongly linked with increased dispositional gratitude, purpose in life, and posttraumatic growth.
Limitations: In this cross-sectional study, no conclusions regarding causality can be made. The study provides a current snapshot of the link between R/S and mental health. The study also cannot determine whether religious coping styles (negative vs positive coping) contributed to observed differences.
Conclusions: Although the present study does not have treatment implications, our results suggest that higher levels of R/S may help buffer risk for certain mental disorders and promote protective psychosocial characteristics in U.S. military veterans.

1. Introduction

Over the past three decades, there has been a significant growth in research examining the association between religion/spirituality (R/S), and mental health. Although there is some inconsistency regarding the overlap or distinction between religion and spirituality, this work has consistently revealed that many people turn to their R/S as one of the first resources when faced with potentially traumatic life events or significant stressors. For example, in a community-based survey, turning to religion was the second most commonly used strategy—after support seeking—to cope with the September 11, 2001 terrorist attacks (Schuster et al., 2001). Similarly, in a study of Pakistani earthquake survivors, R/S was the most common explanation for survival and for coping with the event and its aftermath (Feder et al., 2013). Further, in a study of individuals diagnosed with a serious mental illness, 80% reported using their religious beliefs and practice as a way to manage their illness (Tepper et al., 2001).

Most research on R/S and health has focused on the potentially salutogenic effects of R/S on mental health outcomes. A number of studies show that greater R/S is linked to lower rates and severity of depression, anxiety, substance abuse, and suicidality (Rasic et al., 2011). For example, a recent prospective study of over 89,000 nurses

* Correspondence to: Department of Psychiatry, Icahn School of Medicine at Mount Sinai, Box 1230. 1 Gustave L. Levy Place, New York, NY 10029, USA.
E-mail addresses: Vansh.Sharma@mssm.edu (V. Sharma), Deborah.Marin@mssm.edu (D.B. Marin), Harold.Koenig@duke.edu (H.K. Koenig), Adriana.Feder@mssm.edu (A. Feder), Brian.Iacovielllo@mssm.edu (B.M. Iacoviello), Steven.Southwick@yale.edu (S.M. Southwick), Robert.Pietrzak@yale.edu (R.H. Pietrzak).

http://dx.doi.org/10.1016/j.jad.2017.03.071
Received 31 January 2017; Received in revised form 27 March 2017; Accepted 31 March 2017
Available online 11 April 2017

found that weekly or more frequent attendance at religious services was associated with a 5-fold lower rate of suicide compared with never attending religious services (VanderWeele et al., 2016). R/S has also been found to protect against the development of mental disorders such as depression and posttraumatic stress disorder (PTSD). In a 10-year prospective study of adults at high risk for depression (63% had a parent with depression), those who reported that R/S was highly important to them were 75% less likely to develop depression compared to individuals with lower R/S ratings (Miller et al., 2012). In a study of Israeli soldiers, those who identified themselves as religious were less likely to develop symptoms of traumatic stress after combat trauma (Israel-Cohen et al., 2016). Personal testimonials provided by veteran have also shown that the majority of veterans rate R/S as an important factor in helping them cope with their illness (Koenig, 1994). Taken together, these studies suggest that R/S can help buffer risk for mental disorders such as depression and PTSD, as well as suicidality.

There has been increased interest in the relationship between R/S and mental health outcomes in recent years (Berg, 2011; Kopacz and Connery, 2015), but studies of these associations in military veterans have been limited to those engaged in different treatment settings such as primary care and/or mental health centers (Bonner et al., 2013; Bormann et al., 2012; Currier et al., 2016; Hasanovic and Pajevic, 2015). Far less is known about the relationship between R/S and mental health outcomes of population-based samples of military veterans. Veterans are an ideal group in which to study this association given their relatively high rate of exposure to potentially traumatic events such as combat; elevated risk for mental disorders, especially among combat-exposed veterans; public concern for their health and well-being; and ongoing efforts to facilitate and maintain mental health after discharge from the military. In this study, we had two aims: 1) to examine the relationship between R/S and a comprehensive range of mental health outcomes in a contemporary, nationally representative cohort of U.S. veterans; and 2) to evaluate the extent to which R/S is associated with quality of life, resilience and other psychosocial characteristics which have not been examined in prior work. Given that R/S may relate to a wide range of mental health related variables, we specifically sought to examine associations between levels of R/S and rates of mental disorders, as well as measures of functioning, quality of life, and psychosocial characteristics (e.g., resilience, purpose in life).

2. Methods

2.1. Sample

Data were drawn from Wave 1 of the National Health and Resilience in Veterans Study (NHRVS), which surveyed a nationally representative sample of 3157 U.S. veterans enrolled between October and December 2011. Participants in the NHRVS completed a 60-min anonymous Web survey. The NHRVS sample was drawn from a research panel of more than 50,000 households that is developed and maintained by GfK Knowledge Networks, Inc., a survey research firm based in Menlo Park, CA. Knowledge Networks, Inc. maintains KnowledgePanel®, a probability-based, online non-volunteer access survey panel of a nationally representative sample of about 50,000 U.S. adults, aged 18 years and older, that covers approximately 98% of U.S. households, including cell-phone only households (Tsai et al., 2015; Watkins et al., 2016).

Knowledge Networks, which first began recruiting survey panelists in 1999, established the first online research panel based on probability sampling that covered both online and offline populations in the United States. Panel members are recruited through national random samples, originally by telephone and now almost entirely by postal mail. Households are provided with access to the Internet and computer hardware if needed. Unlike Internet convenience panels, also known as "opt-in" panels that include only individuals with Internet access who volunteer themselves for research, KnowledgePanel® recruitment uses dual sampling frames that includes both listed and unlisted telephone numbers, telephone and non-telephone households, and cell-phone-only households, as well as households with and without Internet access. Details regarding the KnowledgePanel® sampling methodology have been previously described elsewhere (GfK-Knowledge-Networks, 2013). Only persons sampled through these probability-based techniques are eligible to participate on KnowledgePanel®. Unless invited to do so as part of these national samples, no one on their own can volunteer to be part of the panel. A total of 3188 individuals in the Knowledge Networks panel responded "Yes" to an initial screening question that confirmed their veteran status: "Have you ever served on active duty in the U.S. Armed Forces, Military Reserves, or National Guard?" Of these, 3157 (99.0%) completed the survey. To permit generalizability of study results to the entire population of U.S. veterans, post-stratification weights were applied based on demographic distributions (i.e., age, gender, race/ethnicity, education, census region, and metropolitan area) drawn from the most contemporaneous Current Population Survey (U.S. Census Bureau, October 2010). This study was approved by the Human Subjects Subcommittee of the VA Connecticut Healthcare System and the VA Office of Research and Development.

2.2. Religious/Spiritual beliefs

The Duke University Religion Index (DUREL) (Koenig and Büssing, 2010) is a 5-item scale used widely to assess R/S. This instrument, developed for use in large cross-sectional and longitudinal observational studies, measures the three major dimensions of religiosity: organizational religious activity (ORA), non-organizational religious activity (NORA), and intrinsic religiosity (IR). ORA assesses frequency of engagement in church or other religious meetings (1 item); NORA assesses frequency of engagement in private religious activities, such as prayer, meditation, or Bible study (1 item); and IR has 3 items (sample item: "In my life, I experience the presence of the Divine, i.e., God"). ORA and NORA are assessed on a 6-point Likert-type scale from 1 (never) to 6 (more than once/week or more than once/day, respectively), whereas IR items are assessed on a 5-point Likert-type scale from 1 (definitely not true) to 5 (definitely true).

Three groups were created for analysis based on DUREL responses: "Low R/S", "Moderate R/S", and "High R/S" groups. The "Low R/S" group endorsed "Never" (1) to ORA and NORA items, as well as "definitely not true for me" (1) on each of the three IR items, resulting in a score of 5, which is the lowest score possible on the scale. The High R/S group endorsed at least weekly or daily engagement in ORA and NORA activities respectively, and scored 15 on the 3 item IR subscale ("definitely true of me" response for each item), resulting in a total score of 27, which is the highest possible. All other veterans were grouped into a Moderate R/S group.

2.3. Sociodemographic, military, and clinical variables

As shown in Table 1, a broad range of sociodemographic, military, and clinical variables were assessed in relation to R/S group. We intentionally examined a broad range of variables in order to: (a) identify sociodemographic and military characteristics that differed by R/S group; and (b) determine how R/S group related to a comprehensive set of psychiatric, functional, and quality of life variables.

2.4. Data analysis

Data analyses proceeded in two steps. First, we compared sociodemographic, military, and trauma characteristics by R/S group using independent-sample *t*-tests for continuous variables and chi-square analyses for categorical variables. Second, we conducted a series of covariance (ANCOVAs) and multivariable logistic regression analyses to evaluate the relationship between R/S group (independent variable)