

Research Update -- March 12, 2020

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https://www.liebertpub.com/doi/abs/10.1089/tmj.2019.0309

Exploring the Acceptability of The Together Webinar Programme for Military Partners: A Qualitative Study.

Laura Josephine Hendrikx and Dominic Murphy

Telemedicine and e-Health Online Ahead of Print:February 19, 2020 http://doi.org/10.1089/tmj.2019.0309

Background: Military partners appear at risk for developing psychological difficulties such as depression, generalized anxiety, and secondary trauma symptoms. Yet, evidence suggests that participants report an array of barriers that prevent them from seeking and engaging with mental health support. This includes stigma-related beliefs, work and childcare responsibilities, and distance to venue where support is offered.

Introduction:

The Together Webinar Programme (TTP-Webinar) was developed to increase the accessibility of mental health support for military partners. The efficacy of this program has been explored in a previous study.

Materials and Methods:

Data for this study were taken from 68 partners who provided qualitative feedback of the program. Thematic qualitative analysis was used to explore the views of participants about the acceptability of TTP-Webinar.

Results:

Four main themes were identified, namely perceived benefit, modality, general barriers, and areas for improvement.

Discussion:

Participants found it favorable to develop a better understanding of veterans' difficulties, to have their own difficulties normalized through sharing and discussion, and to feel part of a wider community. They also found the webinar format favorable as it increased the accessibility of support and provided them with an interactive safe platform.

Conclusions:

The study provides promising qualitative evidence for the use of TTP-Webinar in supporting the mental health needs of military partners.

https://academic.oup.com/milmed/article/185/Supplement 1/263/5740797

Continuity in Psychological Health and Role Functioning Across Deployment.

Kenona H Southwell, PhD, Elizabeth C Coppola, MA, David B Topp, PhD, Shelley M MacDermid Wadsworth, PhD

Military Medicine Volume 185, Issue Supplement_1, January-February 2020, Pages 263–273 https://doi.org/10.1093/milmed/usz199

Introduction

Scholars have described military deployments as one of the most stressful aspects of life for military couples. Deployment affects multiple roles and family members, yet little is known about the degree to which postdeployment outcomes are accounted for by predeployment functioning independent of deployment experiences.

Methods

Data collection included in-person interviews with National Guard couples experiencing a deployment and a comparison group whose deployment was canceled abruptly. Using hierarchical regression, this study assessed (a) how much variance in postdeployment functioning was explained by predeployment functioning and (b) whether variance accounted for by predeployment functioning differed by domain, respondent, or deployment status. Posthoc analyses revealed which combinations of predeployment functioning accounted for the most variance in postdeployment outcomes.

Results

We found evidence of modest continuity between predeployment and postdeployment functioning, particularly for psychological functioning and partner role functioning, and fewer differences than expected in patterns between groups. Certain demographic characteristics, risk factors, and resources accounted for significant variance in postdeployment outcomes in addition to baseline levels of role functioning.

Conclusions

Study findings reinforce the importance of predeployment preparation, providing families with resources to maximize resilience in response to the stress of deployment.

https://academic.oup.com/milmed/article/185/Supplement 1/311/5740670

Novel Pharmacological Targets for Combat PTSD—Metabolism, Inflammation, The Gut Microbiome, and Mitochondrial Dysfunction.

F Saverio Bersani, MD, Synthia H Mellon, PhD, Daniel Lindqvist, MD, PhD, Jee In Kang, MD, Ryan Rampersaud, MD, Pramod Rajaram Somvanshi, PhD, Francis J Doyle, III, PhD, Rasha Hammamieh, PhD, Marti Jett, PhD, Rachel Yehuda, PhD ...

Military Medicine Volume 185, Issue Supplement_1, January-February 2020, Pages 311–318 https://doi.org/10.1093/milmed/usz260

Introduction

Current pharmacological treatments of post-traumatic stress disorder (PTSD) have limited efficacy. Although the diagnosis is based on psychopathological criteria, it is frequently accompanied by somatic comorbidities and perhaps "accelerated biological aging," suggesting widespread physical concomitants. Such physiological comorbidities may affect core PTSD symptoms but are rarely the focus of therapeutic trials.

Methods

To elucidate the potential involvement of metabolism, inflammation, and mitochondrial function in PTSD, we integrate findings and mechanistic models from the DOD-sponsored "Systems Biology of PTSD Study" with previous data on these topics.

Results

Data implicate inter-linked dysregulations in metabolism, inflammation, mitochondrial function, and perhaps the gut microbiome in PTSD. Several inadequately tested targets of pharmacological intervention are proposed, including insulin sensitizers, lipid regulators, anti-inflammatories, and mitochondrial biogenesis modulators.

Conclusions

Systemic pathologies that are intricately involved in brain functioning and behavior may

not only contribute to somatic comorbidities in PTSD, but may represent novel targets for treating core psychiatric symptoms.

https://academic.oup.com/milmed/article/185/Supplement 1/334/5740693

Development of a Leader Tool for Assessing and Mitigating Suicide Risk Factors.

Tim Hoyt, PhD, Diana Repke, PsyD, David Barry, MS, USA, Margaret Baisley, PhD, Shellie Jervis, MS, USA, Ryan Black, MS, USA, Sarah McCreight, MS, USA, Daniel Prendergast, MS, USA, Chauncy Brinton, MS, USA, Rohul Amin, MC, USA

Military Medicine

Volume 185, Issue Supplement_1, January-February 2020, Pages 334–341 https://doi.org/10.1093/milmed/usz194

Introduction

Despite efforts in prevention, suicide rates in the US military remain unchanged. This article describes the development of a tool for leaders to identify and mitigate suicide risk factors.

Methods

A seven-item measure, the Leader Suicide Risk Assessment Tool (LSRAT), was constructed to allow leaders to assess and mitigate suicide drivers. During a 6-mo pilot, unit leaders completed the LSRAT for 161 at-risk soldiers. The LSRAT data were compared to clinical data from a subset of these soldiers.

Results

The LSRAT showed good test-retest reliability. The LSRAT scores showed significant correlations with both clinical and screening measures of suicidality. Command actions mitigated or partially mitigated 89% of risk factors identified on the LSRAT.

Conclusions

This study provides initial psychometric data on a tool that prescribes concrete responses to mitigate risk. The LSRAT may be a valid and feasible tool to assist front-line commanders in identifying potential area's risk mitigation. Synchronization efforts between commanders, clinicians, and support services are crucial to ensure effective intervention to prevent suicide behavior.

https://academic.oup.com/milmed/article/185/Supplement 1/154/5740661

Traumatic Brain Injuries: Unreported and Untreated in an Army Population.

Sandra M Escolas, PhD, Margie Luton, MA, Hamid Ferdosi, MD, Bianca D Chavez, BS, Scot D Engel, PsyD

Military Medicine

Volume 185, Issue Supplement_1, January-February 2020, Pages 154–160 https://doi.org/10.1093/milmed/usz259

Introduction

In 2008, it was reported that 19.5% of service members previously deployed experienced a mild traumatic brain injury (mTBI). Fifty-seven percent of those did not seek medical care. It was suggested that concerns with seeking care involved confidentiality and career issues. Objective: This study addressed mTBI history, medical treatment history, and stigmas associated with mTBI/concussion.

Materials and Methods

An anonymous questionnaire was developed. Data collection occurred throughout March 2018 in conjunction with Brain Injury Awareness Month activities.

Results

All 5,174 volunteers were Army; 86% male; 87% were between 18 and 34 years old; 89% had <14 years in the military; 35% had a combat deployment; and 10% reported having one or more mTBIs in their military careers. Of the Soldiers who reported a concussion, 52% sought medical care. Of those not seeking care, 64% reported they did not think the injury required care, followed by 18% fearing negative impact on their career. Twenty-eight percent who experienced an mTBI versus 11% who have not reported that there is a stigma associated with an mTBI.

Conclusions

Soldiers sometimes failed to report their suspected concussions and did not seek medical care. Educational efforts may increase reporting of and medical screening for potentially concussive events. Future research to determine the ramifications of unreported and untreated mTBIs/concussions is recommended.

https://www.ncbi.nlm.nih.gov/pubmed/32077961

Mil Med. 2020 Feb 20. pii: usz487. doi: 10.1093/milmed/usz487. [Epub ahead of print]

The Opioid Epidemic: Challenge to Military Medicine and National Security.

Dembek ZF, Chekol T, Wu A

INTRODUCTION:

We examine the current status of the military relevance of opioids, their use and misuse in military and veteran populations, the national security consequences of opioid use in our military age population, public health implications, and military, veteran, and government solutions for opioid addiction.

MATERIALS AND METHODS:

A literature search of recent published research, federal government, and related open source materials was conducted using PubMed, Google, and Google Scholar, and all materials retrieved were manually identified, screened, and evaluated for inclusion. A modified Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach was used for the selection of relevant articles. Heath policy literature and relevant demographic information published within the last 5 years was also included to provide current information and search for solutions to address the escalating national opioid crisis.

RESULTS:

Synthetic opioids are used for pain and trauma management, not readily substituted, and have exceptionally high addiction potential. Combat wounded veterans have greater potential for opioid misuse than civilian populations. Assessment, management, and treatment of opioid use in this population are essential. Veterans receiving synthetic opioids have been noted to have multiple overdose risk factors. Opioids are readily available nationally as "street drugs" and also in the form of fentanyl-contaminated heroin. The opioid crisis affects the military age population and the top states for military enlistments. Younger age males with lower education and income are at significant risk for opioid use disorder. Recently increased drug overdose deaths contribute to an increased U.S. mortality rate with a commensurate decline in life expectancy at birth. Opioid abuse contributes to increased incidence of infectious disease. Behavioral health programs directed at military and veterans to identify risk factors for opioid misuse have been introduced. Prescription drug monitoring initiatives continue for these populations with increased information exchanged between military and civilian healthcare.

Lifesaving interventions for opioid addiction include methadone maintenance and fentanyl test strip accessibility. Newly implemented federal funding healthcare initiatives to the states are now directed at opioid use prevention and enhanced surveillance.

CONCLUSIONS:

Given increasing rates of opioid addiction and death, viable solutions are universally needed. Successful intervention measures should be widely shared between military, veteran, and civilian healthcare and public health communities. Increased collaboration between these groups could inculcate successful programs to prevent and decrease opioid use. Results received from recent military and veterans' programs for prescription and electronic medical record (EMR) monitoring and data sharing may also prove useful for civilian healthcare providers and hospital systems. Future evaluations from ongoing federally funded programs to the states for addiction surveillance and intervention may help create measures to address the proliferation of opioid addiction with increased death rates. Anticipated results from these federal efforts should help inform opioid programs in military and veterans' health systems.

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https://academic.oup.com/milmed/article/185/Supplement_1/296/5740818

Exploring Disparities in Awarding VA Service-Connected Disability for Post-Traumatic Stress Disorder for Active Duty Military Service Members from Recent Conflicts in Iraq and Afghanistan.

Andrew M Redd, PhD, Adi V Gundlapalli, MD, PhD, Ying Suo, MStat, Warren B P Pettey, MPH, CPH, Emily Brignone, PhD, David L Chin, PhD, Lauren E Walker, MSSW, Eduard A Poltavskiy, MS, Jud C Janak, PhD, Jeffrey T Howard, PhD, Jonathan A Sosnov, USAF, MC, Ian J Stewart, USAF, MC

Military Medicine Volume 185, Issue Supplement_1, January-February 2020, Pages 296–302 https://doi.org/10.1093/milmed/usz208

Introduction We explore disparities in awarding post-traumatic stress disorder (PTSD) serviceconnected disability benefits (SCDB) to veterans based on gender, race/ethnicity, and misconduct separation.

Methods

Department of Defense data on service members who separated from October 1, 2001 to May 2017 were linked to Veterans Administration (VA) administrative data. Using adjusted logistic regression models, we determined the odds of receiving a PTSD SCDB conditional on a VA diagnosis of PTSD.

Results

A total of 1,558,449 (79% of separating service members) had at least one encounter in VA during the study period (12% female, 4.5% misconduct separations). Females (OR 0.72) and Blacks (OR 0.93) were less likely to receive a PTSD award and were nearly equally likely to receive a PTSD diagnosis (OR 0.97, 1.01). Other racial/ethnic minorities were more likely to receive an award and diagnosis, as were those with misconduct separations (award OR 1.3, diagnosis 2.17).

Conclusions

Despite being diagnosed with PTSD at similar rates to their referent categories, females and Black veterans are less likely to receive PTSD disability awards. Other racial/ethnic minorities and those with misconduct separations were more likely to receive PTSD diagnoses and awards. Further study is merited to explore variation in awarding SCDB.

https://academic.oup.com/milmed/article/185/Supplement 1/279/5740700

PTSD Susceptibility and Challenges: Pathophysiological Consequences of Behavioral Symptoms.

Mulugu V Brahmajothi, PhD, Mohamed B Abou-Donia, PhD

Military Medicine Volume 185, Issue Supplement_1, January-February 2020, Pages 279–285 https://doi.org/10.1093/milmed/usz321

Introduction

Posttraumatic stress disorder (PTSD) can develop during the aftermath of traumatic events. Although many are impacted by several stressors, nearly 3.6% suffer from PTSD in the United States with higher incidence reported in military service personnel.

Any injury to the blood-brain barrier can ignite an array of biological signaling molecules in the immune-privileged brain parenchyma, which can disrupt the synaptic neural network, resulting in altered behavior.

Materials and Methods

In this preliminary study, we compared 20 PTSD veterans with age-matched healthy veterans to identify plasma levels of brain-specific protein markers using enzyme-linked immunosorbent assay/immunofluorometric sandwich assay for neurotrophic factors and neuropoietic cytokines, and catalytic activity of matrix metalloproteinase (MMP) by zymography.

Results

We observed an increased level of glial fibrillary acidic protein, tumor necrosis factoralpha, interleukin 6, and MMP2 and MMP9 but decreased level of brain-derived neurotrophic factor, nerve growth factor-beta, and negligible difference in astroglial marker S100 calcium-binding protein B compared to controls.

Conclusion

Identification of neural biomarkers is essential to understand the subclinical symptoms for the diagnosis PTSD, which may not be visible by magnetic resonance imaging (MRI/fMRI) and may take years to clinically manifest.

https://academic.oup.com/milmed/article/185/Supplement 1/286/5740790

Understanding How Clinicians Use a New Web-based Tool for Disseminating Evidence-Based Practices for the Treatment of PTSD: The PTSD Clinicians Exchange.

Julia L Coleman, BA, Lisa Marceau, MPH, Rebekah Zincavage, PhD, Ashley M Magnavita, MPH, James Ambrosoli, MA, Ling Shi, PhD, Erica Simon, PhD, Kile Ortigo, PhD, Kristina Clarke-Walper, MPH, Elizabeth Penix, BA, Joshua Wilk, PhD, Josef I Ruzek, PhD, Raymond C Rosen, PhD

Military Medicine

Volume 185, Issue Supplement_1, January-February 2020, Pages 286–295 https://doi.org/10.1093/milmed/usz313

Introduction

Web-based interventions hold great promise for the dissemination of best practices to clinicians, and investment in these resources has grown exponentially. Yet, little research exists to understand their impact on intended objectives.

Materials & Methods

The Post-Traumatic Stress Disorder (PTSD) Clinicians Exchange is a website to support clinicians treating veterans and active duty military personnel with PTSD, evaluated in a randomized controlled trial (N = 605). This manuscript explores how a subset of clinicians, those who utilized the intervention (N = 148), engaged with it by examining detailed individual-level web analytics and qualitative feedback. Stanford University and New England Research Institutes Institutional Review Boards approved this study.

Results

Only 32.7% of clinicians randomized to the intervention ever accessed the website. The number of pages viewed was positively associated with changes from baseline to 12 months in familiarity (P = 0.03) and perceived benefit of practices (P = 0.02). Thus, engagement with the website did predict an improvement in practice familiarity and benefit outcomes despite low rates of use.

Conclusions

This study demonstrates the importance of methodologically rigorous evaluations of participant engagement with web-based interventions. These approaches provide insight into who accesses these tools, when, how, and with what results, which can be translated into their strategic design, evaluation, and dissemination.

https://academic.oup.com/milmed/article/185/Supplement_1/348/5740753

The Health and Readiness of Service Members: ACEs to PACEs.

Angela Lamson, PhD, Natalie Richardson, MS, Erin Cobb, PhD

Military Medicine Volume 185, Issue Supplement_1, January-February 2020, Pages 348–354 https://doi.org/10.1093/milmed/usz197

Introduction

Over the past three decades, a growing research base has emerged around the role of adverse childhood experiences (ACEs) in the biological, psychological, social, and relational health and development of children and adults. More recently, the role of ACEs has been researched with military service members. The purpose of this article was to provide a brief description of ACEs and an overview of the key tenets of the theory of toxic stress as well as a snapshot of ACEs and protective and compensatory experiences (PACEs) research with active duty personnel.

Methods

Ninety-seven active duty personnel completed the study including questions pertaining to demographics, adverse childhood experiences, adult adverse experiences, and PACEs survey.

Results

Significant findings pertaining to ACEs and PACEs were found by service member's sex and rank, with higher ACE scores for men and enlisted service members.

Conclusions

The contrast by rank and sex in relation to ACEs punctuates the need for attention to ACEs and protective factors among early career service members in order to promote sustainable careers in the military.

https://academic.oup.com/milmed/advancearticle/doi/10.1093/milmed/usaa015/5739295

Mental Health Service Use in Depressed Military Personnel: A Systematic Review.

François L Thériault, M.Sc, William Gardner, Ph.D, Franco Momoli, Ph.D, Bryan G Garber, MD M Sc, Mila Kingsbury, Ph.D, Zahra Clayborne, M Sc, Daniel Y Cousineau-Short, M Sc, Hugues Sampasa-Kanyinga, MD M Sc, Hannah Landry, B Sc, Ian Colman, Ph.D

Military Medicine Published: 19 February 2020 https://doi.org/10.1093/milmed/usaa015

Introduction

Major depression is a leading cause of morbidity in military personnel and an important impediment to operational readiness in military organizations. Although treatment options are available, a large proportion of individuals with depression do not access mental health services. Quantifying and closing this treatment gap is a public health priority. However, the scientific literature on the major depression treatment gap in military organizations has never been systematically reviewed.

Methods

We systematically searched the EMBASE, MEDLINE, and PsychINFO databases for studies measuring recent mental health service use in personnel serving in the armed forces of a Five-Eye country (Australia, Canada, New Zealand, the United Kingdom, or the United States). We excluded studies conducted with retired veterans. Because of the substantial heterogeneity in included studies, we did not pool their results. Instead, we computed median period prevalence of mental health service use.

Results

Twenty-eight studies were included in the systematic review; 12 had estimated mental health service use in personnel with depression, and another 16 had estimated mental health service use in personnel with depression or another mental health disorder. The period prevalence of mental health service use in depressed military personnel ranged from 20 to 75% in 12 included studies, with a median of 48%, over 2–12 months. The other 16 studies yielded similar conclusions; they reported period prevalence of mental health service use in personnel with any mental health disorder ranging from 14 to 75%, with a median of 36%, over 1–12 months. The median was higher in studies relying on diagnostic interviews to identify depressed personnel, compared to studies relying on screening tools (60% vs. 44%).

Conclusions

There is a large treatment gap for major depression in particular, and for mental health disorders in general, among military personnel. However, our results highlight the association between the use of measurement tools and treatment gaps: estimated treatment gaps were larger when depressed patients were identified by screening tools instead of diagnostic interviews. Researchers should be wary of overestimating the mental health treatment gap when using screening tools in future studies.

https://ps.psychiatryonline.org/doi/abs/10.1176/appi.ps.201900324

Reevaluating Suicide Mortality for Veterans With Data From the VA-DoD Mortality Data Repository, 2000–2010.

Claire A. Hoffmire, Ph.D., Shannon K. Barth, M.P.H., Robert M. Bossarte, Ph.D.

Psychiatric Services Published Online: 24 Feb 2020 https://doi.org/10.1176/appi.ps.201900324

Objective:

The Department of Veterans Affairs and Department of Defense Mortality Data Repository (MDR) compiles National Death Index records for all veterans and military service members. This study aimed to compare MDR findings with those from a preexisting data source.

Methods:

Veteran suicide rates estimated from death certificates were replicated with the MDR. Annual suicide rates were computed for veterans overall, by gender, and by Veterans Health Administration service utilization and compared with rates for adult nonveterans by using standardized mortality ratios (SMRs).

Results:

Suicide rates and SMRs differed between the data sources. The 2010 MDR-derived veteran suicide rate was 27.4 deaths per 100,000 veterans, compared with an earlier estimate of 35.9. Differences were greater for females. Divergence was attributed to improved accuracy identifying veteran suicide decedents in the MDR.

Conclusions:

Conditions with low base rates can be major public health problems, and minor misclassification can substantially affect surveillance accuracy, prevention efforts, and the validity of study findings.

https://journals.sagepub.com/doi/abs/10.1177/1054137319898333

Moderating Effect of Meanings-Made on the Relationship Between Exposure to Potentially Traumatic Life Events and Suicidal Ideation.

Basu, N., Schuler, K. R., Marie, L., Taylor, S. E., Fadoir, N. A., & Smith, P. N.

Illness, Crisis & Loss First Published February 23, 2020 https://doi.org/10.1177/1054137319898333

A majority of people experience potentially traumatic events but only a subsection develop negative psychological outcomes such as suicidal ideation. As these events may impact existing life-orienting systems, meaning-making processes are utilized to either assimilate new experiences into existing frameworks or revise existing schemas to accommodate novel incidents. The extent to which efficient meaning-making has occurred or the degree to which the events are integrated may be associated with the development of suicidal ideation. Therefore, this study investigated meanings-made as a moderator of the association between exposure to potentially traumatic life events and suicidal ideation. A total of 568 undergraduate students (Mage = 19.85 years, 69.4% females) completed the online questionnaires. The analyses indicated a significant moderation supporting the hypothesis. The results highlight meaning-making processes as a potential target for interventions directed at the reduction of suicide risk, particularly in individuals exposed to traumatic events.

https://www.liebertpub.com/doi/10.1089/tmj.2018.0058?

Videoconferencing Psychotherapy and Depression: A Systematic Review.

Micha Blake Berryhill, Nathan Culmer, Nelle Williams, Anne Halli-Tierney, Alex Betancourt, Hannah Roberts, and Michael King

Telemedicine and e-Health June 2019, pp. 435-446 http://doi.org/10.1089/tmj.2018.0058

Introduction:

Depression is the leading cause of disability in the world. Despite the prevalence of depression, a small proportion of individuals seek mental health services. A cost-effective method for increasing access to mental health services is the implementation of telemental-health programs. This review aims to summarize the state of the field on

the efficacy and effectiveness of videoconferencing psychotherapy (VCP) for the treatment of depression.

Materials and Methods:

Systematic literature searches were performed using PsychINFO, PubMed, and EMBASE. Specific inclusion criteria were used to identify controlled and uncontrolled studies evaluating VCP for the treatment of depression. Data extraction included study assessment quality, research design, sample size, intervention details, outcome results, intervention effect size, and statistical differences between VCP and in-person (IP) therapy.

Results:

Of the 1,424 abstracts screened, 92 articles were critically reviewed. Thirty-three articles were included in the review, with 14 randomized controlled studies, 4 controlled nonrandomized studies, and 15 uncontrolled studies. Sample size ranged from 1 to 243 participants. Twenty-one studies reported statistically significant reductions in depressive symptoms following VCP, and the median effect size for studies ranged from medium to the very large range. Most controlled studies reported no statistical differences between VCP and IP groups receiving the same intervention.

Conclusions:

VCP for the treatment of depression is a promising method for delivering mental health services. More rigorous research is needed to evaluate VCP on depression in various contexts and participants.

https://academic.oup.com/painmedicine/advance-articleabstract/doi/10.1093/pm/pnaa003/5757957

An Integrated Pain Team Model: Impact on Pain-Related Outcomes and Opioid Misuse in Patients with Chronic Pain.

Carolyn J Gibson, PhD, MPH, Joseph Grasso, PhD, Yongmei Li, PhD, Natalie Purcell, PhD, MPA, Jennifer Tighe, MPH, Kara Zamora, MA, Francesca Nicosia, PhD, Karen H Seal, MD, MPH

Pain Medicine Published: 25 February 2020 https://doi.org/10.1093/pm/pnaa003

Objective

Biopsychosocial integrated pain team (IPT) care models are being implemented in Veterans Health Administration (VA) and other health care systems to address chronic pain and reduce risks related to long-term opioid therapy, with little evaluation of effectiveness to date. We examined whether IPT improves self-reported pain-related outcomes and opioid misuse.

Design

Single-group quality improvement study.

Setting Large VA health care system.

Subjects Veterans with chronic pain (N = 99, 84% male, mean age [SD] = 60 [13] years).

Methods

Using paired t tests and Wilcoxon matched-pairs signed-ranks tests, we examined pain experience (Brief Pain Inventory, Pain Catastrophizing Scale), opioid misuse (Current Opioid Misuse Measure), treatment satisfaction (Pain Treatment Satisfaction Scale), and pain management strategies among patients with chronic pain before and after three or more IPT encounters.

Results

After an average (SD) of 14.3 (9) weeks engaged in IPT, patients reported improvement in pain interference (mean [SD] = 46.0 [15.9] vs 40.5 [16.2], P < 0.001), pain catastrophizing (mean [SD] = 22.9 [13.0] vs 19.3 [14.1], P = 0.01), treatment satisfaction (i.e., "very satisfied" = 13.1% at baseline vs 25.3% at follow-up, P = 0.01), and reduced opioid misuse (mean [SD] = 11.0 [7.5] vs 8.2 [6.1], P = 0.01). Patients reported increased use of integrative (i.e., acupuncture, 11% at baseline vs 26% at follow-up, P < 0.01) and active pain management strategies (i.e., exercise, 8% at baseline vs 16% at follow-up, P < 0.01) and were less likely to use only pharmacological pain management strategies after IPT engagement (19% at baseline vs 5% at follow-up, P < 0.01).

Conclusions

Biopsychosocial, integrated pain care may improve patient-centered outcomes related to opioid misuse and the subjective experience and nonpharmacological self-management of chronic pain.

https://journals.lww.com/jonmd/Abstract/2020/03000/Confederates in the Attic Posttr aumatic Stress.1.aspx

Confederates in the Attic; Posttraumatic Stress Disorder, Cardiovascular Disease, and the Return of Soldier's Heart.

Bremner, J. Douglas; Wittbrodt, Matthew T.; Shah, Amit J.; Pearce, Bradley D.; Gurel, Nil Z.; Inan, Omer T.; Raggi, Paolo; Lewis, Tené T.; Quyyumi, Arshed A.; Vaccarino, Viola

The Journal of Nervous and Mental Disease March 2020 - Volume 208 - Issue 3 - p 171-180 https://doi.org/10.1097/NMD.000000000001100

Da Costa originally described Soldier's Heart in the 19th Century as a syndrome that occurred on the battlefield in soldiers of the American Civil War. Soldier's Heart involved symptoms similar to modern day posttraumatic stress disorder (PTSD) as well as exaggerated cardiovascular reactivity felt to be related to an abnormality of the heart. Interventions were appropriately focused on the cardiovascular system. With the advent of modern psychoanalysis, psychiatric symptoms became divorced from the body and were relegated to the unconscious. Later, the physiology of PTSD and other psychiatric disorders was conceived as solely residing in the brain. More recently, advances in psychosomatic medicine led to the recognition of mind-body relationships and the involvement of multiple physiological systems in the etiology of disorders, including stress, depression PTSD, and cardiovascular disease, has moved to the fore, and has renewed interest in the validity of the original model of the Soldier's Heart syndrome.

https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD013543/abstract

Means restriction for the prevention of suicide by jumping.

Okolie C, Wood S, Hawton K, Kandalama U, Glendenning AC, Dennis M, Price SF, Lloyd K, John A. Means

Cochrane Database of Systematic Reviews 2020, Issue 2. Art. No.: CD013543 https://doi.org/10.1002/14651858.CD013543.

Background

Jumping from a height is an uncommon but lethal means of suicide. Restricting access to means is an important universal or population-based approach to suicide prevention with clear evidence of its effectiveness. However, the evidence with respect to means restriction for the prevention of suicide by jumping is not well established.

Objectives

To evaluate the effectiveness of interventions to restrict the availability of, or access to, means of suicide by jumping. These include the use of physical barriers, fencing or safety nets at frequently-used jumping sites, or restriction of access to these sites, such as by way of road closures.

Search methods

We searched the Cochrane Library, Embase, MEDLINE, PsycINFO, and Web of Science to May 2019. We conducted additional searches of the international trial registries including the World Health Organization International Clinical Trials Registry Platform (ICTRP) and ClinicalTrials.gov, to identify relevant unpublished and ongoing studies. We searched the reference lists of all included studies and relevant systematic reviews to identify additional studies and contacted authors and subject experts for information on unpublished or ongoing studies. We applied no restrictions on date, language or publication status to the searches. Two review authors independently assessed all citations from the searches and identified relevant titles and abstracts. Our main outcomes of interest were suicide, attempted suicide or self-harm, and costeffectiveness of interventions.

Selection criteria

Eligible studies were randomised or quasi-randomised controlled trials, controlled intervention studies without randomisation, before-and-after studies, or studies using interrupted time series designs, which evaluated interventions to restrict the availability of, or access to, means of suicide by jumping.

Data collection and analysis

Two review authors independently selected studies for inclusion and three review authors extracted study data. We pooled studies that evaluated similar interventions and outcomes using a random-effects meta-analysis, and we synthesised data from other studies in a narrative summary. We summarised the quality of the evidence included in this review using the GRADE approach.

Main results

We included 14 studies in this review. Thirteen were before-and-after studies and one was a cost-effectiveness analysis. Three studies each took place in Switzerland and the USA, while two studies each were from the UK, Canada, New Zealand, and Australia respectively. The majority of studies (10/14) assessed jumping means restriction interventions delivered in isolation, half of which were at bridges. Due to the observational nature of included studies, none compared comparator interventions or control conditions.

During the pre- and postintervention period among the 13 before-and-after studies, a total of 742.3 suicides (5.5 suicides per year) occurred during the pre-intervention period (134.5 study years), while 70.6 suicides (0.8 suicides per year) occurred during the postintervention period (92.4 study years) - a 91% reduction in suicides. A metaanalysis of all studies assessing jumping means restriction interventions (delivered in isolation or in combination with other interventions) showed a directionality of effect in favour of the interventions, as evidenced by a reduction in the number of suicides at intervention sites (12 studies; incidence rate ratio (IRR) = 0.09, 95% confidence interval (CI) 0.03 to 0.27; P < 0.001; I2 = 88.40%). Similar findings were demonstrated for studies assessing jumping means restriction interventions delivered in isolation (9) studies; IRR = 0.05, 95% CI 0.01 to 0.16; P < 0.001; I2 = 73.67%), studies assessing jumping means restriction interventions delivered in combination with other interventions (3 studies; IRR = 0.54, 95% CI 0.31 to 0.93; P = 0.03; I2 = 40.8%), studies assessing the effectiveness of physical barriers (7 studies; IRR = 0.07, 95% CI 0.02 to 0.24; P < 0.001; I2 = 84.07%), and studies assessing the effectiveness of safety nets (2 studies; IRR = 0.09, 95% CI 0.01 to 1.30; P = 0.07; I2 = 29.3%). Data on suicide attempts were limited and none of the studies used self-harm as an outcome. There was considerable heterogeneity between studies for the primary outcome (suicide) in the majority of the analyses except those relating to jumping means restriction delivered in combination with other interventions, and safety nets. Nevertheless, every study included in the forest plots showed the same directional effects in favour of jumping means restriction. Due to methodological limitations of the included studies, we rated the quality of the evidence from these studies as low.

A cost-effectiveness analysis suggested that the construction of a physical barrier on a bridge would be a highly cost-effective project in the long term as a result of overall reduced suicide mortality.

Authors' conclusions

The findings from this review suggest that jumping means restriction interventions are capable of reducing the frequency of suicides by jumping. However, due to methodological limitations of included studies, this finding is based on low-quality evidence. Therefore, further well-designed high-quality studies are required to further evaluate the effectiveness of these interventions, as well as other measures at jumping sites. In addition, further research is required to investigate the potential for suicide method substitution and displacement effects in populations exposed to interventions to prevent suicide by jumping.

https://onlinelibrary.wiley.com/doi/abs/10.1002/cpp.2438

Pain persistence and lethality of suicide attempts.

Laura Paashaus, Thomas Forkmann, Heide Glaesmer, Georg Juckel, Dajana Rath, Antje Schönfelder, Tobias Teismann

Clinical Psychology & Psychotherapy First published: 25 February 2020 https://doi.org/10.1002/cpp.2438

The interpersonal–psychological theory of suicide posits that elevated pain tolerance is necessary to engage in suicidal behaviour. It is assumed that suicidal intent only leads to lethal (or near lethal) suicide attempts when an individual has the capability to persist the pain involved in dying. The aim of this study was to assess whether objective pain persistence moderates the association between suicide intent and lethality of a recent suicide attempt. Ninety-seven inpatients, who were hospitalized due to a recent suicide attempt, were interviewed regarding lifetime suicide attempts as well as their most recent suicide attempt: Method of attempt, intention to die, medical risk of death, probability of an intervention, and physical condition following the attempt were inquired. Pain persistence was examined using a pressure algometer. Contrary to the expectation, pain persistence did not moderate the association between suicide intent and lethality of an intervention following the attempt. Future studies are needed to examine method specific pain persistence for suicidal behaviour in a longitudinal study design.

https://www.sciencedirect.com/science/article/abs/pii/S0165178119313277

Mental disorders and medical conditions associated with causing injury or death: A population-based study.

Mathilde M. Husky, Victor Alvarez Fernandez, Geraldine Tapia, Florin Oprescu, ... Viviane Kovess-Masfety

Psychiatry Research Volume 287, May 2020 https://doi.org/10.1016/j.psychres.2020.112899

Highlights

- Overall, 2% of general population adults reported having injured or killed someone.
- Causing harm was associated with male gender, lower education level, and being unemployed.
- Unadjusted associations with mental disorders and medical conditions are strong and pervasive.
- When adjusting for key variables including number of traumatic events, increased risk for mental disorders was limited to certain psychiatric conditions and increased risk for medical conditions was not significant.

Abstract

The aim of the present study is to examine mental disorders and medical conditions associated with causing harm to another person in the general adult population. The sample (n=22,138) was drawn from a cross-sectional survey designed to characterize mental health needs in France. Twelve-month DSM-IV axis I mental disorders and medical conditions, and lifetime occurrence of potentially traumatic events were assessed with the Composite International Diagnostic Interview-SF Overall, 2% (n=430) of the sample reported having injured or killed someone. Causing harm was associated with male gender, lower education level, and being unemployed. The great majority (85%) of those who caused harm had experienced two or more additional potentially traumatic events. When adjusting for gender, employment status, education and number of events experienced, causing harm was associated with certain anxiety disorders, drug dependence and lifetime suicide attempt but not with major depression or post-traumatic stress disorder. Furthermore, causing harm was not associated with medical conditions in multivariate analyses. These results highlight the need for

clinicians to be particularly attentive to the psychological burden that may be experienced by those who have harmed or killed someone.

https://journals.sagepub.com/doi/abs/10.1177/0018720820906050

Habitability in Berthing Compartments and Well-Being of Sailors Working on U.S. Navy Surface Ships.

Matsangas, P., & Shattuck, N. L.

Human Factors Article first published online: February 28, 2020 https://doi.org/10.1177/0018720820906050

Objective

The study had two objectives: (a) to assess the prevalence of sleep-related habitability concerns in the berthing compartments of U.S. Navy surface ships and (b) to assess whether habitability issues in berthing compartments affected the sleep and well-being of crew members.

Background

The importance of habitability for human well-being is recognized. Little is known, however, about the association between habitability factors in the sleeping/berthing compartments and sailor well-being in operational conditions.

Method

Fit-for-duty sailors (N = 1,269; from six ships) participated in this naturalistic and longitudinal study. Sailors reported habitability factors affecting their sleep and completed four standardized questionnaires to assess daytime sleepiness, insomnia, sleep quality, and mood. Sleep was assessed through wrist-worn actigraphy and activity logs.

Results

Noise, ambient temperature, poor bedding conditions, and ambient light were the most frequently reported factors of concern. Compared to their peers with fewer complaints, sailors with more habitability-related complaints were more likely to have elevated daytime sleepiness (by 23%) and to report insomnia symptoms (145%) and lower sleep quality (21%). Sailors who reported more habitability-related issues also tended to sleep

longer. Individuals with more complaints about habitability also tended to report worse mood (total mood disturbance, tension/anxiety, depression, fatigue, and confusion/bewilderment).

Conclusion

Habitability-related complaints are associated with sailor well-being and sleep. Future studies should expound on the various detrimental factors that degrade conditions in berthing compartments and negatively impact crew well-being.

Application

Habitability in berthing compartments of surface ships is associated with sailors' daytime sleepiness, insomnia severity, mood, and sleep attributes. Ship designers should take these findings into consideration and investigate viable and cost-effective methods to mitigate the problems we identified.

https://onlinelibrary.wiley.com/doi/abs/10.1002/jts.22493

Emotional Processing of Imaginal Exposures Predicts Symptom Improvement: Therapist Ratings Can Assess Trajectory in Prolonged Exposure for Posttraumatic Stress Disorder.

Cox, K.S., Wangelin, B.C., Keller, S.M., Lozano, B.E., Murphy, M.M., Maher, E.K., Cobb, A.R. and Tuerk, P.W.

Journal of Traumatic Stress First published: 26 February 2020 https://doi.org/10.1002/jts.22493

Research on mechanisms of change in prolonged exposure therapy (PE), an evidencebased treatment for posttraumatic stress disorder (PTSD), is ongoing. Two putative mechanisms of change are engagement during imaginal exposure and trauma-related belief change. The PE Therapist Questionnaire (PETQ), a novel measure based on the emotional processing theory underlying PE, was developed as a practical tool for therapists to use to assess (a) patient engagement during imaginal exposures and (b) perspective shifts during postimaginal processing. Patients (N = 151) at a U.S. Veterans Affairs medical center PTSD specialty clinic completed self-report measures of PTSD and depression symptoms prior to sessions. Study therapists (n = 17) completed the PETQ postsession. Rational construction and psychometric analyses suggested a twocomponent solution for the PETQ: imaginal and processing. The imaginal factor did not relate to PTSD and depression symptoms. The processing factor correlated with current and next-session PTSD and depression symptoms, with medium effect sizes, rs = -.41 to -.45, ps < .001. Controlling for current-session PTSD and depression, a higher level of processing predicted lower next-session PTSD severity, with a small effect size, $\beta = -.38$, p < .04. Postexposure emotional processing, which supports positive changes in maladaptive trauma-related beliefs and tolerance of emotional distress, predicted future symptom improvement, highlighting the importance of processing components in PE. Further, the use of therapist observations may offer ancillary methods less influenced by correlation of within-patient subjective ratings and concomitant risk of construct overlap in mechanisms research.

https://www.tandfonline.com/doi/full/10.1080/16506073.2020.1717594

A pragmatic approach to measuring adherence in treatment delivery in psychotherapy.

Marc Serfaty, Roz Shafran, Victoria Vickerstaff & Trefor Aspden

Cognitive Behaviour Therapy Published online: 02 Mar 2020 https://doi.org/10.1080/16506073.2020.1717594

Measuring therapists' adherence to treatment manuals is recommended for evaluating treatment integrity, yet ways to do this are poorly defined, time consuming, and costly. The aims of the study were to develop a Therapy Component Checklist (TCC) to measure adherence to manualised CBT; to test its application in research and clinical practice; to determine its validity; and consider its cost benefits. We conducted a randomised trial in 230 people with cancer evaluating effectiveness of CBT for depression. In this, therapists delivered manualised treatment. Experts agreed on key components of therapy and therapists were asked to record these after therapy sessions by ticking a TCC. Inter-rater reliability was tested using an independent rater. Therapists delivered 543 CBT sessions. TCCs were completed in 293, of which 39 were assessed by the independent rater. Self-reported TCC data suggested close adherence to the manual. Prevalence-adjusted and bias-adjusted kappa scores suggested substantial agreement, (>0.60) in 38 out of 46 items. Self-rating of adherence saved around £96 per rating. In conclusion the TCC provides a quick and cost effective way of evaluating the components of therapy delivered. This approach could be applied to

other psychological treatments and may help with linking therapeutic interventions with outcome.

https://www.sciencedirect.com/science/article/abs/pii/S1389945720300927

Social timing influences sleep quality in patients with sleep disorders.

Cátia Reis, Luísa K. Pilz, Lena Katharina Keller, Teresa Paiva, Till Roenneberg

Sleep Medicine Available online 29 February 2020 https://doi.org/10.1016/j.sleep.2020.02.019

Highlights

- As in the general population, PSQI reports sleep quality on workdays in patients with sleep disorders.
- Sleep-disorders patients sleep better on work-free days than during the workweek.
- The contribution of the respective PSQI-components is disorder specific.
- The difference in sleep quality on work-vs free days associates with social jetlag.
- Diagnostics and treatments of sleep disorders need to address social influences on sleep.

Abstract

Objectives

We aimed to compare three variants of the Pittsburgh Sleep Quality Index (PSQI usual, work- and work-free days: PSQIu, PSQIw, PSQIf) and to assess whether chronotype (MSFsc)/social jetlag (SJL) are associated to sleep quality in patients with sleep disorders (SD).

Methods

431 SD patients and 338 subjects from the general population (GP) were included. Participants filled in three variants of the PSQI and the Munich ChronoType Questionnaire. We used Generalized Estimating Equations (GEE) to investigate effects of group (GP, SD), PSQI (usual, work or free) and their interaction (group*PSQI) on scores. To investigate associations between MSFsc/SJL and the difference between PSQIw and PSQIf (PSQIdiff) in patients with SD we used linear regressions (N=352). We used Sobel to test whether there was a mediation effect of SJL on the association between MSFsc and PSQIdiff.

Results

PSQI scores differed between groups (p<0.001). Post-hoc analysis revealed a significant difference between PSQIu vs. PSQIf and PSQIw vs. PSQIf with PSQIf presenting lower scores, while PSQIu vs. PSQIw did not differ in any group. In line with previous findings, SJL was associated to PSQIdiff in SD patients.

Conclusions

PSQlu mainly represents sleep quality on workdays also in SD patients. Being a late chronotype seems to be associated with higher differences in sleep quality on work-vs. free days mostly when it coincides with societal time constraints. Since sleep quality is poorer on workdays even in SD patients, we suggest that treatment strategies should address social aspects affecting sleep, including ways of minimizing SJL.

https://journals.sagepub.com/doi/full/10.1177/2633105520907895

An Update on the Complexity and Importance of Accurately Diagnosing Post-Traumatic Stress Disorder and Comorbid Traumatic Brain Injury.

Rosen, V., & Ayers, G.

Neuroscience Insights First Published March 2, 2020 https://doi.org/10.1177/2633105520907895

As awareness for diagnosing and screening patients for trauma has grown, more effective evidence-based treatments are available to treat post-traumatic stress disorder (PTSD). Despite these gains, several patients are non-responsive to care and research has shifted to determining barriers for cure or improvement. With the advent of modern warfare, the combination of intermittent explosive devices and more robust armor has resulted in service members surviving blasts that historically would have been lethal, resulting in a rise in traumatic brain injuries (TBIs). Post-traumatic stress disorder and TBI are often comorbid and can serve as the aforementioned barriers for cure or improvement for each other if one goes unrecognized. This mini-review will discuss the importance of diagnosing both entities, especially when they are comorbid, by examining how misdiagnosis may interfere with treatment outcomes. Several recent

advances in methods to successfully distinguish between the two disorders will be reviewed.

https://onlinelibrary.wiley.com/doi/abs/10.1002/bin.1712

Clinical research on behavioral activation as treatment for post-traumatic stress disorder: A brief review and meta-analysis.

Daniel D. Flint, Emily L. Ferrell, Joel Engelman

Behavioral Interventions First published: 02 March 2020 https://doi.org/10.1002/bin.1712

Behavioral activation (BA), an effective treatment for depression, has recently been receiving attention as a possible intervention for PTSD. BA interventions could be particularly useful in treating underserved populations (i.e., individuals with lower socioeconomic status). A literature search was conducted, which identified seven outcome studies that examined the effectiveness of stand-alone BA treatment for individuals with PTSD. All studies identified for this brief review demonstrated clinically significant reductions in PTSD symptoms using BA as an intervention. A meta-analysis of these few studies revealed a nonsignificant effect (Cohen's d = 0.713, p = .512) despite reporting an average symptom reduction of 25.8%. Other studies utilizing BA treatment for PTSD do so in tandem with other interventions and were excluded from analysis. This brief review summarizes the literature on the use of BA as a stand-alone treatment for PTSD and suggests that future research seek to confirm the usefulness of BA as a potential treatment modality for mental health-care providers treating individuals with PTSD.

https://journals.sagepub.com/doi/abs/10.1177/0890117120908511

Interventions to Improve Sexual and Reproductive Health in US Active Duty Military Service Members: A Systematic Review.

Vargas, S. E., Norris, C., Landoll, R. R., Crone, B., Clark, M. F., Quinlan, J. D., & Guthrie, K. M.

American Journal of Health Promotion First Published March 5, 2020 https://doi.org/10.1177/0890117120908511

Objective:

To identify and describe behavioral interventions to promote sexual and reproductive health among US active duty military service members.

Data Sources:

Systematic searches of PubMed, CINAHL, and PsychINFO (N = 1609 records).

Inclusion Criteria:

English-language articles published between 1991 and 2018 and retrieved using search terms related to military service, interventions, and sexual and reproductive health.

Exclusion Criteria:

Articles excluded if not empirically based, not published in peer-reviewed journals, did not sample active duty US military personnel, and did not examine the effectiveness of specified preventive sexual or reproductive health intervention(s).

Data Extraction:

Teams of paired authors extracted study rationale; aims; design; setting; description of the intervention; measures; sample demographics; clinical, behavioral, and psychosocial outcomes; and conclusions.

Data Synthesis:

Given the heterogeneity of studies, narrative synthesis was performed.

Results:

Fifteen articles met inclusion criteria: 10 focused on sexually transmitted infection (STI) acquisition and/or unintended pregnancy and 5 on sexual assault. Studies that assessed clinical outcomes found that interventions were associated with lower rates of STIs and/or unintended pregnancy. Significant effects were found on knowledge-related outcomes, while mixed effects were found on attitudes, intentions, and behaviors.

Conclusions:

Current evidence on the effectiveness of sexual and reproductive health interventions in the US military is limited in quality and scope. Promoting sexual and reproductive health

in this population is critical to maintaining well-being among servicemembers, their families, and the communities surrounding military installations.

Links of Interest

Military Spouses: The military lifestyle makes getting a college education a challenge https://www.wusa9.com/article/news/investigations/do-not-publish-military-spouses-themilitary-lifestyle-makes-getting-a-college-education-a-challenge/65-34dc69d0-c916-41fc-b784-30eb72f63f56

National Guard Bureau to Use Machine Learning to Foster Healthier Troops https://www.airforcemag.com/national-guard-bureau-to-use-machine-learning-to-fosterhealthier-troops/

The National Guard expects its suicide rate to drop <u>https://www.militarytimes.com/news/your-military/2020/03/05/the-national-guard-expects-its-suicide-rate-to-drop-this-year/</u>

Veterans Are Working, but Not in Jobs That Match Their Advanced Training https://www.nytimes.com/2020/03/07/us/politics/veterans-jobs-employment.html

Some DoD civilian, Coast Guard families concerned about being bumped from military child care

https://www.militarytimes.com/pay-benefits/2020/03/05/some-dod-civilian-coast-guard-families-concerned-about-being-bumped-from-military-child-care/

This Pager-Sized Device May Make It Easier to Diagnose TBI on the Battlefield <u>https://www.military.com/daily-news/2020/03/05/pager-sized-device-may-make-it-easier-diagnose-tbi-battlefield.html</u>

After years of failure to end the crisis, veteran suicide takes center stage on Capitol Hill <u>https://www.stripes.com/news/veterans/after-years-of-failure-to-end-the-crisis-veteran-suicide-takes-center-stage-on-capitol-hill-1.621428</u>

Preventing suicide: The time is now

https://thehill.com/blogs/congress-blog/politics/486033-preventing-suicide-the-time-isnow Suicide remains growing challenge for younger veterans, survey shows <u>https://www.militarytimes.com/news/pentagon-congress/2020/03/04/suicide-remains-growing-challenge-for-younger-veterans-survey-shows/</u>

To help stem the tide of veteran suicides, VA must stop turning away patients <u>https://www.militarytimes.com/opinion/commentary/2020/03/05/to-help-stem-the-tide-of-veteran-suicides-va-must-stop-turning-away-patients/</u>

"Pay for Success" helps Veterans with PTSD find and keep meaningful jobs <u>https://www.blogs.va.gov/VAntage/71991/pay-success-program-helps-veterans-ptsd-find-keep-meaningful-jobs/</u>

7 Military Move Changes Coming This Spring https://www.military.com/daily-news/2020/03/09/7-military-move-changes-comingspring.html

Coast Guard doing a deep dive into your child care problems <u>https://www.navytimes.com/pay-benefits/2020/03/10/coast-guard-doing-a-deep-dive-into-your-child-care-problems/</u>

Resource of the Week -- <u>Comparing the Army's Suicide Rate to the General U.S.</u> <u>Population: Identifying Suitable Characteristics, Data Sources, and Analytic</u> <u>Approaches</u>

New, from the RAND Corporation:

Over the past 15 years, the suicide rate among members of the U.S. armed forces has doubled, with the greatest increase observed among soldiers in the Army. This increasing rate is paralleled by a smaller increase in the general U.S. population, observed across both genders, in virtually every age group and in nearly every state. An empirical question exists: What is the extent or degree to which the suicide trend in the Army is unique to that service, relative to what is observed in the general U.S. population?

The Army has typically attempted to address this question by standardizing the general population to look like the Army on demographic characteristics. However, given the rise in suicide rates over the past decade, the Army wanted to better understand whether standardization based solely on age and gender is enough. Expanding the characteristics on which the general population is standardized to match the Army could be useful to gain a better understanding of the suicide trends in the Army. However, such a change also brings with it some challenges, including the lack of readily available data in the general U.S. population. In addition, even an expanded set of characteristics still results in having a large number of unmeasured factors that cannot be included in this type of analysis.

In this report, the authors explore how accounting for age, gender, race/ethnicity, time, marital status, and educational attainment affects suicide rate differences between soldiers and a comparable subset of the general U.S. population.



Shirl Kennedy Research Editor (HJF) Center for Deployment Psychology www.deploymentpsych.org skennedy@deploymentpsych.org 240-535-3901