

Veteran Beliefs About the Causes of Gulf War Illness and Expectations for Improvement

Naomi S. Kane, Nicole L. Sullivan, Fiona S. Graff, David R. Litke, Karen S. Quigley, Wilfred R. Pigeon, Joseph F. Rath, Drew A. Helmer, Lisa M. McAndrew

Approximately one-third of Veterans deployed to the Gulf region during Operations Desert Storm/Desert Shield experience persistent medically unexplained physical, neurocognitive, and affective symptoms collectively referred to as Gulf War Illness (GWI). While the specific etiologies remain unknown, Veterans' causal attributions of these chronic physical symptoms may impact expectations for improvement and influence best clinical practices. Therefore, our goal was to explore the relationship between attributions of GWI and patients' expectations for improvement.

Veterans who met the Kansas definition for GWI participated in an RCT of Problem Solving Therapy. Participants also completed self-report measures assessing causal attributions of GWI symptoms (e.g., military deployment-related exposure, psychological stress, physical, behavior including lifestyle choices such as diet, physical activity) and expectations for improvement over 6-months. Regression examined main effects of Veterans' attributions of GWI symptoms and covariates on expectations for improvement.

Participants ($N=262$) were predominantly middle-aged (mean[SD]=52.9[7.3] years old), male (88%), and White (72%), Black (21%), and had household incomes over \$40,000 (79%). 74.4% strongly agreed that military deployment was a cause while only 22.6% agreed or strongly agreed that behavior was a cause. Black Veterans reported higher expectations for improvement ($M=7.2, SD=4.6$) than non-Black Veterans ($M=4.7, SD=4.2$; $t(260)=-3.90, p<.001$). Endorsing behavior was associated with greater expectations ($\rho=.26, p<.001$), while endorsing military deployment was associated with worse expectations ($\rho=-.14, p<.03$). Neither psychological nor physical causes were related to expectations for improvement ($ps>.05$). When all causes were entered together in a regression model ($R^2=.11, p<.001$), only the individual's own behavior retained its significance ($B=.23, p<.001$).

Those who partially attributed GWI symptoms to their own behavior showed greater expectations for improvement than those who attributed their symptoms to military exposure. Understanding patients' causal attributions of medically unexplained symptoms may be important for health professionals to consider when communicating about symptoms, treatment, and goals. A study limitation is that this was a self-selected sample of Veterans with GWI and thus these results may not generalize to those with other chronic illnesses or non-treatment-seeking samples.

TBI and Chronic Multisymptom Illness among Gulf War Veterans: A call for better identification.

Nicole Sullivan, Ph.D., Naomi Kane, Ph.D., Fiona Graff, Psy.D., David Litke, Ph.D., Karen S. Quigley, Ph.D., Wilfred Pigeon, Ph.D., Drew A. Helmer, M.D., Joseph F. Rath, Ph.D., & Lisa McAndrew, Ph.D.

Background: Traumatic Brain Injury (TBI) was once considered rare among veterans who served in the 1990-1991 Gulf War. However, recent research suggests high rates of service-related TBI among this cohort, with estimates from 12.2%-68.6%.^{1,2} While the Department of Veterans Affairs mandated TBI screenings for all returning veterans in 2007,¹ those who sustained a TBI during the first Gulf War may remain under-identified and undiagnosed. Documentation of TBI is important given recent findings showing a relationship between TBI and chronic multisymptom illness (CMI).¹⁻³ CMI is a constellation of disabling, medically unexplained physical symptoms common among Gulf War veterans. The current

study aimed to 1) compare rates of self-reported TBI with documented TBI-related diagnoses, and 2) assess the relationship between TBI and CMI symptoms among Gulf War veterans.

Methods: 268 Gulf War veterans with CMI participated in an RCT comparing Problem-Solving Treatment to Health Education. The current study analyzed self-report data from the baseline assessment and a review of TBI-related diagnoses through VA medical records. The analysis included only those participants who were enrolled in VA medical care (N=216). Participants completed the Brief Traumatic Brain Injury Screen and the Kansas Symptom Questionnaire to assess self-reported history of TBI and severity of CMI symptoms. T-tests examined the relationship between TBI and severity of CMI symptoms.

Results: 74.2% of participants screened positive for a history of TBI. However, only 10.6% had a TBI-related diagnosis documented in their VA medical record. Results showed that participants with a self-reported history of TBI had significantly more severe CMI symptoms compared to those in the non-TBI group ($t(211) = 4.20, p < .001$), with a mean difference of 10.28 points (95% CI: 5.46, 15.10) on the Kansas Symptom Questionnaire (range 0-70).

Conclusion: These results confirm previously reported high rates of TBI among Gulf War veterans and highlight the gap between self-reported history of TBI and TBI-related documentation within VA medical records. This gap is concerning given the finding that history of TBI is related to severity of CMI. Taken together, these findings suggest the need for greater identification of TBI among Gulf War veterans and call for further research on the relationship between TBI and the longitudinal progression of CMI symptoms. Limitations include the study's cross-sectional design.

Treatment of patients with chronic pain at risk for suicide: Room for innovative approaches

Brunkow, A., Long, P., Winograd, D., Cannon, M., Kimber, J., & McAndrew, L.

Background: People with chronic pain (PWCP) are at least twice as likely to die by suicide than the general population (Racine, 2018). Existing suicide prevention efforts have focused on screening and referring these individuals to mental health to ensure that this high-risk population receive suicide prevention (SP) treatment. However, only about 5% of PWCPs follow-up on referrals (Edmond, Moore, Dorflinger et al., 2018). Further, PWCP who die by suicide are more likely to see a primary care provider (PCP; 75%) than mental health provider (MHP; 30%) in the past year (Edmond, Moore, Dorflinger et al., 2018, Luoma, Martin & Pearson, 2002), suggesting opportunities to deliver SP treatments in medical settings for this high-risk population. The goal of this study was to understand where and from whom PWCPs at risk for suicide want to receive SP treatments.

Methods: We conducted a national survey of 1090 PWCPs who were feeling hopeless. We asked about their suicidal thoughts and behaviors in their lifetime and in the past year. Additionally, we asked where and from whom they would be interested in receiving treatments for their hopelessness.

Results: PWCPs who were feeling hopeless (n=1090) were most interested in receiving treatment in a mental health setting (71%), a primary care setting (68%), and remotely by computer or app (67%). These individuals are interested in receiving treatment from a mental health (74%) or medical (69%) provider. Those at highest risk for suicide (i.e., previous attempt(s); n=92) were more likely to be interested in receiving treatment in a mental health setting (75%) than those at moderate risk (i.e.,

suicidal ideation but no prior attempts; n=284; 67%). Higher risk and moderate risk individuals were equally likely to be interested in receiving treatment in a primary care setting (68%, & 69%) or remotely via computer or app (67%, & 66%).

Conclusions: Overall, PWCPs at risk for suicide are most interested in receiving treatments in primary care. They are open to receiving this treatment from either mental health or medical providers. A small proportion of this population at highest risk for suicide are open to receiving treatment in mental health. These findings suggest opportunities to continue to screen and refer, but also to integrate SP treatment into medical settings to reduce suicide risk for this high-risk population. Future research should develop and test integrative approaches to addressing suicidality among PWCPs.

The Importance of Concordant Perceptions of Persistent Physical Symptoms: A Study of Gulf War Veterans and their VA Health Care Providers

Lisa M. McAndrew PhD, Wilfred Pigeon PhD, Karen S. Quigley PhD, David Litke PhD, Drew Helmer MD, Shou-En Lu PhD, & Alison Phillips, PhD

More than half of patients with persistent physical symptoms (PPS; also termed medically unexplained symptoms, e.g., chronic pain) are dissatisfied with their care and oftentimes, relationships with their medical provider. Consistent with Leventhal's Common-Sense Model of Self-Regulation, such dissatisfaction may be due to discordant beliefs between patients and providers about the cause, consequences, and nature of PPS and the appropriate treatment approach. What is not known is if the development of greater concordance about PSS between patients and providers during treatment would be associated with higher satisfaction and adherence.

Method. Using a two-treatment group randomized trial (N=91), Veterans with Gulf War Illness (i.e., PSS) to receive 12-weeks of health education vs. 12-weeks of problem-solving treatment. Using a validated measure, patients and their providers were asked if they perceived concordance about PSS at 4-weeks and 12-weeks. Also assessed at 12 weeks was patient's satisfaction with treatment, adherence to treatment, and perception of their relationship with their provider.

Results. Patients were similarly satisfied and adherent to both treatments and the outcomes described did not differ between groups. Patients' perception of concordance with their provider about PSS at 4-weeks and 12-weeks was related to satisfaction ($r=.25, p<.05$ & $r=.64, p<.01$), self-report adherence ($r=.08, ns$ & $r=.22, p<.05$), and perception of their relationship with their provider ($r=.27, p<.01$ & $r=.53, p<.01$). Providers' perceptions of concordance about PSS with their patient was unrelated to patients' satisfaction, treatment adherence, or perceptions of their relationship with their provider. However, patients' perception of concordance about PPS was a stronger predictor of treatment satisfaction and adherence than perceptions of their relationship with their provider.

Conclusion. The development of concordant beliefs between patients and providers about PSS can improve satisfaction and adherence. Also, achievement of concordance may be an important goal of treatment, providing support for Leventhal's Common-Sense Model of Self-Regulation as a guide treatment development.