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Perceived organizational support associated with less perceived stigma of mental health care

Key Findings: Analysis of data collected four months post-deployment (T1) revealed that active duty soldiers with higher level of perceived organizational support (POS) reported fewer PTSD symptoms and less perceived stigma associated with seeking mental health treatment. Those with higher level of stigma at T1 reported higher PTSD symptoms 12 months post-deployment (T2). Additionally, those with higher POS at T1 had lower PTSD symptoms at T2. The relationship between POS at T1 and symptoms of PTSD at T2 was significantly mediated by perceived stigma of mental health care.

Study Type: Longitudinal study with self-report measures conducted at four and 12 months post-deployment

Sample: 636 active duty soldiers who had recently returned from a combat deployment to Iraq

Implications: Strategies and programs focused on enhancing military POS may help reduce stigma associated with seeking mental health care and thereby improve the psychological health of service members. Leaders should be educated about the potential impact of POS and trained on approaches that

promote healthy working environments and foster supportive organizational attitudes. It may be particularly important to consider POS in occupations that are at high risk of developing mental health problems.

Kelley, C.L., Britt, T.W., Adler A.B., & Bliese, P.D. (2013). Perceived organizational support, posttraumatic stress disorder symptoms, and stigma in soldiers returning from combat. *Psychological Services*. Advance online publication. doi: 10.1037/a0034892

Rates of mental disorder diagnoses in U.S. military recruit trainees

Key Findings: After a 13 year period of surveillance (2000-2012), 2.4% of recruit trainees were found to have at least one mental disorder diagnosis, 15.8% of whom received more than one mental disorder diagnosis. Among all diagnoses, 80.5% were attributable to adjustment disorders, depression and "other mental disorders," while only 0.4% were attributable to schizophrenia, 1.3% to substance use disorders, and 1.3% to alcohol use disorders. During the 13 year period, the annual rate of mental disorder diagnosis decreased by 37%,

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with a significant decrease after 2009. Overall, mental disorder diagnoses remained stable with age except for depression, anxiety and schizophrenia, which were all higher in those aged 25 and older, and personality disorders, which were lower in those aged 25 and older. Incidence rates of adjustment disorders, anxiety, depression and personality disorders were twice as high for females as males, while rates of PTSD were 5.6% higher for females. Regarding military branch, overall mental disorder incidence rates were highest for the Army, second highest for the Air Force and lowest for the Marine Corps. Notably, the incidence rate of alcohol use disorders and personality disorders was highest for the Navy with a personality disorder incidence rate 5.8 times higher than that of the Army and 2.6 times higher than that of the Marine Corps.

Study type: Retrospective record review

Sample: Individuals entering basic training in the U.S. military grades E-1 to E-4 between Jan. 1, 2000 and Dec. 31, 2012. Records were obtained from the Defense Medical Surveillance System

Implications: While mental disorder diagnosis rates have increased in active component service members since 2000, rates of diagnosis have actually decreased in recruit trainees. Considering the results of the current review, psychological evaluation and increased mental health service access during basic training may help retain service members who are otherwise qualified. Considering that the accuracy of mental disorder diagnosis incidence rates is dependent on whether or not service members report symptoms or obtain treatment, incidence rates reported per military branch may more accurately reflect willingness to seek treatment versus actual incidence rates of disorders. Regardless, military recruits of all branches may benefit from additional mental health screening and preventative services.

Monahan, P., Hu, Z., & Rohrbeck, P. (2013). Mental disorders and mental health problems among recruit trainees, U.S. armed forces, 2000-2012. *MSMR*, 20(7), 13-18.

PTSD patients with comorbid psychotic disorders benefit from PE and EMDR

Key Findings: Prolonged Exposure (PE) and Eye Movement Desensitization and Reprocessing (EMDR) were found to be equally safe and effective in reducing PTSD symptoms in patients with psychosis. Two out of 10 patients dropped out prematurely (one from each treatment), while seven of the remaining eight patients showed clinically significant reductions in PTSD severity from baseline to post-treatment. Not only

were symptom reductions maintained at three month follow up, but seven of the completers no longer met CAPS diagnostic criteria for PTSD at follow-up. Throughout treatment, patients showed no worsening of psychosis, distress or social functioning. While one patient with no active psychosis at baseline reported hallucinations and delusions during treatment, the patient did not attribute these symptoms to the treatment.

Study type: Randomized treatment study with clinical interviews and self-report assessments

Sample: 10 adults from a Dutch mental health clinic with comorbid PTSD and psychosis

Implications: Although the sample size was very small, the results of this study demonstrate that PE and EMDR may both be safe and effective treatments for patients with PTSD and comorbid psychosis. The results from this study challenge the common perception among many clinicians that PTSD treatment is potentially dangerous and contraindicated in patients who present with psychosis. Future research should compare the percentage of patients whose psychotic symptoms worsen with trauma-focused treatment to that of patients whose psychotic symptoms increase without receiving treatment.

De Bont, P.A., Van Minnen A., & De Jongh A. (2013). Treating PTSD in patients with psychosis: A within-group controlled feasibility study examining the efficacy and safety of evidence-based PE and EMDR protocols. *Behavior Therapy*, 44(4), 717-730. doi: 10.1016/j.beth.2013.07.002

Cortical thinning associated with new-onset PTSD and symptom severity

Key Findings: Analysis of trauma survivors with recent-onset PTSD showed widespread cortical thinning in the bilateral hippocampus, anterior cingulate and posterior cingulate cortex, left inferior and right superior parietal lobes, left superior frontal lobe, and right superior rostral middle frontal gyrus, compared to the healthy controls. Cortical thickening was also found in the left calcarine cortex of those with PTSD. Cortical thinning was more extensive in trauma survivors with PTSD than in survivors without PTSD. No significant differences in mean cortical thickness were found between the non-PTSD trauma survivors and the normal control group. Additionally, cortical thickness of the bilateral hippocampus, cingulate cortex and frontal gyrus was negatively associated with CAPS scores among all trauma survivors.

Study type: Cross-sectional study with clinician-administered scales and neuroimaging (Magnetic Resonance Imaging-MRI) done at six months following trauma exposure

Sample: 25 coal mine disaster survivors (15 with PTSD and

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10 without PTSD), and 25 normal controls

Implications: Previous research on brain structure in PTSD has shown mixed results, possibly due to the inclusion of participants with different traumatic experiences (combat, sexual abuse, natural disasters). This study included participants with the same traumatic experience using MRI measurements six months post-trauma. Results suggest that thinning of the medial-frontal cerebral cortex is associated with new-onset PTSD and symptom severity. Additionally, cortical thickness may be a more sensitive indicator of brain changes in new-onset PTSD than gray matter volume. Results warrant replication with a larger sample size.

Qi, S., Mu, Y., Liu, K., Zhang, J., Huan, Y., Tan, Q., ...Yin, H. (2013). Cortical inhibition deficits in recent onset PTSD after a single prolonged trauma exposure. *NeuroImage: Clinical*, 3, 226-233. doi:10.1016/j.nicl.2013.08.013

Cognitive Therapy for PTSD decreases symptoms in patients with various types of trauma

Key Findings: Overall, patients receiving Cognitive Therapy for PTSD (CT-PTSD) experienced clinically and statistically significant reductions in PTSD symptoms, depression and anxiety, and treatment gains were maintained at 9-month follow-up. Reliable improvement, [pre-post difference of 6.15 or greater on the Posttraumatic Diagnostic Scale (PDS)], was seen in 78.8% of the intent to treat sample (mean 12.57 sessions) with a 50.4% change in PTSD symptoms. Reliable improvement was seen in 84.5% of completers (at least eight sessions), with a 57.95% change in symptoms. A clinically significant improvement (PDS score < 19.775) was seen in 57.3% of the intent to treat sample and in 65.1% of completers. The dropout rate (13.9%) was highest among those receiving treatment from an inexperienced therapist (having treated 12 or fewer patients with CT-PTSD), those waiting a longer time (mean three months) to receive treatment and those experiencing social problems. Overall, dropouts and unreliable attenders (often multiple trauma survivors) had poorer outcomes. The only moderators found to influence treatment outcome were having multiple traumas and having a primary diagnosis other than PTSD.

Study type: Treatment outcome study using consecutive, unselected clinical sample with clinician-administered and self-report assessments

Sample: 330 ethnically diverse outpatients consecutively presenting to a U.K. clinic for treatment of PTSD due to a wide range of traumas

Implications: Therapists and researchers have questioned whether the promising results of previous randomized-controlled trials of CT-PTSD could be generalized to the patient population seen in routine clinical practice. Current results suggest that CT-PTSD is effective in reducing symptoms of PTSD, depression and anxiety in an ethnically diverse group of patients dealing with a variety of different traumas. Furthermore, treatment gains were maintained at 9-month follow-up. Patients with multiple traumas, those with social difficulties and those with primary diagnoses other than PTSD may need longer courses of therapy to effectively decrease symptoms. Additionally, ensuring that therapists are highly trained and experienced, and minimizing wait times may decrease dropout rates.

Ehlers, A., Grey, N., Wild, J., Stott, R., Liness, S., Deale, A., ...Clark, D.M. (2013). Implementation of cognitive therapy for PTSD in routine clinical care: Effectiveness and moderators of outcome in a consecutive sample. *Behaviour Research and Therapy*, 51(11), 742-752. doi:10.1016/j.brat.2013.08.006

PTSD associated with poorer cognitive functioning

Key Findings: Previous research shows that patients with PTSD are at increased risk for cognitive deficits and at almost double the risk for dementia. Examination of veterans under age 65 with no history of dementia, stroke or neurologic disorder found that both PTSD diagnosis and PTSD severity were significantly related to poorer cognitive performance in several domains. Specifically, deficits were seen in learning ability and processing speed, and were attributable to poor health behaviors, depression and vascular risk factors.

Study type: Cross-sectional study with clinician-administered measures

Sample: 535 adult outpatients recruited from two VA medical centers

Implications: Interventions focused on decreasing poor health behaviors, depression and vascular risk factors are implicated for individuals with PTSD to decrease the occurrence of cognitive deficits, disability and dementia in this population. Prospective research is needed to replicate these results with a more comprehensive neuropsychological battery and in a sample including more females to increase generalizability. Future research should include measures of other risk factors for dementia such as inflammation, genetics and elevated levels of homocysteine.

Cohen, B.E., Neylan, T.C., Yaffe, K., Samuelson, K.W., Li, Y. & Barnes, D.E. (2013). Posttraumatic stress disorder and cognitive function: Findings from the mind your heart study. *Journal of Clinical Psychiatry*, 74(11), 1063-1070. doi: 10.4088/JCP.12m08291

Veterans prefer Prolonged Exposure and Virtual Reality Exposure Therapy over medication

Key Findings: Examination of the PTSD treatment-seeking preferences of OEF/OIF veterans found that, similar to results of civilian studies, Prolonged Exposure (PE) and Virtual Reality Exposure Therapy (VRET) were preferred over taking sertraline (SER). SER was associated with more social stigma than PE, VRET or attending peer support groups (PSG). Furthermore, psychoeducation detailing the efficacy of SER did not increase veterans' preference toward SER treatment. Additionally, no significant differences were found between preference for or belief in the efficacy of PE, VRET or PSG. Self-stigma did not differ between types of treatment.

Study type: Cross-sectional study with treatment vignettes, self-report and clinician-rating measures

Sample: 28 OEF/OIF veterans recruited via Internet, radio, newspaper and flyers

Implications: While evidence suggests that treatment with sertraline is efficacious in decreasing PTSD symptoms, it would be beneficial to offer OEF/OIF veterans other types of treatment such as PE and VRET. Neither self-stigma nor psychoeducation on the efficacy of pharmacotherapy seem to play a role in veterans' treatment preferences. Results should be replicated with a larger sample size, specifically among veterans with PTSD.

Gilliam, C.M., Norberg, M.M., Ryan, C.E., & Tolin, D.F. (2013). Understanding Afghanistan and Iraq Veterans' Treatment Preferences and Perceptions of Stigma. *The Behavior Therapist, 36*(7), 172-179.

Preliminary support for a measure of patient treatment satisfaction

Key Findings: Two studies examined the psychometric properties of a treatment satisfaction measure specifically designed for use with psychiatric outpatients (the Charleston Psychiatric Outpatient Satisfaction Scale; CPOSS). Patients in the first study received 12 sessions of group therapy (either manualized CBT for anger or CPT for PTSD). Results of the first study support the psychometric properties of the CPOSS (16 item self-report) and four different factors of patient satisfaction were identified: appearance of facility, respectful care, convenience of facility and recommendation to a friend or family member. Patients in the second study received eight individual sessions of exposure therapy. Results of the second study showed that the CPOSS total score significantly predicted PTSD symptoms post-treatment.

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PTSD and depression decrease after 6 months' time, but insomnia remains

Key Findings: Analysis of PTSD, depression and insomnia in combat veterans recruited from Veterans Health Administration (VHA) primary care settings found that 74% reported insomnia and 61% reported having nightmares at baseline. At both baseline and six month follow-up, insomnia was found to be associated with increased depression and PTSD severity. Additionally, having nightmares was associated with increased PTSD severity at baseline and follow-up, but was only associated with increased depressive severity at baseline. While PTSD, depression and nightmares decreased in severity from baseline to follow-up, insomnia remained the same. Results were not significantly affected by receipt of mental health treatment(s) during the six month period.

Study type: Longitudinal study with self-report and clinician-administered measures

Sample: 80 recent combat veterans recruited from VHA primary care who reported hazardous use of alcohol and at least sub-threshold PTSD

Implications: While sleep therapies have been shown to decrease insomnia, sleeping difficulties often do not fully remit. Therefore, more research and treatments are needed for insomnia and sleep difficulties associated with PTSD. With the increasing number of therapists being trained in cognitive behavioral treatments for insomnia, more research should examine the efficacy of and potential barriers to this type of treatment.

Pigeon, W.R., Campbell, C.E., Possemato, K., & Ouimette, P. (2013). Longitudinal relationships of insomnia, nightmares, and PTSD severity in recent combat veterans. *Journal of Psychosomatic Research, 75*(6), 546-550. doi: 10.1016/j.jpsychores.2013.09.004



Perceived life threat and negative social re-integration predict PTSD trajectories in combat veterans

Key Findings: Four trajectories of combat PTSD were identified among veterans with and without Combat Stress Reaction (CSR). Trajectories included resilience (34.4% CSR; 76.5% non-CSR), recovery (36.3% CSR; 10.5% non-CSR), delayed onset (8.4% CSR; 6.9% non-CSR) and chronicity (20.9% CSR; 6.2% non-CSR). Overall, symptomatic trajectories were more associated with having experienced CSR. Perceived life threat and negative social re-integration predicted trajectories in both CSR and non-CSR groups. Among veterans with CSR, higher social support post-war was associated with lower probability of chronic or recovering trajectories, and alienation post-war differentiated chronic trajectory from recovery or delayed onset trajectories. Among those who did not experience CSR, family cohesion predicted a recovery trajectory while perception of life threat differentiated chronic from delayed trajectories.

Study Type: Prospective longitudinal study with self-report measures and retrospective analysis of data at one, two and 20 years after the 1982 Lebanon War

Sample: 675 male Israeli combat veterans (369 with CSR and 306 without CSR matched on age, education and rank)

Implications: Reactions to combat such as acute functional impairment predicts pathological outcomes in veterans, while increased social support and family cohesion decreases pathological outcomes. Therefore, measures of CSR and level of social support in service members may help identify those at increased risk for symptomatic trajectories early on and preventive treatment can be implemented. Results also suggest that perceived life threat is more important in predicting PTSD than severity of combat exposure. Additionally, increasing social support for service members may act as a buffer against development of PTSD symptoms.

Karstoft, K.I., Armour, C., Elklit, A., Solomon, Z. (2013). Long-term trajectories of Posttraumatic Stress Disorder in veterans: The role of social resources. *Journal of Clinical Psychiatry*, 74(12), 1163-1168. doi: 10.4088/JCP.13.m08482

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Study type: Two pre- post-treatment studies with self-report and clinician-administered measures

Sample: 170 male veterans with combat-related PTSD (first study); 63 male veterans with PTSD or subthreshold PTSD (second study)

Implications: The CPOSS is implicated for use in out-patient treatment settings to assess patient satisfaction and, potentially, treatment outcome. Future research should examine how patient satisfaction changes as treatment progresses. Research is also needed to assess the convergent validity of the CPOSS and to develop objective measures of patient treatment satisfaction.

Gros, D.F., Gros, K.S., Acierno, R., Frueh, B.C. & Morland, L.A. (2013). Relation between treatment satisfaction and treatment outcome in veterans with posttraumatic stress disorder. *Journal of Psychopathological Behavioral Assessment*, 35(4), 522-530. doi: 10.1007/s10862-013-9361-6

Daily hassles while deployed may influence mental health more than combat experiences

Key Findings: While on deployment in Iraq, Air Force convoy operators reported more daily hassles than combat situations (72.3% reported at least one combat event; 100% reported experiencing at least one daily hassle). Additionally, participants rated the daily hassles as more stressful than combat. Examples of daily hassles included: bad weather, financial problems, losing things, family concerns and waiting in line. Post-deployment depression and PTSD symptom severity were more associated with daily hassles during deployment than with combat exposure. Depression was found to mediate the relationship between daily hassles and PTSD.

Study type: Longitudinal study with self-report measures

Sample: 168 active duty Airmen (87% male)

Implications: Chronic daily hassles during deployment are highly detrimental to service members' mental health, and may be collectively comparable to, if not more stressful than, the effects of combat. Alternatively, PTSD symptom severity may be exacerbated by daily hassles while deployed. Results may also corroborate past research showing that the PCL-M (self-report measure of PTSD) measures more than just trauma symptoms, and has a high false-positive rate of PTSD diagnosis. Future research should include a clinician-administered measure of PTSD and should replicate results in a military population with more combat exposure. Resilience efforts within the military should focus on coping with daily

hassles in addition to coping with severe combat trauma.

Heron, E.A., Bryan, C.J., Dougherty, C.A. & Chapman, W.G. (2013). Military Mental Health: The role of daily hassles while deployed. *Journal of Nervous Mental Disorders*, 201(12), 1035-1039. doi: 10.1097/NMD.0000000000000058

EMDR techniques effective for patients with PTSD and other psychiatric disorders

Key Findings: A comparison of three different methods of trauma symptom treatment (eye movement, auditory tone and basic recall) showed that guided eye movements while recalling the event were most effective at decreasing psychological symptoms in both patients with PTSD and patients with other psychiatric disorders (e.g., other anxiety disorders, mood disorders, adjustment disorder, somatoform disorder, personality disorders and “other diagnoses”). Patients most preferred the auditory tone therapy even though it was not found to be the most effective. Auditory tone was more effective, however, than basic recall while staring at a wall. No significant differences were found between patients with PTSD and patients with other psychiatric disorders with regard to treatment outcome.

Study Type: Longitudinal treatment study with self-report and clinician-rating measures

Sample: 64 patients (32 with PTSD and 32 with a different psychiatric disorder)

Implications: Results further support the use of techniques that alter memory consolidation by disrupting working memory during trauma recall. While auditory tone was not found to be the most effective treatment, the majority of patients preferred it over eye movement desensitization, suggesting that the therapist, rather than the patient, should choose the most appropriate treatment modality. Additionally, EMDR techniques are recommended for patients with various types of psychiatric disorders, not just PTSD.

de Jongh, A., Ernst, R., Marques, L. & Hornsveld, H. (2013). The impact of eye movements and tones on disturbing memories involving PTSD and other mental disorders. *Journal of Behavioral Therapy and Experimental Psychiatry*, 44(4), 477-483. doi: 10.1016/j.jbtep.2013.07.002

MMPI-2-RF validity scales differentiate real from feigned PTSD

Key Findings: Similar to the results of previous research on the MMPI-2-RF, validity scales were found to accurately differentiate participants responding honestly with PTSD, responding honestly without PTSD, those feigning PTSD

and those responding randomly. However, validity scales were not accurate in identifying participants who were instructed to respond randomly on part of the test and honestly on another part of the test. Specifically, random response patterns in the last half of the test were most difficult to detect when using the currently recommended cut scores. When cut scores were lowered for the F-r (infrequent responses), Fp-r (infrequent psychopathology responses) and Fs (infrequent somatic responses) scales, sensitivity and specificity improved.

Study type: Cross-sectional study with self-report and clinician-rating measures

Sample: 109 undergraduate students without PTSD and 31 veterans with PTSD who additionally passed a test of malingering

Implications: Individuals with elevated F-r, Fp-r, Fs or FBS-r (symptom validity) scales should be further assessed for malingering with an additional instrument to avoid misdiagnosis due to partially random responding. It may be beneficial to lower cut scores to optimize sensitivity and specificity of validity scales. Future research should assess the utility of lower validity scale cut scores in individuals with real and feigned PTSD as well as random and partially random responding.

Mason, L.H., Shandera-Ochsner, A.L., Williamson, K.D., Harp, J.P., Edmundson, M., Berry, D.T.R. & High, W.M.Jr. (2013). Accuracy of MMPI-2-RF validity scales for identifying feigned PTSD symptoms, random responding, and genuine PTSD. *Journal of Personality Assessment*, 95(6), 585-593. doi: 10.1080/00223891.2013.819512

Trauma-focused treatment effective for PTSD and comorbid Substance Use Disorder

Key Findings: Comparison of veterans with PTSD only and veterans with PTSD and a comorbid Substance Use Disorder (SUD) found that there were few significant differences between groups on PTSD and depression outcomes. PTSD and depression symptoms decreased significantly for both groups. However, when SUD was determined by an AUDIT-C score of eight instead of the previously used score of four, significant differences were found on depression between groups. Notably, treatment was conducted in a controlled residential setting, making it difficult to tell whether substance use was actually impacted by the therapy.

Study type: Retrospective data analysis with self-report measures

Sample: 60 combat veterans in VA residential treatment who received Cognitive Processing Therapy (CPT) for PTSD

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between April 2009 and February 2010

Implications: While comorbid disorders are often considered to be more treatment-resistant, results of the current study suggest that trauma-focused therapy for PTSD is effective for veterans in residential settings, even when a comorbid mild-to-moderate SUD exists. However, individuals with more severe SUDs plus PTSD may show less remission of depressive symptoms post-treatment compared to those with PTSD only. Results should be replicated in a sample of outpatients to examine whether those with a comorbid SUD are able to tolerate trauma-focused therapy as well as those in residential treatment.

McDowell, J. & Rodriguez, J. (2013). Does substance abuse affect outcomes for trauma-focused treatment of combat-related PTSD? *Addiction Research and Theory*, 21(5), 357-364. doi: 10.3109/16066359.2012.746316

Interaction of noradrenaline and cortisol predict PTSD

Key Findings: The effects of noradrenaline (as measured by salivary alpha amylase; sAA) and cortisol (CORT) during encoding (the process during which experiences are converted to storable units in the brain) were examined among three groups of individuals: those with PTSD, trauma-exposed controls (TEs), and non-trauma exposed controls (NTEs). Results showed that the PTSD group had significantly higher levels of sAA, recalled significantly more negative images, had a higher tendency to suppress negative images and recalled more negative intrusive memories than NTEs. No significant differences on any variables were found between the TE and NTE control groups. No significant differences among groups were found in level of cortisol. However, cortisol for all groups was significantly higher at baseline than after viewing negative images. sAA and CORT were found to interact to predict the number of intrusive memories, recall of negative intrusions and negative memory recall in the PTSD group, but not in the TE or NTE control groups.

Study type: Cross-sectional study with self-report and biological measures

Sample: 58 participants (18 with PTSD, 20 TE control participants and 20 NTE control participants)

Implications: Results suggest that it is the interaction of noradrenaline and cortisol that predicts increases in intrusive memories, but only in those with PTSD. Therefore, treatment interventions aimed at maintaining low levels of cortisol and noradrenaline during stressful situations may help to prevent the development of PTSD symptoms, specifically intrusive

symptoms, following trauma. Regarding the lack of differences among groups on level of cortisol, it is possible that the high baseline cortisol levels created a ceiling effect. Alternatively, the negative images may not have been strong enough to evoke significant physiological arousal.

Nicholson, E.L., Bryant, R.A. & Felmingham, K.L. (2013). Interaction of noradrenaline and cortisol predicts negative intrusive memories in posttraumatic stress disorder. *Neurobiology of Learning and Memory*, Advance online publication. doi: 10.1016/j.nlm.2013.11.018

PE treatment effective for female veterans concurrently taking benzodiazepines

Key Findings: Data from a psychotherapy trial found that those receiving PE experienced greater PTSD symptom reduction per week than those receiving present-centered therapy. Those taking benzodiazepines (BDs) did not show a weaker response to PE than those not taking BDs, but did show poorer maintenance of treatment gains from present-centered therapy only. Poorer maintenance of present-centered therapy treatment gains was not accounted for by BD discontinuation.

Study type: Post-hoc re-analysis of clinical trial with self-report and clinician-rating measures

Sample: 283 female veterans and soldiers with PTSD randomly assigned to 10 weekly 90-minute sessions of PE (n = 140) or present-centered therapy (n = 143). Among all participants, 57 were using BDs while 226 were not

Implications: While the use of BDs during exposure therapy is typically contraindicated, results of the current study suggest that PE treatment is effective even when BDs are being used. While present-centered therapy was not effective in maintaining treatment gains when the participant was taking BDs, other participant characteristics such as severity of symptoms may have influenced results. Alternatively, BDs have been found to affect memory and attention, and may have prevented retention of present-centered therapy concepts. It is also possible that PE is robust enough to promote maintenance of treatment gains regardless of confounding factors such as BD use. Future research should use a larger sample that includes males, and should control for dosage and timing of taking BDs. Additionally, research is needed on the efficacy of present-centered therapy in comparison to placebo treatment.

Rosen, C.S., Greenbaum, M.A., Schnurr, P.P., Holmes, T.H., Brennan, P.L., & Friedman, M.J. (2013). Do benzodiazepines reduce the effectiveness of exposure therapy for posttraumatic stress disorder? *Journal of Clinical Psychiatry*, 74(12), 1241-1248.

Online training for PCPs improves knowledge in PTSD diagnosis and treatment

Key Findings: Assessment of a 70-minute online program to improve primary care physicians' (PCPs) knowledge of PTSD diagnosis and treatment found that PCPs who previously knew little about PTSD gained a significant amount of knowledge and comfort with this material post-training. Most notable were their knowledge gains in psychopharmacological interventions. Thirty days after completion of the course, knowledge decreased but remained significantly improved compared to baseline. Self-reported gains in comfort in working with PTSD patients remained higher than at baseline, and almost 50% of PCPs reported using these new skills in their practice. Gain in knowledge was measured by a new 8-item instrument developed specifically for this study, while comfort in treating PTSD was assessed on a 4-point Likert scale. Construct validity was established by the significant correlation between mean knowledge scores and mean comfort scores.

Study type: Longitudinal pilot study with self-report measures

Sample: 73 PCPs in VA settings, health maintenance organizations and community health centers

Implications: Considering that military service members with PTSD have reported preferences to receive mental health care from PCPs, brief training programs to ensure mental health treatment competence in these providers is imperative. Results suggest that brief online training for PCPs is useful and efficacious in improving diagnostic and treatment abilities for working with PTSD patients. The use of vignettes was reported by PCPs as particularly helpful in the training, with the recommendation of more interactive material. Booster trainings may be helpful to maintain gains in knowledge. Measures were rationally derived specifically for this study, and while they were shown to be valid and reliable in this sample, future research is needed with use of validated measures of attitude and knowledge change.

Samuelson, K.W., Koenig, C.J., McCamish, N., Choucroun, G., Tarasovsky, G., Bertenthal, D. & Seal, K.H. (2013). Web-based PTSD training for primary care providers: A pilot study. *Psychological Services*, Advance online publication. doi: 10.1037/a0034855

Extinction during memory consolidation may prevent PTSD symptom recurrence

Key Findings: Individuals with PTSD and trait anxiety have been found to have differences in amygdala and ventral medial pre-frontal cortex (vmPFC) function. Standard extinction techniques used to treat trauma, such as exposure

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Hardiness and commitment may best predict military success

Key Findings: Among the 178 soldiers who attempted the rigorous ski march (final test in selection program for Norwegian Armed Forces), only 79 completed successfully. Results showed that total scores of hardiness predicted successful completion of the ski march after controlling for physical fitness, nutrition and sensation seeking. Specifically, the commitment dimension of hardiness was a unique contribution to completing the ski march. High level of commitment was associated with more positive appraisal of one's own performance on the march, and with higher level of daily coping. The high hardiness group showed increases in positive appraisals throughout the hike. Surprisingly, physical fitness was not found to predict success.

Study type: Longitudinal study with self-report measures

Sample: 178 soldiers in a selection program for part of their mandatory military service

Implications: Similar to results of previous research, hardiness, and specifically the underlying dimension of commitment, predict completion of physically and mentally rigorous tasks, and are desirable qualities for military service members to possess. Results suggest that hardiness and commitment are associated with high performance, leading to increased perception of self-efficacy, and continued high levels of commitment and success. Pre-military screening may benefit from assessing levels of hardiness and commitment. Physical fitness may not be the most important factor in determining successful military performance.

Johnsen, B.H., Bartone, P., Sandvik, A.M., Gjeldnes, R., Morken, A.M., Hystad, S.W. & Stornaes, A.V. (2013). *International Journal of Selection and Assessment*, 21(4), 368-375. doi: 10.1111/ijsa.12046



Written Exposure Therapy reduces symptom severity in veterans with PTSD

Key Findings: Veterans with PTSD received five treatment sessions of Written Exposure Therapy. The first session was one hour long and incorporated PTSD psychoeducation, treatment rationale and instructions to write about their index trauma using as many details, thoughts and emotions as possible. The remaining four sessions were 40 minutes long, with 30 minutes to write about the trauma followed by 10 minutes to discuss their writing experience with the therapist. Participants showed clinically significant improvements in PTSD symptom severity at post-treatment and 3-month follow-up. Additionally, five of the seven veterans no longer met diagnostic criteria for PTSD at post-treatment or 3-month follow-up. Participants reported high levels of treatment satisfaction and only one veteran dropped out of treatment.

Study Type: Longitudinal treatment study with self-report and clinician-rating measures

Sample: Seven male veterans diagnosed with PTSD related to combat or military sexual trauma

Implications: Written Exposure Therapy appears to be a promising, brief treatment option for PTSD that is well tolerated and easy to administer. Written Exposure Therapy may be particularly useful for veterans who are on long wait lists or for those who have not responded well to other PTSD treatments. Results should be interpreted with caution due to the small sample size, the homogeneity of the participants and the uncontrolled nature of this study.

Sloan, D.M., Lee, D.J., Litwack, S.D., Sawyer, A.T., & Marx, B.P. (2013). Written exposure therapy for veterans diagnosed with PTSD: A pilot study. *Journal of Traumatic Stress, 26*(6), 776-779. doi: 10.1002/jts.21858

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therapy, teach the individual to control learned defensive responses using the inhibitory influence of the PFC over the amygdala. This type of extinction, however, does not change the actual threat memory and treatment effects may not be maintained over long periods of time. Results of this study found that extinction that takes place during threat memory consolidation involves the amygdala, yet bypasses the vmPFC, thereby altering the actual threat memory. Less reliance on the PFC not only decreases defensive reactions, but also prevents future defensive responses associated with this trauma.

Study type: Cross-sectional study with functional imaging and use of self-regulated electric shock conditioning

Sample: 19 healthy men and women ages 18-34

Implications: Extinction methods requiring limited involvement of the PFC have been associated with more reduction of defensive reactions, and maintenance of these reductions well after completion of treatment. Results of the current study suggest that extinction techniques conducted during memory consolidation successfully decrease stress on the PFC and alter the threat memory rather than simply controlling defensive responses. Use of such extinction techniques may improve the long-term retention of treatment gains for individuals with PTSD.

Schiller, D., Kanen, J.W., LeDoux, J.E., Monfils, M.H., & Phelps, E.A. (2013). Extinction during reconsolidation of threat memory diminishes prefrontal cortex involvement. *Proceedings of the National Academy of Sciences of the United States of America, 110*(50), 20040-20045. doi: 10.1073/pnas.1320322110

Individuals with PTSD show impaired down-regulation of negative emotions

Key Findings: Analysis of the neural mechanisms of voluntary emotional regulation in response to negative stimuli found that healthy controls were better able to diminish their emotional responses to negative stimuli compared to participants with PTSD. Additionally, participants with PTSD showed less activation than healthy controls in the parietal and prefrontal cortex while trying to up-regulate (enhance) or down-regulate (diminish) negative emotions.

Study type: Cross-sectional study with fMRI and clinician-rating measures

Sample: 20 patients with PTSD ages 18-40 who had endured a motor vehicle accident, and 20 healthy controls matched by gender, age and years of education

Implications: Individuals with PTSD are impaired in their ability to down-regulate negative emotions. Additionally,

their decreased activation in the parietal and prefrontal cortex (associated with cognitive control) suggests that individuals with PTSD will have a slower extinction response for aversive stimuli than those without PTSD. Results warrant replication with a larger sample size to examine whether it is the exposure to a trauma, or the PTSD symptoms that impair an individual's ability to down-regulate negative emotions.

Xiong, K., Zhang, Y., Qiu, M., Zhang, J., Sang, L., Wang, L., Li, M. (2013). Negative emotion regulation in patients with posttraumatic stress disorder. *PLoS ONE*, 8(12), 1-7. doi: 10.1371/journal.pone.0081957

Ex-POWs in their late fifties experience elevated suicidal ideation 35 years post-war

Key Findings: This study was a preliminary examination of the longitudinal course of suicidal ideation (SI) among two groups of Israeli war veterans: ex-prisoners of war (POWs) and comparable veterans who had not been POWs. Results showed that level of SI at baseline (18 years post-war) did not significantly differ between groups. While baseline PTSD symptoms in the ex-POW group were not associated with baseline SI, they were significantly associated with long-term rates of change in SI at both 30 and 35 years post-war. In contrast, baseline PTSD symptoms in the control group were associated with baseline SI, and were not associated with long-term (30 and 35 years post-war) rates of change in SI. Overall, SI was influenced significantly more by PTSD symptoms at the same time point than by PTSD symptoms at baseline.

Study type: 17-year longitudinal study with self-report measures conducted at 18, 30 and 35 years post-war

Sample: 222 participants (118 male ex-POWs and 104 control participants matched by age, education, religiosity and income)

Implications: 35 years post-war, ex-POWs still experience significant psychological distress with rates of SI that often increase with age and severity of PTSD symptoms. Treatment providers should be aware of the increased risk of PTSD and SI in ex-POWs, especially those over age 50, and should routinely assess for SI when working with this population. Results also provide support for the early intervention and treatment of PTSD symptoms, which are significantly linked to level of SI. Results should be replicated with clinician-administered measures and pre-combat measures of SI to better determine causality.

Zerach, G., Levi-Belz, Y., & Solomon, Z. (2013). Trajectories of suicidal ideation and posttraumatic stress symptoms among former prisoners of war: A 17-year longitudinal study. *Journal of Psychiatric Research*, 49, 83-89. doi: 10.1016/j.jpsychires.2013.11.003

Sleep disturbance persists after treatment for PTSD

Key Findings: Among a sample of females with PTSD, those assigned to Cognitive Processing Therapy (CPT) and Prolonged Exposure (PE) experienced significant decreases in both PTSD and comorbid sleep disturbance symptoms compared to those assigned to Minimal Attention (MA; intent-to-treat group). Specifically, both CPT and PE had significant effects on sleep quality, insomnia severity and nightmare severity even after controlling for the effect of medications. Sleep improvements were maintained at the three month, nine month and long-term follow-ups (LTFU - average of six years post-treatment). Despite significant decreases in sleep disturbance, however, symptoms remained at clinical levels following treatment and at LTFU.

Study Type: Retrospective analysis of data from a previous longitudinal treatment study with self-report and clinician-rating measures

Sample: 122 female rape victims with PTSD who were randomly assigned to CPT, PE or MA

Implications: Previous research suggests that sleep disturbance may interfere with the emotional processing and extinction learning necessary for evidence-based PTSD treatments to be effective. However, the current results indicate that even when clinical levels of sleep disturbance are present, PE and CPT significantly decrease symptoms of PTSD. However, similar to the findings of previous PTSD treatment studies, sleep disturbance may decrease, but remains at a clinical level following PTSD treatment. Sleep disturbance appears to be an independent problem that warrants special treatment in order to maximize recovery and further improve wellbeing. Future research is needed to examine the efficacy of sleep-specific treatments for individuals with PTSD.

Gutner, C.A., Casement, M.D., Gilbert, K.S., & Resick (2013). Change in sleep symptoms across cognitive processing therapy prolonged exposure: a longitudinal perspective. *Behaviour Research and Therapy*, 51(12), 817-822. doi: 10.1016/j.brat.2013.09.008

Posttraumatic cognitions associated with pain-related impairment

Key Findings: As predicted, analysis of self-report measures and clinical interviews demonstrated a strong positive relationship between PTSD and pain in veterans with PTSD. Posttraumatic cognitions (negative cognitions about self, negative cognitions about the world and self-blame) were not found to be associated with level of pain, but were associated

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with level of pain-related interference and impairment. Negative PTSD-related beliefs about oneself partially mediated the relationship between PTSD and pain-related impairment.

Study Type: Cross-sectional study with self-report measures and clinical interviews

Sample: 136 veterans seeking treatment for PTSD

Implications: Results indicate a high prevalence of pain in patients seeking treatment for PTSD. Additionally, findings replicate that of previous research regarding the association between negative cognitions about oneself and pain-related impairment. Negative cognitions about one's ability to handle emotional distress may generalize to negative cognitions about their ability to handle physical distress, thereby exacerbating PTSD and pain symptoms. Therapies such as Prolonged Exposure and Cognitive Processing Therapy that address post-traumatic cognitions may be helpful in increasing tolerance to pain and decreasing level of impairment due to pain. Future research is needed to explore the effects of general negative cognitions, and not just posttraumatic cognitions, on levels of pain and pain interference.

Porter, K.E., Pope, E.B., Mayer, R., & Rauch S.A. (2013). PTSD and pain: Exploring the impact of posttraumatic cognitions in veterans seeking treatment for PTSD. *Pain Medicine, 14*(11), 1797-1805. doi: 10.1111/pme.12260

A self-management web intervention reduces drinking and PTSD in OEF/OIF Veterans

Key Findings: A newly developed 8-module self-management web intervention (VetChange) based on motivational, cognitive-behavioral and self-control techniques is assessed in this study. VetChange is highly individualized with unique modules for different people and issues. The program helps participants evaluate their readiness for change, weigh pros and cons of change and set goals. Both internal and external triggers were addressed and coping skills were taught to help manage these situations. VetChange was found to be effective in reducing drinking and PTSD symptoms in veterans. Specifically, participants in the Initial Intervention Group (IIG) showed greater reductions in drinking and PTSD from baseline to post-treatment than did those in the Delayed Intervention Group (DIG; eight week waiting list for VetChange) between baseline and end of the waiting period. A similar pattern of improvement was observed in the DIG after participating in VetChange. Treatment gains were maintained in both groups at 3-month follow-up.

Study Type: Randomized longitudinal treatment intervention study with self-report measures

Sample: 600 OEF/OIF veterans who were randomized to IIG (n =404) or DIG (n =196)

Implications: Results provide support for the efficacy of VetChange in treating problem drinking and PTSD in veterans. Due to the convenience of their web-based design, programs such as VetChange can help improve access to care and have the potential to reach more veterans than may be feasible via in-person treatment modalities. Additionally, considering that VetChange is web-based and requires no actual therapist, it may be particularly valuable for veterans who are reluctant to seek mental health care due to confidentiality and stigma-related concerns.

Brief, D.J., Rubin, A., Keane, T.M., Enggasser, J.L., Roy, M., Helmuth, E.,...Rosenblum, D. (2013). Web intervention for OEF/OIF veterans with problem drinking and PTSD symptoms: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 81*(5), 890-900. doi: 10.1037/a0033697

TEST YOUR KNOWLEDGE

In the article "Hardiness and commitment may best predict military success," physical fitness:

- A. Also predicted military success, but not as much as hardiness and commitment
- B. Did not predict military success
- C. Was not measured in this study
- D. Predicted military success above and beyond hardiness and commitment

The answer is B

The Combat & Operational Stress Research Quarterly is a compilation of recent research that includes relevant findings on the etiology, course and treatment of Posttraumatic Stress Disorder (PTSD). The intent of this publication is to facilitate translational research by providing busy clinicians with up-to-date findings, with the potential to guide and inform evidence-based treatment.

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