Combat and Operational Stress: A Scoping Review of Evaluated Programs and Pilot Interventions

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Background

- Since 9/11, approximately 2.77 million Service members have served on 5.4 million deployments (Wenger et al., 2018).
- Many Service members supporting military operations in Iraq and Afghanistan experienced multiple deployments, including some with more than one tour in theater.
- As a result of their exposure to combat and operational stress (COS), a substantial number of Service members have experienced mental health issues, such as symptoms of posttraumatic stress disorder and depression.
- Exposure to COS can have adverse effects on the readiness of military personnel.
- Since 1999, the Department of Defense has mandated that military branches develop Combat and Operational Stress Control (COSC) programs to prevent or reduce the potentially negative effects of COS.
- Numerous prevention programs and early interventions have been developed for personnel exposed to COS.
- However, relatively few of these programs and interventions have been evaluated for effectiveness and utility.

Objective

The aims of this scoping review were to:

- characterize the nature of published evaluations conducted on programs and interventions that have been developed for U.S. Service members exposed to COS
- summarize the key findings of these evaluations

Methods

- Databases (PsycINFO and PubMed) and online repositories were searched for articles and reports published between 2001 and 2019.
- The review included evaluations that reported data on at least one metric from samples or subsamples that were entirely or predominantly comprised of U.S. Service members (i.e., active duty, National Guard, and Reserves), who had participated in a program or intervention designed for personnel exposed to COS.
- Evaluations that focused exclusively on patients with clinical diagnoses were excluded.

Results

- Twenty-two programs and interventions were reviewed, including one large COSC program implemented at the Service-level (i.e., Marine Corps' Operational Stress Control and Readiness), twelve smaller COSC-related programs, and nine pilot interventions.
- The most common outcome metrics for evaluations were changes in mental health symptoms as shown in Table 1, which summarizes findings.

Table 1. Key Findings from Evaluations of Programs and Interventions for Combat and Operational Stress

Program/Intervention	Symptom-Based Findings				Other Findings
	Posttraumatic Stress	Depression	Anxiety	Distress/Stress	
Anger Management Therapy Program † (Reyes & Hicklin, 2005)					↓ Mental health-related evacuations
Airman Resilience Training † (Gonzalez et al., 2014)					o Evaluation conducted by Rand Corporation found that this training had low perceived usefulness among participants
Army Combat Stress Control Restoration Center † (Potter et al., 2009)	↓			↓	
Battlemind Debriefing and Battlemind Training ‡ (Adler et al., 2009; Castro et al., 2012)	↓	↓			↑ Satisfaction with life
Battlefield Ethics Training ‡ (Warner et al., 2011)					↓ Unnecessary destruction of private property ↑ Willingness to report mistreatment of a non-combatant
Critical Event Debriefing † (Pischke & Hallman, 2008)					o Rated helpful by 69% of participants
Deployment Anxiety Reduction Training † (McCaslin et al., 2018)					o Rated helpful and easy to understand by majority of participants
Embedded Mental Health Pilot ‡ (Rapley et al., 2017)					↑ Return to duty ↓ Unplanned personnel losses due to psychological conditions
Families Overcoming Under Stress † (Lester et al., 2012; Lester et al., 2016)		↓	↓	↓	
Freedom Restoration Clinic † (Judkins & Bradley, 2017)				↓	
Guided Education and Training via Smart Phones to Promote Resilience Program ‡ (Roy et al., 2015; Roy et al., 2017)	No effect vs. control	No effect vs. control	No effect vs. control		o Posttraumatic stress, depression and anxiety declined in both the intervention and control groups at 3-month follow-up
iCOVER ‡ (Adler et al., 2019)					o Observable iCOVER behaviors were higher with in-person training compared to computer-based training or no training
Mindfulness-Based Mind Fitness Training ‡ (Stanley et al., 2011)				No effect vs. control	o Greater time spent practicing techniques was associated with higher mindfulness scores in the intervention group.
One Shot - One Kill † (Lunasco et al., 2010)					o Over 90% rated program helpful, relevant, and easy to understand
Operational Stress Control and Readiness ‡ (Vaughan et al., 2015)	No effect vs. control	No effect vs. control		No effect vs. control	↑ Seeking support for stress problems (This Rand Corporation evaluation found few other effects)
Outreach Program at Fort Sill † (Piver-Renna, 2009)					o Return to work dispositions after consultations: 90%
Psychological Skills Training ‡ (Taylor et al., 2011)				No effect vs. control	o Intervention group and controls also did not differ on dissociative symptoms
Sensory-Enhanced Hatha Yoga Program ‡ (Stoller et al., 2012)			↓		
Stress Gym † (Williams et al., 2010)				↓	
Stress Inoculation Training ‡ (Hourani et al., 2011; Hourani et al., 2016; Hourani et al., 2017)	No effect vs. control			No effect vs. control	↓ Physiological arousal based on heart rate variability
Technology Enhanced Relaxation ‡ (Stetz et al., 2011)			↓		
Warrior Resilience Training † (Jarrett, 2008)					o Majority endorsed acceptability and utilization of training

NOTES: † = study did not include a comparison group; ‡ = study included one or more comparison groups

Conclusions

- Most programs and interventions had only one evaluation, but the majority reported positive findings on outcome and/or process measures.
- The strength of the study designs varied widely, with roughly half examining a comparison group.
- Only two evaluations were independently conducted.
- It is unclear whether some of the reviewed programs and interventions were further developed, incorporated into other programs, or terminated.
- More methodologically robust evaluations with larger, representative samples are needed to establish effectiveness.