



A systematic review of interventions for supporting partners of military Veterans with PTSD

David Turgoose^a and Dominic Murphy^b

ABSTRACT

Introduction: Partners of military Veterans with post-traumatic stress disorder (PTSD) and other mental health difficulties can themselves develop difficulties with stress, well-being, and secondary trauma. Various interventions exist which involve partners of military personnel, but very few with an explicit focus on the partners' well-being. This article aims to conduct a systematic review of these interventions and outline the range of interventions and the outcomes measured. **Methods:** We conducted a systematic literature search, from which 25 papers were reviewed. Papers were included if they described any form of intervention in which a partner was involved, where the Veteran was described as having PTSD, and where the aim of the intervention was aimed at least partly at improving the well-being of partners. **Results:** We found various types of interventions, such as group-based interventions, residential retreats, couples therapies, Internet-based interventions, and family-based interventions. Of the 25 studies reviewed, 21 reported on well-being outcomes, either via randomized controlled trials (RCTs), evaluations, or case studies. In most cases, interventions reported improvements in the well-being of partners, although there were very few controlled studies. Only a small number of interventions were aimed solely at partners. The most common feature of interventions was psychoeducation on topics such as communication, problem solving, and emotion regulation. Many papers described the advantages of group processes such as social support and normalization, gained from partners sharing experiences with one another. **Discussion:** A wide range of formats exist of interventions for improving the well-being of military partners. The literature would benefit from more robust experimental research into their effectiveness, and exploration of interventions aimed directly at the well-being of partners.

Key words: caregivers, carers, couples therapies, family-based interventions, group-based interventions, internet-based interventions, military, partners, PTSD, residential retreats, systematic literature, Veterans

RÉSUMÉ

Introduction : Les conjoint(e)s des militaires vétérans en état de stress post-traumatique (ÉSPT) et qui ont d'autres troubles de santé mentale peuvent eux-mêmes éprouver des difficultés en matière de stress, de bien-être et de traumatisme secondaire. Dans diverses interventions, les conjoints du personnel militaire participaient, mais très peu sont axées expressément sur le bien-être du conjoint. Le présent article visait à mener une analyse systématique de ces interventions et à souligner la fourchette d'interventions et la mesure des résultats. **Méthodologie :** Les chercheurs ont procédé à une analyse bibliographique, dont ils ont extrait 25 articles. Ils les conservaient s'ils décrivaient toute forme d'intervention mettant en cause un conjoint, s'il était précisé que le vétéran était en ÉSPT et si l'intervention visait au moins partiellement à améliorer le bien-être des conjoints. **Résultats :** Les auteurs ont découvert divers types d'interventions: des interventions collectives, des retraites résidentielles, des thérapies de couple, des interventions en ligne et des interventions familiales. Des 25 études analysées, 21 traitaient des résultats en matière de bien-être, dans le cadre d'essais aléatoires et contrôlés, d'évaluations ou d'études de cas. Il y avait très peu d'études contrôlées, mais dans la plupart des cas, les interventions suscitaient une amélioration du bien-être des conjoints. Seules quelques interventions étaient axées uniquement sur les conjoints. La psychoéducation sur des sujets comme la communication, la résolution de problèmes et la régulation émotionnelle était la caractéristique la plus fréquente des interventions. De nombreux articles décrivaient les avantages des processus collectifs comme le soutien et la normalisation, obtenus lorsque les conjoints échangeaient sur leurs expériences. **Conclusion :** Il existe de nombreux types d'interventions pour améliorer le bien-être des conjoints de militaires. Les publications scientifiques profiteraient de recherches expérimentales plus solides sur l'efficacité et sur l'exploration d'interventions visant directement le bien-être des conjoints.

^a Department of Psychology, University of Roehampton, Whitelands College, London

^b Combat Stress, Psychology, Tyrwhitt House, Leatherhead, Surrey, United Kingdom of Great Britain and Northern Ireland

Correspondence should be addressed to David Turgoose at david.turgoose@roehampton.ac.uk

Mots-clés : Conjoint, ÉSPT, militaire, soignants, vétéran(e)s conjointes, interventions collectives, retraites résidentielles, thérapies de couples, intervention en ligne, interventions familiales, analyse systématique

INTRODUCTION

It is well established that military Veterans are at risk of developing physical and mental health difficulties related to their service. For example, studies of United Kingdom (UK) military personnel have found that 4% meet criteria for Post-Traumatic Stress Disorder (PTSD), with higher rates observed for those in combat roles.¹ Similar studies of United States (US) military personnel found higher rates for PTSD in those serving in Iraq and Afghanistan.^{2,3} Veterans may also be more likely to have difficulties with substance or alcohol misuse than the general public.^{4,5}

Research has suggested that partners of military Veterans can themselves develop symptoms of trauma,⁶ elevated stress levels,⁷ caregiver burden,⁸ and secondary traumatization.⁹ There is comparatively very little research however concerning partners of military Veterans in the United Kingdom, although one study of treatment-seeking Veterans observed a 17% prevalence rate of PTSD in partners, compared to 3% in the general population.¹⁰

Research has suggested that in some cases, the partners of Veterans with mental health difficulties are at increased risk of experiencing emotional distress, especially for those with lower incomes and in the context of marital strain.⁷ Combat exposure has also been linked to higher partner stress levels.⁷ Longer deployments, deployment extensions, and PTSD in military personnel have also been associated with psychological problems for Veterans' partners,¹¹ as well as unemployment, having dependent children, and being ex-military themselves.¹⁰

It has been suggested that the process by which partners' stress develops is via secondary traumatization from the combat-related trauma of the Veteran.¹² However, others have disputed this, suggesting difficulties reported by partners of service members may be due to general psychological distress rather than secondary traumatic stress directly from the Veteran's PTSD.¹³

The impact of combat-related trauma can extend beyond the Veteran and their partners and also affect family and relationship functioning. Stresses of military deployment can affect marital satisfaction, and trauma symptoms can create distressing interactions which impair relationship quality and increase physical and psychological aggression.^{9,14,15} PTSD symptoms in Veterans have been related to family stress, difficulties with psychological adjustment in partners and decreased couples'

functioning.¹⁶⁻¹⁸ A survey by the US Department of Veterans' Affairs (VA) indicated that 3 years after deployment, 42% of Veterans continued to experience difficulties in getting along with their partner, while 35% reported being separated or divorced.¹⁹ This highlights the importance of addressing the needs of family members as well as Veterans in PTSD treatment programs.

The need to provide support for military partners extends beyond the need to help partners themselves, with evidence suggesting that distress within partners and the wider family can negatively impact on the treatment outcomes for Veterans with PTSD. For example, poor family functioning can decrease an individual's ability to benefit from PTSD treatment and is associated with poorer outcomes.²⁰⁻²² The VA now requires that all VA medical centres provide family education where the Veteran has PTSD or severe mental illness.²³

The increasing recognition of the needs of Veterans' partners has led to the development of different interventions aimed at providing support in various forms, such as groups for partners, groups for Veteran/partner couples, and family-based interventions, with some promising outcomes found.²⁴⁻²⁶

To the best of our knowledge, there has not been a systematic review of interventions for partners of military Veterans. Furthermore, there is very little evidence for the use and effectiveness of such programs. Research has primarily focused on the needs of Veterans as the main outcome, including how the inclusion of the partner can improve PTSD outcomes for the Veteran. The literature would benefit from focusing on the needs of partners. Also, there is diversity in the type and scope of interventions available, so it would be beneficial to bring together all the evidence in a systematic review.

This article aims to address this gap by completing a systematic review of interventions for partners of military personnel with PTSD, and to outline the content and range of services, commenting on their outcomes based on the evidence available.

METHOD

Literature search

We conducted a systematic search of relevant journals and databases for papers relating to interventions aimed at supporting partners of military Veterans. We searched

three databases (PILOTS, PubMed, and PsycInfo) and the reference lists of relevant papers for further studies. No similar systematic reviews were found from a search of the Cochrane Library. We performed the search for the present study using the following search terms:

*veteran** OR *ex-service*
AND
*partner** OR *spouse** OR *family**
AND
PTSD OR *posttraumatic* OR *post-traumatic*
AND
*intervention** OR *program**

Inclusion and exclusion criteria

Papers were included if they reported on an intervention specifically targeted at partners of military Veterans, or where partners were receiving some form of support (e.g., couples or family-based interventions). This included any form of intervention (e.g., individual or group, and face-to-face as well as online interventions). In some cases, interventions included the whole family of a Veteran. These were included if the intervention was, at least in part, aimed at improving outcomes for partners. Interventions in which a partner was involved, but the intervention was aimed at the Veterans themselves were excluded. For this study, we defined a *Veteran* as any person who had completed military service, with no minimum requirement for the length of service. We included papers if they described the Veterans as having PTSD, but there were no strict criteria on how, or whether, this had been formally diagnosed. We considered papers reporting on partners of Veterans from any country, and there was no restriction in terms of publication date. The review also included papers that described suitable services and interventions, without needing to include any active participants within the paper. Eligible papers had to be published in peer-reviewed journals with full texts available in English. Books, corrections, and unpublished dissertations were excluded.

Search results

Searches completed December 2018 yielded a total of 1,480 papers, the titles and abstracts of which were examined for relevance. In total, we screened 28 full texts, with 25 included in the final review. See [Figure 1](#) for a break-down of the study selection process.

Of the papers that did not meet inclusion criteria, most did not focus on Veterans or Veterans' partners. Others did focus on Veterans' partners but did not report

on an intervention, so were also excluded. One study did report on an intervention for partners of Veterans, but these Veterans had a brain injury as opposed to PTSD.

RESULTS

Of the 25 papers included in the review, 23 were conducted in the United States, with 1 in Australia and another in Iran. All of the papers described an intervention directed at either partners and Veterans jointly, just partners, or families that included a Veteran and a partner. Four papers were descriptions of new services and did not describe any form of evaluation of the intervention (these studies are labelled as $N = N/A$ in [Table 1](#)). The remaining 21 did report an evaluation of outcomes, including 11 non-controlled pre-post designs, 3 randomized controlled trials (RCT), 3 pilot trials, 2 case studies, and a feasibility study.

The interventions described were varied in their content, format, and scope. They included group-based interventions, residential retreats, couples therapies, Internet-based interventions, and family-based interventions, all of which are described in more detail in the sections that follow. The studies looked at a range of different outcome measures, as discussed in the next section. We also report findings related to outcomes, with a caveat that there is substantial variation in study design and quality, and that without a meta-analysis, it is difficult to draw any firm conclusions about effectiveness overall.

Outcomes

The most common outcomes measured related to relationship issues and mental health. A total of 13 studies assessed relationship outcomes, with six studies measuring relationship quality, and four measuring marriage or relationship satisfaction. Three studies also looked at whether their programs had an impact on physical and psychological violence within the relationship. Group-based interventions were the most likely to measure these relationship-based outcomes (6 studies).

In total, 12 studies collected measures of mental health difficulties, most commonly PTSD (9 studies). However, there was some variation in that some studies measured PTSD in Veterans only, and some measured it in both partners and Veterans. There were no clear differences in the types of interventions and how likely they were to measure mental health outcomes: group-based (4 studies), residential retreats (3 studies), couples therapy (2 studies), family-based (2 studies), and Internet-based (1 study).

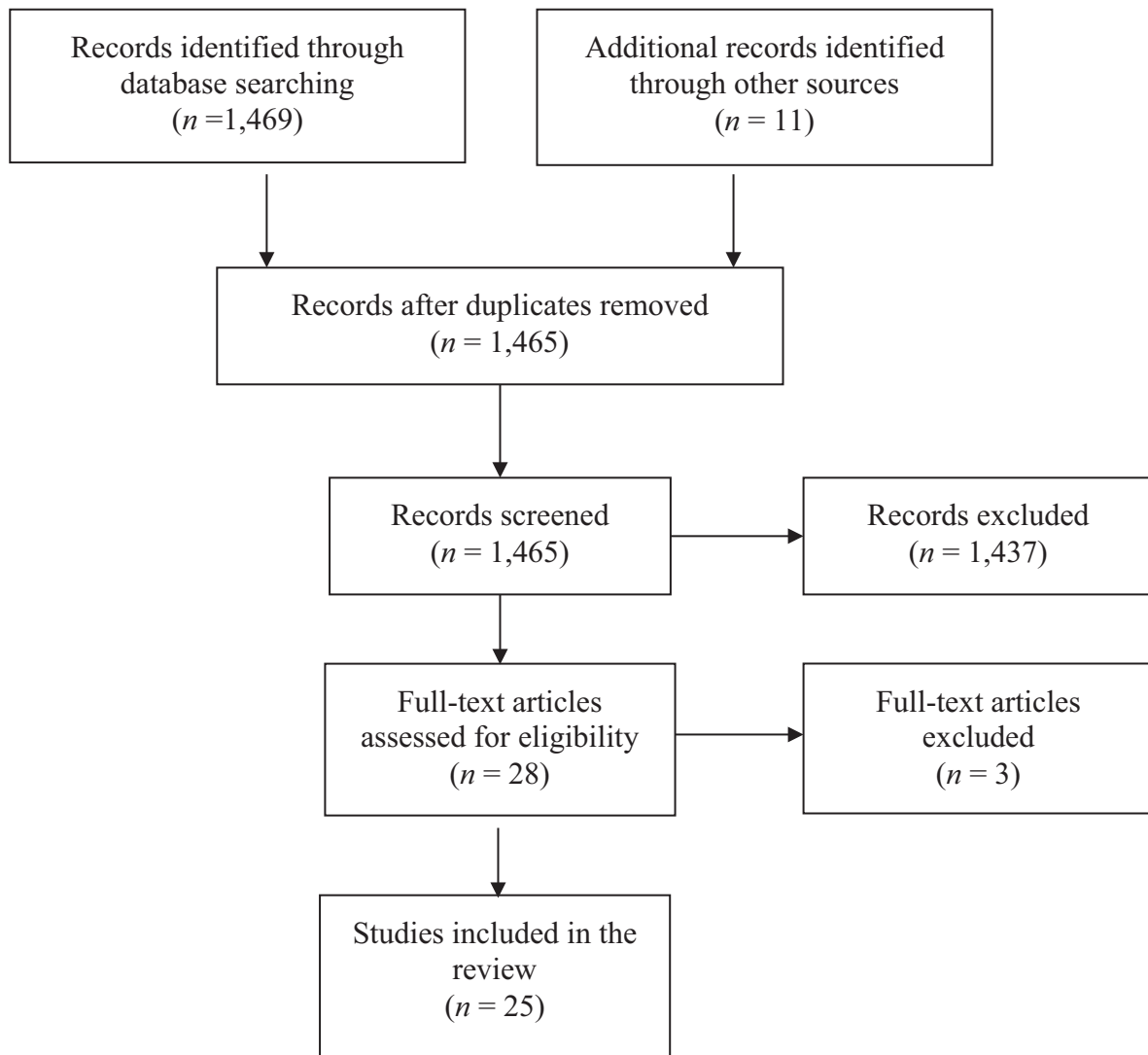


Figure 1. Study selection flowchart

Other types of outcome measures that were less commonly reported included quality of life measures (four studies), and general feedback, such as satisfaction with the intervention (4 studies).

Group-based interventions

Overall, nine papers reported findings from group-based interventions aimed at Veterans, partners, and families. Of these, only two were aimed solely at partners.

Four papers reported on the REACH intervention (Reaching out to Educate and Assist Caring, Healthy Families). REACH is a 9-month program consisting of three phases developed from a modification of the Multi-Family Group Program²⁷. After four initial “joining” sessions attended by the Veteran and the family, six weekly psychoeducational classes are attended by 4–6

family/Veteran dyads, covering topics such as relationship building, problem solving, and anger management, including take-home tasks for each family to complete. Families are then invited to attend further monthly groups on diagnosis-specific topics, for around 6 months.

Initial, small-scale analyses of the REACH program suggested that it helped to improve interpersonal relationships, problem solving, and communication,²⁸ and that participants reported high levels of satisfaction with the program, with high retention rates.^{28,29} Later findings from a study of 100 Veterans and their partners showed that participants’ knowledge of key topics such as PTSD, family coping strategies, family communication, and problem solving significantly improved over time. Improvements were also seen in interpersonal relationships.²⁸ These results were based on pre-post

Table 1. Summary of papers reviewed

First author (year)	Location	N	Study type	Main intervention	Modality	Outcome measured
Armstrong (1997)	US	218	Case study	Psychodynamic group therapy	Group therapy for partners only	Discussion of group themes
Bobrow (2012)	US	347	Pre-post evaluation	Coming Home Project	Residential retreat for Veterans and partners	Pre and post surveys on achievement of goals and evaluation*
Church (2014)	US	6	Pre-post evaluation	CAM and energy psychology	Residential retreat for Veterans and partners	PTSD severity (PCL)
Davis (2012)	US	86	Pre-post evaluation	Operation Restoration	Residential retreat for Veterans and partners	Participant feedback* (e.g., benefits gained, suggestions for improvement)
Devilly (2002)	Australia	209	Pre-post evaluation	Lifestyle management	Residential program for Veterans and partners	PTSD, (IES), Depression and Anxiety (DASS), Marriage satisfaction (ADAS), Quality of life (COMQOL4), Anger (NAI), Alcohol use (ACE)
Fischer (2013)	US	196	Pre-post evaluation	REACH	Group format for Veterans and partners	PTSD-related knowledge and behaviours,* Family communication (FPSC), Relationship satisfaction (DAS-7), Social support (MSPSS), Psychological distress (BSI), Quality of life (QOL)
Hayes (2015)	US	140	Pre-post evaluation	SAH-F	Group format for Veterans and partners	Relational aggression (CTS2), Relationship satisfaction (DAS, QRI), Depression (PHQ-9), PTSD (PCL)
Interian (2016)	US	103	RCT	Family of Heroes psychoeducation	Internet interactive website for Veterans and partners	PTSD (PCL), Family empowerment (FES), Social support (MSPSS), Criticism (PCS)
Kahn (2016)	US	476	RCT	Mission Reconnect	Self-directed via website and mobile app for Veterans and partners	Stress (PSS), Depression (BDI), PTSD (PCL), Self-compassion (SCS), Social support (MSPSS), Sleep quality (PSQI), Relationship quality (DAS)
Lester (2011)	US	N/A	Case study	FOCUS	Family-based intervention	N/A
Lester (2012)	US	1,615	Pre-post evaluation	FOCUS	Family-based intervention	Psychological distress (BSI), Family adjustment (FAD), Functioning (GAF), Parent perception of change*
Lester (2016)	US	7,309	Pre-post evaluation	FOCUS	Family-based intervention	Psychological distress (BSI), Child psychological health (SDQ), Family adjustment (FAD), PTSD (PCL), Child anxiety (MASC), Child coping (KidCope)
Luedtke (2015)	US	1	Case study	CBCT	Couples therapy	PTSD (CAPS, PCL), Relationship quality (DAS)
Monk (2016)	US	298	Pre-post evaluation	VCIIR	Residential retreat for Veterans and partners	PTSD (PCL)
Roy (2012)	US	497	Pre-post evaluation	Psychoeducation	Website for family members	PTSD knowledge*
Ruzek (2011)	US	N/A	Service description	Psychoeducation	Website for Veterans, partners, and professionals	N/A

(Continued)

Table 1. (Continued)

First author (year)	Location	N	Study type	Main intervention	Modality	Outcome measured
Sautter (2011)	US	N/A	Service description	Structured Approach Therapy	Couples therapy	N/A
Schumm (2015)	US	26	Pre-post evaluation	CTAP	Couples therapy	PTSD (CAPS, PCL), Substance misuse (TLFB), Relationship quality (DAS), Depression (BDI)
Sherman (2009)	US	116	Feasibility study	REACH	Group format for Veterans and partners	Program satisfaction*
Sherman (2009a)	US	436	Service description	REACH	Motivational Interviewing for Veterans and families	N/A
Sherman (2012)	US	N/A	Service description	REACH	Group format for Veterans and partners	N/A
Taft (2014)	US	18	Pilot trial	Strength at Home	Group format for Veterans and partners	Physical and psychological aggression (CTS2), Relationship quality (QMI), PTSD (CAPS)
Taft (2016)	US	138	RCT	Strength at Home	Group format for Veterans and partners	PTSD (CAPS), Alcohol use (AUDIT), Depression (PHQ-9), Physical and psychological aggression (CTS2), Emotional abuse (MMEA), Relationship quality (DAS, QMI)
Vagharseyyedin (2017)	Iran	80	RCT	Peer support	Group format for partners only	Family adaptation (FAS)
Whealin (2017)	US	56	Pre-post evaluation	REACH (adapted)	Group format using videoconferencing	Relationship quality (DAS), Relationship satisfaction (BRSS), Caregiver burnout (ZBI), Patient satisfaction

* Researcher-developed measures.

US = United States; CAM = Complementary and Alternative Medicine; REACH = Reaching out to Educate and Assist Caring, Healthy Families; SAH-F = Strength at Home Friends and Families; VCIIR = Veteran Couples Integrative Retreat; CTAP = Couples Therapy for Alcohol use disorder and Post-traumatic stress disorder; FOCUS = Families Overcoming Under Stress; CBCT = Cognitive-behavioral conjoint therapy; PCL = PTSD Checklist; DASS = Depression and Anxiety Stress Scale; IES = Impact of Events Scale; ADAS = Abbreviated Dyadic Adjustment Scale; COMQOL4 = Comprehensive Quality of Life Inventory, Version 4; NAI = Novaco Anger Inventory; ACE = Alcohol Consumption Estimate; FPSC = Family Problem Solving Communication Scale; DAS-7 = Dyadic Adjustment Scale; MSPSS = Multidimensional Scale of Perceived Social Support; BSI = Brief Symptom Inventory; QOL = Quality of Life Questionnaire; CTS2 = revised Conflict Tactics Scales; QRI = Quality of Relationship Inventory; PHQ-9 = Patient Health Questionnaire; FES = Family Empowerment Scale; PCS = Perceived Criticism Scale; PSS = Perceived Stress Scale; BDI = Beck Depression Inventory; SCS = Self-Compassion Scale; PSQI = Pittsburgh Sleep Quality Index; FAD = McMaster Family Assessment Device; GAF = Global Assessment of Functioning; SDQ = Strengths and Difficulties Questionnaire; MASC = Multidimensional Anxiety Scale for Children; CAPS = Clinician Administered PTSD Scale; TLFB = The Timeline Followback Interview; QMI = Quality of Marriage Index; AUDIT = Alcohol Use Disorders Identification Test; MMEA = Multidimensional Measure of Emotional Abuse; FAS = Family Adaptation Scale; BRSS = Burns Relationship Satisfaction Scale; ZBI = Zarit Burnout Interview.

evaluations and were not compared against any other interventions or control groups.

The authors suggested that participants benefited from the group format as a way of gaining mutual support and broadening their systems of social support. A further paper included in the final search described that using motivational interviewing with Veterans and

family members during the recruitment phase can help to improve uptake of the REACH program.³⁰

Whealin et al.²⁶ described a cultural adaptation of the REACH program for use with rural Pacific Island Veterans via video telehealth. *Cultural adaptation* was defined as the modification of a clinical intervention without compromising its core elements.³¹ They found

that it was possible to successfully adapt the program for working via a different platform and while making it culturally relevant. Outcomes for relationship quality were significantly improved, albeit without a comparison group.

Three studies described the Strength at Home (SAH) intervention for Veterans, partners, and broader families,^{24,32,33} including one RCT. The primary aim of SAH is to reduce and prevent physical and psychological aggression in couples and families. While it is not a direct treatment for PTSD, it was designed to be sensitive to the idea that many military families have been exposed to trauma, and improvement in mental health and relationships were secondary aims of the three studies. The 10-week group focuses firstly on psychoeducation before looking at conflict management and communication skills. This is achieved through a combination of didactic material and group exercises. One study assessed the SAH comparing it against a supportive therapy group,³² finding that relationship aggression had reduced at follow-up, particularly for psychological aggression compared with the ST group. In the second study, which did not have a comparison group, there were no differences in physical aggression at follow-up, but psychological aggression did decrease.²⁴ The study which used an RCT design compared the SAH program to a supportive intervention group, finding that those in the SAH condition were more likely to report a reduction in acts of physical and psychological violence (from Veteran and partner).

Overall, the findings for the SAH program were mixed, although there are signs that this could be a useful targeted intervention for partners in aggressive relationships. The authors of the first study reported challenges in recruiting to the program, citing issues around practical barriers such as work and childcare, as well as social stigma. They recommended that traditional recruitment techniques like mailouts were ineffective, and that meeting with potential participants in-person was preferable. Once participants started the group, retention rates were high in both studies.

The REACH and SAH programs have some similarities in that they are both couples-based group formats which did not include children. They both include psychoeducational components regarding PTSD and tackle other common issues, such as communication skills and problem solving. The SAH program, however, has a more explicit focus on the relationship between Veterans and partners, with additional material about

conflict management and the impact of PTSD on the relationship.

Two further papers described group-based interventions just for partners of Veterans. The first was a psychodynamic group therapy intervention for female partners, which described some of the themes emerging from a single group but did not report any outcomes.³⁴ The second reported outcomes from a peer support group for the wives of war Veterans in Iran³⁵ using the Family Adaptation Scale³⁶ (FAS). Using an RCT design, the authors found that following attendance at the group, family adaptation significantly improved compared with a control group receiving no intervention. The authors discussed the potential for peer support to have a positive impact on partners. However, they added that the cultural context may have been important, given the high value in Iran placed on social networks and interdependence.³⁷

Overall, there was evidence to suggest that group-based interventions are widely acceptable to Veterans and partners and can help to improve outcomes such as relationship satisfaction and family functioning. Very few interventions have been rigorously tested in RCTs. The REACH program is the most widely reported intervention within the literature search. Only one paper reported any outcomes for a partners-only group, with promising results from an RCT. Several authors commented on the impact of being in a group and the benefits of this in terms of mutual support between group members.

Residential retreats

Five papers in the literature search reported on interventions in the form of residential retreats that were attended by cohorts of Veterans and their partners, with programs aimed at improving the well-being of both. While held in similar settings, each study used a different style of intervention. All five papers used pre-post evaluation designs to report outcomes, with two only collecting feedback from participants, i.e. not using validated measures, and four studies providing follow-up at a time point beyond immediately post-intervention.

Despite the fact that all five papers described distinct programs, there were a number of commonalities between them that might highlight useful components of a residential intervention. For example, all five programs included some group interventions, most commonly in the form of psychoeducation. Three of the

retreats included individual or couples' counselling of varying formats,^{38,39,40} including CBT. A further three programs included more general well-being activities as a complement to the groups and therapy, such as yoga and meditation.^{38,41,42} One paper reported that complementary and 'energy psychology' techniques formed the basis of the program.³⁹

Of the three papers that used validated outcome measures, all three reported improvements for the partners attending the retreat programs.^{39,41,42} Two of these showed that partners attending these retreats had clinical levels of PTSD before the intervention, which significantly improved over time following their attendance. These two programs included a mix of group psychoeducation and couples' therapy. The third paper using validated measures did not measure PTSD in participants, but partners showed significant improvements in other mental health measures such as depression, anxiety, anger, and stress. This intervention was a lifestyle-management course which included psychoeducation and meditation groups. The partners attending this program showed greater improvements than the Veterans. A common feature of these papers was that participants gave feedback about the usefulness of being part of a wider community and building social support networks.

Residential retreats aimed at improving the well-being of both partners and Veterans appear to be useful from the evidence available. However, none of these papers used any form of comparison or control groups to support their findings, which limits their scope. Because the retreat interventions were multi-faceted, it is difficult to determine which of their features have the biggest impact, or whether there is something about the residential retreat format that is therapeutic as a whole. Either way, more rigorous research would help answer some of these questions.

Couples therapy

Three papers described specific couples' therapy interventions involving both the partner and the Veteran. The first⁴³ describes a Structured Approach Therapy (SAT) intervention aimed at helping couples to cope with trauma-related anxiety and emotion-activation programs to help reduce emotional numbing. It also included modules on stress inoculation and empathic communication. However, there was no formal evaluation of this program, just some anecdotal evidence about the intervention being well-received and having a high retention rate.

The second paper⁴⁴ was an intervention designed primarily to tackle alcohol misuse and PTSD in the Veteran, with secondary outcomes relating to the well-being of both the Veteran and the partner. This study suffered from a very small sample ($N = 13$) and, therefore, lack of robust analyses. There was some evidence, however, for signs of depression decreasing in partners following the program.

The third paper⁴⁵ reported on a case study of conjoint mindfulness-based CBT, designed to treat Veteran PTSD and relationship dissatisfaction.

There is little evidence from this review about the efficacy of couples' therapy for the partners of Veterans, so the literature would benefit from more robust research. These couples' interventions had primary aims of helping the Veterans' mental health, which might have indirect benefits for their partners.

Internet-based interventions

Four studies looked at web-based interventions, all four of which had psychoeducational components. The studies varied in that two were aimed at both Veterans and partners, whereas one was aimed at partners only, and the remaining study designed for mental health professionals to help Veterans and families in clinical practice. Two studies reported on the development of specific websites which were created to provide information to partners, Veterans, and professionals. One paper showed that after using such a website, partners' knowledge of post-deployment issues increased, and led to more than half of partners taking positive actions towards helping the Veterans.⁴⁶ The other paper reporting on a website developed for clinicians to use alongside Veterans and families did not complete any outcomes relating to its use.⁴⁷

Two further papers described different interventions aimed at helping Veterans and their families. One was a very brief, 1-hour intervention which used avatar characters to present psychoeducation material and simulate conversations about post-deployment issues, while encouraging partners to speak to Veterans about these issues.⁴⁸ However, analysis showed that there were no differences in partners reported levels of perceived empowerment, efficacy or communication following the intervention. The second was a longer and multi-faceted intervention that used video and audio content to deliver activities to partners and Veterans.⁴⁹ Activities related to mindfulness meditation, massage therapy, positive emotions and psychoeducation. Findings showed some

support for improvements in mental health outcomes in partners, albeit less so than for Veterans. There were no significant changes in other variables such as relationship adjustment, sleep and social support. The study did use a randomized-controlled design which showed improvements were greater than in a control group.

Overall, web-based interventions had some evidence for improving knowledge and some mental health outcomes for partners. Authors of these papers commented on the cost-effectiveness of these interventions and their ability to reach a large number of users. Some discussed the utility of such interventions, however, as an adjunct and complement to receiving professional support.

Family-based interventions

Three papers described an intervention that was specifically aimed at military families and delivered to each family separately; that is, not with a larger group or cohort. The Families Overcoming Under Stress (FOCUS) program was designed as a family-centred evidence-based resiliency training program, adapted for the needs of military families. One paper described the development and implementation of FOCUS, with a case example,⁵⁰ while others provided findings from evaluations.^{25,51}

FOCUS is delivered in eight modules, with a mix of whole-family and child-centred sessions. Its core components are psychoeducation, emotional regulation, goal setting and problem-solving skills, traumatic stress reminder management techniques, and family communication skills. A family deployment timeline and narrative framework are used to increase family understanding, communication, support, and cohesion. The family develop a narrative, facilitated by discussions about differences in experiences, reactions to help reach a shared understanding. Support is also focused on addressing misattributions or distortions, especially those regarding blame, guilt, and shame. The family develop a greater shared understanding of the deployment experience and greater awareness of how they may support each other.

In a large-scale evaluation, there were high levels of perceived change reported by parents (which included partners) for improvements in emotional regulation and understanding of combat stress and parent-child stress reactions.⁵¹ Parent satisfaction ratings were also high. Parental distress (measured using the Brief Symptom Inventory; BSI-18⁵² and unhealthy family functioning (measured using the Family Assessment Device; FAD⁵³

were significantly reduced in a pre-post intervention design. Twelve-month follow-up data suggested that parental mental health improvements had been maintained.²⁵ Clinician-rated global functioning ratings were also significantly improved post-intervention. The authors concluded that these findings demonstrated the acceptability, feasibility, and effectiveness of this program. FOCUS is explicitly identified as *not* operating within a mental health diagnosis and treatment model, rather as a strength-based, family-centred skills training. The findings here are limited in scope due to the absence of a control group.

DISCUSSION

This article aimed to review existing interventions aimed at improving the well-being of partners of military Veterans with PTSD. Twenty-five papers were included in the final review, most of which were conducted in the United States. A wide range of interventions were described, including group-based programs, residential retreats, couples therapies, Internet-based interventions, and family-based programs. A large proportion of studies reported evaluations of services, but the quality of study design was mixed, with only a handful using robust experimental designs. Despite this, the evidence overall suggests that these interventions are useful in improving the well-being of partners and are well-received. The most commonly reported outcome measures related to relationship issues such as marital satisfaction, and mental health difficulties, most frequently PTSD.

The most common interventions were groups, such as REACH and SAH. Most group interventions were attended by partner and Veteran couples, with only two papers reporting on services aimed solely at partners. Group interventions most commonly involved some element of teaching or psychoeducation, with some also using therapeutic group sessions. Findings from evaluations of groups were favourable, with improvements seen in areas such as relationships, communication, knowledge of PTSD, family adaptation, and relational aggression.

Interventions that brought together partners, couples and families who are experiencing similar difficulties were well-received and deemed to be helpful. One of the reported benefits of group-based interventions is that they help to normalize problems and reduce stigma; a factor that is well-known as a potential barrier to seeking support.⁵⁴ Some authors have observed from

group interventions that powerful human connections can emerge over the course of a program.²⁸

Given that both depressive and PTSD symptoms are inversely related to social support,^{55,56} it may be that group settings help to foster a sense of community with other Veterans and loved ones, which improves social support.²⁴ Interventions that aim to increase social support and reduce negative social interactions are beneficial for Veterans with PTSD,⁵⁷ and the same might therefore be true for partners.

Some papers described residential retreat programs that were aimed at couples and included a variety of therapeutic activities. In many respects, the retreats shared the same elements as group-based interventions (e.g., therapeutic groups, psychoeducation), but often had additional well-being activities such as yoga. The evidence here suggested that they can improve outcomes, but it is difficult to interpret which elements of retreats are making the difference, given they are multi-faceted. None of the papers in this review offer any component analysis. Some of the authors did discuss the additional sense of community that can be developed by bringing together similar couples, in the same way as with group-based interventions as discussed above. One of the difficulties in interpreting these findings is that none of the papers used robust experimental designs to demonstrate their effectiveness, so we cannot say with any confidence that residential retreat programs offer anything over and above other group-based interventions.

Three papers looked at specific couples' therapy interventions, looking at both trauma-related anxiety and alcohol misuse with PTSD. However, there were weaknesses in the design of these studies, which meant very little could be gleaned about their effectiveness or how well they were received. Interventions were not focused on the well-being of the partner, but this may have improved indirectly if positive changes were seen in the Veteran. While the lack of evidence does not mean that couples' interventions are not beneficial for partners, the field would certainly benefit from larger-scale evaluations.

There were some interesting findings related to Internet-based interventions, such as the development of websites aimed at educating partners and families on issues such as PTSD, which were found to increase knowledge on such matters. There was some evidence for the web-based activities in improving mental health outcomes for partners, but less so in very brief interventions. There is evidence from other populations that

suggests that web-based psychoeducation can improve outcomes for caregivers of people with psychosis and first-time mothers,^{58,59} for example. Potential benefits of web-based interventions include ease of access and cost-effectiveness, although some have suggested such interventions are most useful when they include some therapist support or used as an adjunct to more formal therapies.⁴⁷

Finally, there was some evidence for the FOCUS program, as a stand-alone intervention for families of Veterans aimed at improving family resilience. A large-scale evaluation showed high levels of satisfaction with the program, as well as improvements in parental well-being. While it has similar elements to other interventions (e.g., psychoeducation, problem solving), it is different in that there is no group dynamic, just one family at a time receiving support.

Similarities between interventions

While the different programs and interventions within the review had varying modalities and formats, there were several elements that many of them had in common. The most common feature was psychoeducation, which was used in groups, retreats, web-based interventions, and family interventions. Psychoeducation is commonly used in the initial stabilization phase of trauma-focused therapies,⁶⁰ so it is perhaps unsurprising that it is so frequently included in partners and family interventions too. Other common elements included communication skills, problem solving, and emotion regulation. Many interventions, especially those aimed at couples, featured some form of therapeutic component, in various forms such as CBT. As described above, the advantages of group processes were discussed in many papers in the review, particularly the increase in social support and normalization of having shared experiences with others. However, it is difficult to interpret which elements of interventions make for meaningful change.

Limitations

The literature search was conducted using as many databases available to the authors at the time of publishing. Nevertheless, despite all the measures taken to conduct a complete and thorough literature search, it is possible that some relevant papers were not included in the final review. Given that the vast majority of studies were conducted in the United States, there are limitations in terms of the scope and generalizability of the review's findings. The aims of the review were to explore interventions aimed at improving the well-being of military

Veterans' partners. However, most of the programs described were aimed at either the Veteran themselves (but where the partner is involved), the Veteran-partner dyad, or the broader family. In fact, there were only two studies in the review where the intervention was directed solely at partners. This might be explained by the fact that the Veteran is often the individual presenting with the most significant difficulties, and partners' needs are therefore overlooked. Alternatively, because partners are directly involved in interventions, even if it is not directed solely at them, they might still get the benefit of the intervention. It may also be that partners' needs are more readily met by statutory or general health services, so few partners-only programs have been developed. It is also the case that, almost exclusively, there were no long-term follow-ups included among these studies, which will be an important area for future research.

Implications and future research

Results suggested that interventions aimed at partners, couples and families can improve various aspects of well-being, and are well-received by those receiving support. However, the evidence is limited by the relative lack of long-term and robust experimental research. On the whole, the literature in this area would benefit from taking the next step beyond feasibility and small-scale studies to examining more closely the impact and effectiveness of these services, using larger-scale, experimental designs where possible. There is a wide variety of interventions available in different formats, and the literature would benefit from analysis to determine the most effective interventions, the most well-received, and the most accessible. As previously discussed, there are very few programs aimed exclusively at military partners yet—given the specific needs of this population—such programs could be very beneficial. Future research might pilot new interventions to meet this need. There is an increasing number of male partners of military Veterans who are likely to make up a significant minority within this population. Most research to date has not managed to capture this group whose needs it will be important to include going forward. The literature would also benefit from evidence in different countries to increase generalizability, which might include the application in different countries of existing programs.

Conclusion

Partners of Veterans who have PTSD appear to be at higher risk of experiencing mental health and well-being difficulties themselves. As such, they would benefit from

interventions aimed towards supporting their needs. This review found that there were very few partners-only interventions described in the literature. However, a number of services exist that do involve partners, usually alongside the Veteran and/or the broader family, and have shown to be beneficial generally, and in some cases specifically to partners. The interventions described were wide-ranging in their format and content and included groups, residential retreats, couples therapies, web-based programs, and family-based programs. Where evaluations of interventions were described, results were generally favourable, showing improvements in a range of mental health and well-being measures. The quality of studies was mixed, with only a handful using experimental designs. Nevertheless, there is evidence to suggest that these interventions are helpful and well-received.

The literature would greatly benefit from more experimental research, RCTs, and analyses of the most effective components of interventions, given their wide variety. There is scope for refining and improving existing services for partners of military Veterans, as well as the development of novel interventions aimed at meeting their needs. While there is clear intention to develop services that include partners and families, there is little consensus on the most effective ways of providing such services, and more robust research is required looking at those services already available.

REFERENCES

1. Fear NT, Jones M, Murphy D, et al. What are the consequences of deployment to Iraq and Afghanistan on the mental health of the UK armed forces? A cohort study. *Lancet*. 2010;375(9728):1783–97. [https://doi.org/10.1016/s0140-6736\(10\)60672-1](https://doi.org/10.1016/s0140-6736(10)60672-1). Medline:20471076
2. Hoge CW, Auchterlonie JL, Milliken CS. Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan. *JAMA*. 2006;295(9):1023–32. <https://doi.org/10.1001/jama.295.9.1023>. Medline:16507803
3. Sundin J, Herrell RK, Hoge CW, et al. Mental health outcomes in US and UK military personnel returning from Iraq. *Br J Psychiatry*. 2014;204(3):200–7. <https://doi.org/10.1192/bjp.bp.113.129569>. Medline:24434071
4. Craig R, Fuller E, Mindell J. The health survey for England 2014. London: The Health and Social Care Information Centre; 2015.
5. Ministry of Defence. Defence annual health and wellbeing report [report on the Internet]. London,

- UK: Defence People Health and Wellbeing Board (DPHWB); 2015. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/530240/Defence_Annual_Health_and_Wellbeing-report-2015_WEB_lowres.pdf.
6. Ben Arzi NZ, Solomon Z, Dekel R. Secondary traumatization among wives of PTSD and post-concussion casualties: distress, caregiver burden and psychological separation. *Brain Inj.* 2000;14(8):725–36. <https://doi.org/10.1080/026990500413759>. Medline:10969891
 7. Allen ES, Rhoades GK, Stanley SM, Markman HJ. On the home front: stress for recently deployed army couples. *Fam Process.* 2011;50(2):235–47. <https://doi.org/10.1111/j.1545-5300.2011.01357.x>. Medline:21564063
 8. Beckham JC, Lytle BL, Feldman ME. Caregiver burden in partners of Vietnam War Veterans with posttraumatic stress disorder. *J Consult Clin Psychol.* 1996;64(5):1068–72. <https://doi.org/10.1037//0022-006x.64.5.1068>. Medline:8916637
 9. Nelson Goff BS, Crow JR, Reisbig AM, et al. The impact of soldiers' deployments to Iraq and Afghanistan: secondary traumatic stress in female partners. *J Coup Rel Therapy.* 2009;8(4):291–305. <https://doi.org/10.1080/15332690903246085>.
 10. Murphy D, Palmer E, Busuttill W. Mental health difficulties and help-seeking beliefs within a sample of female partners of UK Veterans diagnosed with post-traumatic stress disorder. *J Clin Med.* 2016;5(8):68. <https://doi.org/10.3390/jcm5080068>. Medline:27490576
 11. de Burgh HT, White CJ, Fear, NT, et al. The impact of deployment to Iraq or Afghanistan on partners and wives of military personnel. *Int Rev Psychiatry.* 2011;23(2):192–200. <https://doi.org/10.3109/09540261.2011.560144>. Medline:21521089
 12. Koić E, Frančišković T, Mužinić-Masle L, et al. Chronic pain and secondary traumatization in the wives of Croatian Veterans treated for posttraumatic stress disorder. *Acta Clin Croat.* 2002;41:295–306.
 13. Renshaw KD, Allen ES, Rhoades GK, et al. Distress in spouses of service members with symptoms of combat-related PTSD: secondary traumatic stress or general psychological distress? *J Fam Psychol.* 2011;25(4):461–9. <https://doi.org/10.1037/a0023994>. Medline:21639635
 14. McLeland KC, Sutton GW, Schumm WR. Marital satisfaction before and after deployments associated with the global war on terror. *Psychol Rep.* 2008;103(3):836–44. <https://doi.org/10.2466/pr0.103.3.836-844>. Medline:19320220
 15. Taft CT, Walling SM, Howard JM, et al. Trauma, PTSD, and partner violence in military families. In: Wadsworth SM, Riggs D, editors. *Risk and resilience in U.S. military families.* New York: Springer; 2011. p. 195–212.
 16. Sherman MD, Sautter F, Lyons JA, et al. Mental health needs of cohabiting partners of Vietnam Veterans with combat-related PTSD. *Psychiatr Serv.* 2005;56(9):1150–2. <https://doi.org/10.1176/appi.ps.56.9.1150>. Medline:16148334
 17. Batten SV, Drapalski AL, Decker ML, et al. Veteran interest in family involvement in PTSD treatment. *Psychol Serv.* 2009;6(3):184–9. <https://doi.org/10.1037/a0015392>. Medline:30328689. Erratum in: *Psychol Serv.* 2010;7(3):135. Corrected at: <https://doi.org/10.1037/a0020166>.
 18. Gewirtz AH, Erbes CR, Polusny MA, et al. Helping military families through the deployment process: strategies to support parenting. *Prof Psychol Res Pr.* 2011;42(1):56–62. <https://doi.org/10.1037/a0022345>. Medline:21841889
 19. Sayer NA, Noorbaloochi S, Frazier P, et al. Reintegration problems and treatment interests among Iraq and Afghanistan combat Veterans receiving VA medical care. *Psychiatr Serv.* 2010;61(6):589–97. <https://doi.org/10.1176/appi.ps.61.6.589>. Medline:20513682
 20. Tarrier N, Sommerfield C, Pilgrim H. Relatives' expressed emotion (EE) and PTSD treatment outcome. *Psychol Med.* 1999;29(4):801–11. <https://doi.org/10.1017/s0033291799008569>. Medline:10473307
 21. Byrne CA, Riggs DS. Gender issues in couple and family therapy following traumatic stress. In: Kimerling, R, Ouimette P, Wolfe, J, editors. *Gender and PTSD.* New York: Guilford Press; 2002. p. 382–99.
 22. Evans L, Cowlshaw S, Forbes D, et al. Longitudinal analyses of family functioning in Veterans and their partners across treatment. *J Consult Clin Psychol.* 2010;78(5):611–22. <https://doi.org/10.1037/a0020457>. Medline:20873897
 23. Veterans Health Administration. VHA handbook 1160.01: uniform mental health services in VA medical centers and clinics. Washington, DC: Department of Veterans Affairs; 2008.
 24. Hayes MA, Gallagher MW, Stavitsky Gilbert K, et al. Targeting relational aggression in Veterans: the strength at home friends and family intervention. *J Clin Psychiatry.* 2015;76(6):e774–8. <https://doi.org/10.4088/jcp.14m09155>. Medline:26132685
 25. Lester P, Liang LJ, Milburn N, et al. Evaluation of a family-centered preventive intervention for military families: parent and child longitudinal outcomes. *J Am Acad Child Adolesc Psychiatry.* 2016;55(1):14–24. <https://doi.org/10.1016/j.jaac.2015.10.009>. Medline:26703905
 26. Whealin JM, Yoneda AC, Nelson D, et al. A culturally adapted family intervention for rural Pacific Island Veterans with PTSD. *Psychol Serv.* 2017;14(3):295–306.

- <https://doi.org/10.1037/ser0000186>. Medline:28805414
27. Sherman MD, Perlick DA, Straits-Tröster K. Adapting the multifamily group model for treating Veterans with posttraumatic stress disorder. *Psychol Serv*. 2012;9(4):349–60. <https://doi.org/10.1037/a0028963>. Medline:22731838
 28. Sherman MD, Fischer EP, Sorocco K, et al. Adapting the multifamily group model to the Veterans Affairs system: the REACH Program. *Prof Psychol Res Pr*. 2009;40(6):593–600. <https://doi.org/10.1037/a0016333>.
 29. Sherman MD, Fischer E, Bowling UB, et al. A new engagement strategy in a VA-based family psychoeducation program. *Psychiatr Serv*. 2009;60(2):254–7. <https://doi.org/10.1176/ps.2009.60.2.254>. Medline:19176422
 30. Fischer EP, Sherman MD, Xiaotong H, et al. Outcomes of participation in the REACH multifamily group program for Veterans with PTSD and their families. *Prof Psychol Res Pr*. 2013;44(3):127–34. <https://doi.org/10.1037/a0032024>.
 31. McKleroy VS, Galbraith JS, Cummings B, et al. Adapting evidence-based behavioral interventions for new settings and target populations. *AIDS Educ Prev*. 2006;18(Suppl. A):59–73. <https://doi.org/10.1521/aeap.2006.18.supp.59>. Medline:16987089
 32. Taft CT, Howard J, Monson CM, et al. “Strength at Home” intervention to prevent conflict and violence in military couples: pilot findings. *Partner Abuse*. 2014;5(1):41–57. <https://doi.org/10.1891/1946-6560.5.1.41>.
 33. Taft CT, Creech SK, Gallagher MW, et al. Strength at Home Couples program to prevent military partner violence: a randomized controlled trial. *J Consult Clin Psychol*. 2016;84(11):935–45. <https://doi.org/10.1037/ccp0000129>. Medline:27599224
 34. Armstrong MA, Rose P. Group therapy for partners of combat Veterans with post-traumatic stress disorder. *Perspect Psychiatr Care*. 1997;33(4):14–18. <https://doi.org/10.1111/j.1744-6163.1997.tb00553.x>. Medline:9429527
 35. Vagharseyyedin SA, Gholami M, Hajihoseini M, et al. The effect of peer support groups on family adaptation from the perspective of wives of war Veterans with posttraumatic stress disorder. *Public Health Nurs*. 2017;34(6):547–54. <https://doi.org/10.1111/phn.12349>. Medline:28833521
 36. Antonovsky A, Sourani T. Family sense of coherence and family adaptation. *J Marriage Fam*. 1988;50(1):79–92. <https://doi.org/10.2307/352429>.
 37. Hosseinzadeh H, Dadich A. Cross-cultural integration affects attitudes towards people HIV/AIDS in Australia. *Sex Health*. 2016;13(2):182–9. <https://doi.org/10.1071/sh15199>. Medline:26841318
 38. Bobrow J, Cook E, Knowles C, et al. Coming all the way home: integrative community care for those who serve. *Psychol Serv*. 2013;10(2):137–44. <https://doi.org/10.1037/a0031279>. Medline:23244031
 39. Church D, Brooks AJ. CAM and energy psychology techniques remediate PTSD symptoms in Veterans and spouses. *Explore*. 2014;10(1):24–33. <https://doi.org/10.1016/j.explore.2013.10.006>. Medline:24439093
 40. Davis LW, Paul R, Tarr D, et al. Operation restoration: couples reunification retreats for Veterans of Operations Enduring and Iraqi Freedom. *J Psychosoc Nurs Ment Health Serv*. 2012;50(11):20–9. <https://doi.org/10.3928/02793695-20121003-02>. Medline:23066828
 41. Devilly GJ. The psychological effects of a lifestyle management course on war Veterans and their spouses. *J Clin Psychol*. 2002;58(9):1119–34. <https://doi.org/10.1002/jclp.10041>. Medline:12209869
 42. Monk JK, Ogolsky BG, Bruner V. Veteran couples integrative intensive retreat model: an intervention for military Veterans and their relational partners. *J Coup Rel Therapy*. 2016;15(2):158–76. <https://doi.org/10.1080/15332691.2015.1089803>.
 43. Sautter FJ, Armelie AP, Glynn SM, et al. The development of a couple-based treatment for PTSD in returning Veterans. *Prof Psychol Res Pr*. 2011;42(1):63–9. <http://doi.org/10.1037/a0022323>.
 44. Schumm JA, Monson CM, O'Farrell TJ, et al. Couple treatment for alcohol use disorder and posttraumatic stress disorder: pilot results from U.S. military Veterans and their partners. *J Trauma Stress*. 2015;28(3):247–52. <https://doi.org/10.1002/jts.22007>. Medline:25965768
 45. Luedtke B, Davis L, Monson C. Mindfulness-based cognitive-behavioral conjoint therapy for posttraumatic stress disorder: a case study. *J Contemp Psychother*. 2015;45(4):227–34. <https://doi.org/10.1007/s10879-015-9298-z>.
 46. Roy MJ, Taylor P, Runge W, et al. Web-based post-traumatic stress disorder education for military family members. *Mil Med*. 2012;177(3):284–90. <https://doi.org/10.7205/milmed-d-11-00350>. Medline:22479915
 47. Ruzek JI, Hoffman J, Ciulla R, et al. Bringing Internet-based education and intervention into mental health practice: afterdeployment.org. *Eur J Psychotraumatol*. 2011;2(1):Article 7278. <https://doi.org/10.3402/ejpt.v2i0.7278>. Medline:22893824
 48. Interian A, Kline A, Perlick D, et al. Randomized controlled trial of a brief Internet-based intervention for families of Veterans with posttraumatic stress disorder. *J Rehabil Res Dev*. 2016;53(5):629–40. <https://doi.org/10.1682/jrrd.2014.10.0257>. Medline:27898154

49. Kahn JR, Collinge W, Soltysik R. Post-9/11 Veterans and their partners improve mental health outcomes with a self-directed mobile and web-based wellness training program: a randomized controlled trial. *J Med Internet Res*. 2016;18(9):e255. <https://doi.org/10.2196/jmir.5800>. Medline:27678169
50. Lester P, Mogil C, Saltzman W, et al. Families overcoming under stress: implementing family-centered prevention for military families facing wartime deployments and combat operational stress. *Mil Med*. 2011;176(1):19–25. <https://doi.org/10.7205/milmed-d-10-00122>. Medline:21305955
51. Lester P, Saltzman WR, Woodward K, et al. Evaluation of a family-centered prevention intervention for military children and families facing wartime deployments. *Am J Public Health*. 2012;102(Suppl 1):S48–54. <https://doi.org/10.2105/ajph.2010.300088>. Medline:22033756
52. Derogatis LR. Brief Symptom Inventory (BSI): administration, scoring, and procedures manual. 3rd ed. Minneapolis, MN: National Computer Systems Pearson, Inc.; 1993.
53. Ryan CE, Epstein NB, Keitner GI, et al. Evaluation and treating families: the McMaster approach. New York: Routledge; 2005.
54. Murphy D, Busuttill W. PTSD, stigma and barriers to help-seeking within the UK Armed Forces. *J R Army Med Corps*. 2015;161(4):322–6. <https://doi.org/10.1136/jramc-2014-000344>. Medline:25525202
55. Peirce RS, Frone MR, Russell M, et al. A longitudinal model of social contact, social support, depression, and alcohol use. *Health Psychol*. 2000;19(1):28–38. <https://doi.org/10.1037//0278-6133.19.1.28>. Medline:10711585
56. Ozer EJ, Best SR, Lipsey TL, et al. Predictors of posttraumatic stress disorder and symptoms in adults: a meta-analysis. *Psychol Bull*. 2003;129(1):52–73. <https://doi.org/10.1037//0033-2909.129.1.52>. Medline:12555794
57. Tarrrier N, Humphreys AL. PTSD and the social support of the interpersonal environment: the development of social cognitive behavior therapy. *J Cog Psychother*. 2003;17(2):187–98. <https://doi.org/10.1891/jcop.17.2.187.57440>.
58. Sin J, Gillard S, Spain D, et al. Effectiveness of psychoeducational interventions for family carers of people with psychosis: a systematic review and meta-analysis. *Clin Psychol Rev*. 2017;56:13–24. <https://doi.org/10.1016/j.cpr.2017.05.002>. Medline:28578249
59. He H, Zhu L, Chan SW, et al. The effectiveness and cost-effectiveness of web-based and home-based post-natal psychoeducational interventions for first-time mothers: randomized controlled trial protocol. *JMIR Res Protoc*. 2018;7(1):e35. <https://doi.org/10.2196/resprot.9042>. Medline:29386175
60. Schnyder U, Ehlers A, Elbert T, et al. Psychotherapies for PTSD: what do they have in common? *Eur J Psychotraumatol*. 2015;6(1):Article 28186. <https://doi.org/10.3402/ejpt.v6.28186>. Medline:26290178. Erratum in: *Eur J Psychotraumatol*. 2015;6(1):Article 29481. Corrected at: <https://doi.org/10.3402/ejpt.v6.29481>.

AUTHOR INFORMATION

David Turgoose, DCLinPsy, is a Clinical Psychologist at Great Ormond Street Hospital for Children, providing clinical services to children with trauma and attachment difficulties. He is also a Senior Lecturer in the psychology department at the University of Roehampton.

Dominic Murphy, PhD, DCLinPsy, is Head of Research at Combat Stress (combatstress.org.uk/about-us/our-research/). In addition, he is the president of the UK Psychological Trauma Society, and is widely published, with over 80 journal articles, an honorary senior lecturer at King's College London and works with NATO on a number of research task groups.

COMPETING INTERESTS

None declared.

This article has been peer reviewed.

CONTRIBUTORS

Dominic Murphy and David Turgoose conceived and designed the study and acquired and analyzed data. All authors revised the article for important intellectual content and approved the final version submitted for publication.

FUNDING

None declared.