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RESEARCH ARTICLE



Effect of a Behavioral Intervention on Outcomes for Caregivers of Veterans with PTSD

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ABSTRACT

Caregivers of the approximately 9 million individuals in the US with Posttraumatic Stress Disorder (PTSD) face burdens that may seem overwhelming. In 2017, VA implemented the first national clinical program for caregivers of veterans with PTSD. Previous interventions have focused on caregivers more as adjuncts of persons with PTSD or included PTSD caregivers with other types of military/veteran caregivers. The REACH VA behavioral intervention, 4 one-hour sessions during 2 to 3 months, focusing on caregiver coping and managing PTSD-related concerns, was delivered centrally by telephone. In a pre/post intervention design, the 161 caregivers experienced statistically significant improvement in burden, depression, anxiety, frustrations, general stress, time providing care, number of and bother about troubling behaviors, and safety risks. Pre and post intervention improvements in burden and anxiety were also clinically significant. Reducing caregivers' psychological distress can improve ability to provide care and positively affect health and safety of persons with PTSD. With REACH, VA has made major steps to support caregivers of veterans. The positive results of this implementation may also serve as a model to support PTSD caregivers in the general population.

KEYWORDS

Military; veterans; families; caregivers; post-traumatic stress disorder; quality of life

The psychological toll of Posttraumatic Stress Disorder (PTSD) is clear for those with PTSD and their caregivers. PTSD is associated with disability, medical illness, and suicidal ideation and attempts (Sareen et al., 2005; Sareen et al., 2007). Caregivers of those with PTSD are also at risk of adverse psychological consequences, including burden, poor psychological adjustment (Calhoun et al., 2002), stress, strain (Yambo et al., 2016), distress, depression, and suicidal ideation (Manguno-Mire et al., 2007). In one study, 15% of partners reported recent suicidal ideation, more than 60% reported their physical well-being was threatened, and 28% reported receiving mental health treatment in the previous six months (Manguno-Mire et al., 2007). For post 9/11 military caregivers, 38% meet the criteria for major depressive disorder (Ramchand et al., 2014).

PTSD is a widespread clinical condition. According to the National Center for PTSD (n.d), estimates for the general US population range up to 7-8% of adults with PTSD at any time (Kessler et al., 2005; National Center). Conservatively, 3.6% of adults, approximately

9 million, experience PTSD in a given year (Harvard Medical School, 2007a) with a 6.8% lifetime prevalence (Harvard Medical School, 2007b). Five percent of US adolescents, approximately 3.5 million, have a lifetime prevalence of PTSD (Merikangas et al., 2010). Severity levels in the general population are fairly evenly divided between serious, moderate, and mild PTSD (Kessler et al., 2005). In 2016, 10.6% of veterans receiving VA health care had a PTSD diagnosis (Ostacher & Cifu, 2019). The percentage is higher for post 9/11 veterans (26.7%) and Gulf War veterans (12%). Clinical symptoms may last a lifetime, as evidenced by the approximately 271,000 Vietnam theater veterans with current PTSD, almost fifty years after that war (Marmar et al., 2015).

Caregivers of veterans with PTSD are more likely to experience high emotional stress than caregivers of veterans who do not have PTSD (74% vs. 58%) (National Alliance for Caregiving, 2010). They are also more likely to have sleep deprivation (81% vs. 72%), weight loss or gain (69% vs. 60%), depression (68% vs. 55%), poor eating habits (62% vs. 47%), and

more sickness (32% vs. 18%) (National Alliance for Caregiving, 2010). Financial burden or hardship is also more likely to be a concern for caregivers of veterans with PTSD (National Alliance for Caregiving, 2010; Hayes et al., 2010). Because effective clinical PTSD treatment is challenging, with high nonresponse rates (Shalev et al., 2017; Steenkamp et al., 2015), families frequently struggle with PTSD symptoms. Marital strain is more common for wife caregivers of veterans with PTSD (81%) compared to those without PTSD (63%) (National Alliance for Caregiving, 2010). Wives of former prisoners of war (POWs) with PTSD have high levels of secondary traumatic stress and general distress that impact their daily activities, compared to wives of former POWs without PTSD (Greene et al., 2014). Wives who are caregivers of a post 9/11 veteran with PTSD report difficulty in managing work and family responsibilities and caring for themselves (Hayes et al., 2010).

Partners of veterans with PTSD, compared to those who do not have PTSD, report significantly more marital problems, more violence on the part of the veteran, more violence themselves, and lower levels of happiness and life satisfaction (Galovski & Lyons, 2004). Spouses of veterans with PTSD have higher level of emotional distress and lower level of marital adjustment than the general population (Dekel et al., 2005). Many PTSD symptoms, including violence (Galovski & Lyons, 2004), perceived threat (Manguno-Mire et al., 2007), and anger (Galovski & Lyons, 2004; Ray & Vanstone, 2009), are associated with adverse psychological caregiver consequences, such as fear, lower levels of happiness and life satisfaction (Galovski & Lyons, 2004), emotional withdrawal, family anger (Ray & Vanstone, 2009), global psychological distress, and burden (Manguno-Mire et al., 2007).

Most caregiver interventions have focused on marital/family relationships (Riggs, 2000) and on the role caregivers play in helping their loved one manage PTSD symptoms (Galovski & Lyons, 2004; Lyons & Root, 2001; Ramchand et al., 2014; Ray & Vanstone, 2009; Riggs, 2000). Other interventions for military caregivers include, but do not single out, caregivers of those with PTSD (Easom et al., 2018). In a recent review of interventions to support caregivers of those with traumatic injury (Shepherd-Banigan et al., 2018), only four PTSD studies, all joint interventions with the person with PTSD and family, were available for review. In these studies, couples therapy was shown to improve caregiver depression and anxiety (Shnaider et al., 2014), and multi-family group therapy improved caregiver

relationship satisfaction, social support, and quality of life (Fischer et al., 2013).

However, caregivers of those with PTSD frequently request help to address their own needs (Galovski & Lyons, 2004; Mansfield et al., 2014; Yambo et al., 2016). Programs targeted to caregivers' own needs is a specific recommendation of the Elizabeth Dole Foundation's Hidden Heroes report (Ramchand et al., 2014). Needs include coping skills (Patel, 2015) and skills building activities such as stress reduction and increased involvement in activities to combat stress and isolation (Galovski & Lyons, 2004). There is need for effective interventions that reduce the burden of caring for someone with PTSD (Calhoun & Wampler, 2002) and reduce time spent providing care (Ramchand et al., 2014). We have not found reports of interventions that focus only on the caregiver of the person with PTSD. This absence of tested interventions may be the reason for lack of widespread implementation of clinical programs that focus on these caregivers.

To address this gap, this paper reports on the effectiveness of a national clinical program implementation. The implementation modified a well-established intervention for caregivers of persons with dementia and multiple sclerosis that has been shown to improve caregivers' well-being and management of care recipient concerns for caregivers of persons with PTSD.

Methods

Overview

REACH VA (Resources for Enhancing All Caregivers Health) is a national clinical program of the Veterans Health Administration's Caregiver Support Program. Since 2011, staff at any Department of Veterans Affairs (VA) facility can be trained to provide REACH VA through [redacted], which is part of VA's Caregiver Support Program and [redacted]. Beginning in January 2017, with additional support from VA's Office of Rural Health for three years, caregivers of veterans could be referred by VA clinical staff to receive the intervention [redacted].

All [redacted] clinical programs involve evaluation of participant outcomes; all, including this program, are reviewed by and under the oversight of the [redacted] Institutional Review Board with approved protocols and yearly continuing reviews.

Recruitment

As part of the referral program, caregivers of veterans were referred from VA facilities across the country to

participate in the REACH VA behavioral intervention. This manuscript focuses on those caregivers who reported they were providing care to a veteran with PTSD. There were no inclusion or exclusion criteria other than being the caregiver of a veteran with PTSD. The program was advertised through talks and email to clinicians in several national VA programs, including Rural Health, Caregiver Support, Geriatrics and Extended Care, and Mental Health. Caregivers were referred from 79 sites located in 39 states. Referrals came from staff from the VA's Caregiver Support Line (41%), Caregiver Support Coordinators who are primarily social workers or nurses who work directly with caregivers of veterans (44%), and other clinical staff, such as psychologists (15%). This paper reports on caregivers of veterans with PTSD who completed at least one session after enrollment and provided follow-up data from January 1, 2017 through October 31, 2018.

REACH VA caregiver intervention

REACH is a multi-component model that combines education with problem-solving skills and strategies for managing emotional responses (Belle et al., 2006; Schulz et al., 2009; Nichols et al., 2016). This approach recognizes that there are different challenges for each caregiver. Each intervention is structured to address common concerns through a Coach Manual with talking points and scripts that specifies activities to occur at each session to ensure that the main caregiving risk areas are covered, including information on the disease and its course, safety for the care recipient, caregiver health and physical and emotional well-being, social support, and management of care recipient problem behaviors. To meet the needs of each caregiving dyad it is targeted through a brief Risk Assessment that identifies specific concerns within caregiving risk areas.

The program, delivered by telephone, includes 4 one-hour sessions during 2 to 3 months, with an option for further sessions as jointly decided by caregiver and Program Coach. Originally developed for caregivers of individuals with dementia, the program has been expanded to include spinal cord injury/disorders, multiple sclerosis, amyotrophic lateral sclerosis, and PTSD caregivers. [redacted]partners with subject matter experts (SMEs), including clinicians, researchers, and caregivers, to tailor the intervention to the identified condition. Specifically, what is modified for each condition are the Risk Assessment and Caregiver Notebook. For the Risk Assessment, certain topics are standard questions/risks for all caregivers (e.g.,

depression, burden, physical well-being concerns such as sleep and exercise) and are not modified. However, for each diagnosis, specific safety risks and care recipient concerns or troubling behaviors are developed. For example, for the PTSD Risk Assessment, concern about access to a gun and aggression toward others are both safety risks. The SMEs determine what are the safety risks and concerns.

Each diagnosis specific Caregiver Notebook has short chapters with practical action-oriented behavioral strategies and resources derived from research, clinical practice, and actual caregiver experiences. There are two types of chapters, caregiving stress and coping chapters (e.g., self-care, asking for help) and care recipient issues or care challenge chapters (e.g., managing symptoms, safety risks). The stress and coping chapters may only need different examples relevant to the diagnosis. The care recipient issues chapters are new for each diagnosis and are developed by the SMEs.

The REACH VA caregiver intervention has been shown to decrease caregiver depression, burden, anxiety, stress, frustrations, and the number of challenging behaviors/symptoms reported for veterans with dementia (Nichols et al., 2011; 2016) and decrease depression and bother with challenging behaviors for caregivers of veterans with MS (Martindale-Adams et al., 2020). The REACH intervention's ability to reduce caregiving stress may best be understood through a stress/health process model. Caregivers experience stress if they perceive that the demands placed on them are greater than the resources available to them and their capacity to manage those demands (Cohen et al., 1995). The Lazarus and Launier stress model Lazarus and Launier (1978) expands this concept to focus on actions that caregivers can take to cope with stress: both action-oriented management of environmental demands and intrapersonal efforts to manage cognitive and emotional responses to situational demands.

Effective action-oriented coping depends in part on information and skills directed toward diminishing, tolerating, or mastering situational demands. A major component of the intervention is related to managing patient behaviors and activities of daily living/instrumental activities of daily living (ADLs/IADLs), one of the major situational demands for caregivers of individuals with PTSD. The Program Coach, using the Coach Manual with talking points and scripts, teaches problem solving to address caregiving concerns, such as asking for help, or how to address PTSD-related safety issues or behavioral concerns identified by the Risk Assessment. Using

strategies from the Caregiver Notebook chapters, for example, caregivers may problem solve how to safely secure firearms in the home, decreasing their concerns about access to a gun by their loved one. Caregivers can learn to help the veteran manage the environment better to avoid triggers, for example by eating out earlier when restaurants are less crowded and quieter. Problem solving focuses on those issues the caregiver finds most challenging to manage.

Perceptions of demands and coping are individualized (Belle et al., 2006) and the internal responses of the stressed individual, as well as techniques to tolerate demands that cannot be changed, are critically important (Folkman et al., 1979). While caregivers are taught more efficient strategies to manage behaviors, they are also taught mood management/cognitive restructuring skills to reduce distress over behaviors and circumstances not amenable to change. For example, a caregiver with a husband who constantly criticized every aspect of their lives and had consequently decided to live in the basement had lost her self-confidence. Thinking about his behavior as a way for him to control his environment and not a criticism of her made her feel more confident, which in turn, made her husband see her as more capable. Finally, the Program Coach provides training on stress management including the signal breath and optional stretching, music, guided imagery, and pleasant events techniques to help caregivers manage current and future stress.

Caregivers work with a REACH Coach. Coaches are trained during a standardized three-hour class and certified by a knowledge test and by performing role plays of problem solving and mood management. This is the same process for all REACH VA Coaches in the VA system, [redacted]. Program Coaches at [redacted] are masters-level counselors, educators, or medical anthropologists, although when REACH VA is delivered at facilities, Coaches also include social workers, nurses, and psychologists.

Data collection

Evaluation of all [redacted] programs follows a similar protocol. Outcome data are self-report by the caregiver. Pre-intervention baseline data are collected by the REACH Coach using the Risk Assessment; this helps to focus the intervention. After the Coach and caregiver finish the intervention, a follow-up Risk Assessment and caregiver benefit/satisfaction data are collected by a different [redacted] staff member by telephone. Only caregivers who complete at least one session after enrollment are contacted to provide

follow-up data. Number of sessions completed, activities during each session, and topics discussed are collected from the Coach's documentation forms.

Data

The Risk Assessment is adapted from the lengthy assessment used in the original REACH study funded by the National Institutes of Health (Belle et al., 2006) and the Risk Assessment Measure (RAM), a 16-item version of the original with a Cronbach's alpha of .65 (Czaja et al., 2009). The Risk Assessment assesses caregiving risk areas of education, safety and management of diagnosis related behaviors (identified by the SMEs), caregiver emotional well-being, caregiving frustrations, caregiver health and healthy behaviors, and social support. Items from the latter three domains are from the RAM (Czaja et al., 2009).

Presence or absence of PTSD *safety risk* issues, as reported by the caregiver for the veteran, such as access to a gun, driving, harming self or others, and safety plans are assessed as present or absent. Potentially troubling PTSD related *behaviors or concerns* are rated as occurring (1) or not (0) during the past month. For each behavior present, the caregiver is asked about bother or concern. The 31 behaviors, identified by the SMEs, include substance misuse, relationship difficulty, flashbacks, aggression, and reckless or self-destructive behavior.

Burden is measured by the 4-item Zarit Burden Interview (Bédard et al., 2001; Zarit et al., 1980). Zarit Interview items are scored from never (0) to nearly always (4), and higher total scores indicate more burden. In a study of caregivers of cancer patients, the range of Cronbach's alphas for the Zarit-4 (0.69-0.89) suggest high internal consistency (Higginson et al., 2010). Correlations between the Zarit 4 and the full 22-item scale range from 0.83-0.93 (Bédard et al., 2001). The 4-item Patient Health Questionnaire (PHQ-4) (Kroenke et al., 2009) assesses caregiver *depression* and *anxiety* on a scale from not at all (0) to nearly every day (3), with higher total scores indicating more symptoms. In a large general population, Cronbach's alpha for the entire PHQ-4 was 0.82 with PHQ-2 alpha of 0.78 and GAD-2 alpha of 0.75 (Löwe et al., 2010). Two items assess caregiver *frustrations* (e.g., feel like yelling at or hitting care recipient) (Burgio et al., 2009). These items are scored from never (0) to often (2) with higher total scores indicating more frustrations. Caregivers were also asked to rate their general *stress* using an 11-point scale, with 10 representing extremely stressed.

Caregiver *health* is scored from poor (0) to excellent (4), using one question from the Medical Outcomes Study Short-Form 36 (Ware et al., 1995). This question has been shown to be comparable to multiple item health scales (DeSalvo et al., 2006). Measures of *vigilance* from the Caregiver Vigilance Scale (Mahoney et al., 2003) include time the caregiver spends performing tasks for the person with PTSD and the overall time spent “on duty” per day. Cronbach’s alpha for the 4-item scale is 0.66 ((Mahoney et al., 2003).

To determine *caregiver benefit*, after participation, caregivers are asked both closed- and open-ended questions. Caregivers are asked to rate benefit, confidence, and ability to care for self and loved one on a scale from not at all (1) to extremely (5). Caregivers are also asked qualitative open-ended questions about what they were hoping to achieve and usefulness of the intervention.

Analysis

Quantitative data analysis used paired t-tests to compare pre- and post-intervention follow-up scores for the analyzed participants. Missing data was minimal; there was no need to impute missing values. Each outcome measure was treated as independent of the others. *P* values ≤ 0.05 were considered statistically significant. Effect sizes (*d*) were estimated as mean change relative to estimated population standard deviation (Cohen, 1988), with small effect size being 0.2 SD improvement. Clinical significance was defined based on values specified in the individual measures (see Results).

To analyze qualitative data on expectations and benefit, one author sorted the caregivers’ descriptions, concepts, and central ideas into potential themes using the scrutiny techniques of repetitions and similarities and differences (Ryan & Bernard, 2003). Topics that occur repeatedly were linked to verbatim quotes (Bernard, 2006). Two other authors then examined themes and quotes. Themes were then discussed and finalized by these three authors.

Results

Participants

Caregivers were predominately female (97.5%) with mean age of 45.5. Most (94.4%) were spouses (Table 1). Most caregivers (97.5%) were married and had, on average 14.5 years of education. Caregivers self-identified as 69.2% White and 13.5% Black. The

Table 1. Demographics of caregivers (n = 161).

Variable	Caregivers n = 161 % or M (SD)
Caregivers	
Female	97.5
Age, years	45.5 (12.6)
Race	
White	69.2
Black	13.5
Native American	2.6
Asian/Pacific Islander	1.9
Other	12.8
Ethnicity, Hispanic/Latino	14.5
Education, years, M (SD)	14.5 (2.3)
Marital status	
Married/living as married	97.5
Divorced	1.2
Widowed	0.6
Never married	0.6
Relationship to Care Recipient	
Spouse	94.4
Parent	3.7
Sibling	0.6
Other	1.2

veterans with PTSD were 97.5% male with mean age of 46.4 years.

Outcomes

Caregivers experienced statistically significant improvements in their own burden, depression, anxiety, and general stress (Table 2), examining outcomes from pre intervention to post intervention. Clinical significance for burden and anxiety was confirmed by decreases from clinical cutoff scores for burden, where scores ≥ 8 indicate high burden (Stagg & Larner, 2015), and anxiety, where scores ≥ 3 indicate generalized anxiety (Kroenke et al., 2007). For outcomes focused on the person with PTSD, caregivers reported statistically significant decreases in numbers of troubling PTSD-related behaviors, safety concerns, caregiver frustrations, time providing care, and bother due to troubling behaviors. Effect sizes for the statistically significant outcomes were small, ranging from 0.16 to 0.46.

Caregiver expectations and benefit

Before they entered the program, caregivers were hoping for additional coping skills to manage their own stress and frustration and knowledge, resources, and understanding about their loved one’s condition and being a caregiver. They also sought social or emotional support, including someone they could talk to who understood what they were going through (Table 3).

Most caregivers (94.2%) reported their expectations were met and they benefited (Table 4). They reported

Table 2. Caregiver Outcomes (n = 161).

Variable	Baseline		Follow-up		<i>p</i>	Cohen's <i>d</i>
	Mean	SD	Mean	SD		
Burden (0–16)	8.6	4.0	7.3	3.7	<.001	0.33
Depression (0–6)	2.0	1.8	1.5	1.6	<.001	0.29
Anxiety (0–6)	3.0	1.8	2.4	1.8	<.001	0.31
General health (0–4)	2.0	0.9	2.1	0.9	.089	0.13
CG frustrations (0–4)	1.4	0.9	1.2	0.9	.047	0.18
General stress (0–10)	5.9	2.3	4.9	2.2	<.001	0.46
Time on duty (hours/day)	17.4	7.6	16.9	7.9	.316	0.08
Time providing care (hours/day)	11.3	6.6	10.3	6.0	.042	0.16
Behaviors (0–31)	20.7	5.4	19.5	6.0	<.001	0.23
Behaviors bother (0–31)	15.6	8.0	14.2	8.3	.018	0.18
Safety risk (0–7)	2.0	1.6	1.6	1.4	.001	0.24

Table 3. Caregiver Expectations.

Expectations	Caregiver Responses	Coping skills to manage their own stress and frustration
	I needed someone to talk to and vent to. I needed someone who understood and to give solid support and advice. I needed to take care of myself.	
	Lessen my anxiety and stress and an outlet to talk openly. Gain greater insight in how to handle things.	
	New ways to cope with our daily life and how to handle stress and know that we are not alone; there are other people like us.	Knowledge, resources, and understanding about their loved one's condition and being a caregiver
	I was hoping for techniques to help my husband cope with his PTSD.	
	Different ways to help with anger and stress that my husband was going through.	
	I'm a caregiver to my wife so sometimes I'm just not sure what to do so I thought this program would help me to find ways in helping her.	
	Somebody that can guide me in the right direction.	
	Coping skills; more comfort; more knowledge; more understanding about what soldiers went through.	
	Clarification on how I could understand and communicate with my husband. I felt guilty when I left the kids at home with my husband.	Social/emotional support
	Someone to talk to about me.	
	Support, understanding, and direction.	
	To talk to someone who understood what I was going through.	

feeling more confident and that the program improved their ability to care for themselves and their loved one. Social/emotional support was a commonly reported benefit identified by caregivers (Table 5). Caregivers reported feeling validated and listened to by someone who understood what they were going through and who could normalize their experiences. Caregivers often referenced kindness shown them by their Coaches. They appreciated the program and VA for providing it. A second theme was access to information and resources. The Caregiver Notebook was the most frequently mentioned source of information. A third theme was the acquisition and practice of coping skills. Being able to work with a Program Coach who had an outside objective perspective provided insight. The most valued coping skill was stress management.

Discussion

To our knowledge, this is the first report of an intervention for caregivers of persons with PTSD focusing primarily on the caregivers. Additionally, it is the first report of a national implementation of a clinical

Table 4. Caregiver Benefit (n = 160).

Variable	Score	
	M	SD
Overall program benefit	4.1	1.0
Feel more confident as a caregiver	4.0	1.0
Improved ability to care for self	3.9	1.1
Improved ability to care for the veteran	3.9	1.0

Note: Score for all items is 1 to 5; higher is better.

program for caregivers of those with PTSD. After participation in the four session REACH VA program, caregivers reported social/emotional support and increased knowledge and skills. Caregivers experienced statistically significant improvements in their burden, depression, anxiety, caregiver frustrations, general stress, and time providing care. Improvements in burden and anxiety were also clinically significant. Caregivers also reported statistically significant decreases in numbers of troubling PTSD-related behaviors exhibited by the veteran, bother about these behaviors, and in safety concerns.

Data provided by these caregivers of veterans with PTSD illuminate the lives caregivers lead. Of 31 potentially troubling PTSD related behaviors examined, caregivers reported, on average, two-thirds

Table 5. Benefit Themes Reported by Caregivers.

Theme and Sub-Themes	Caregiver Responses
Social/emotional support	
Someone to talk to	Talking to someone who understands. And, for someone to give me insight to help me understand better why he is the way he is. [Coach] was also caring to help me in this time of need. The emotional support. Being able to express how I'm feeling without being judged.
Appreciate program being available	Just the fact that someone calls to see how I am doing because no one else does. My family tip toes around.
Access to information and resources	The caregiver program is a critical thing in the VA...You give tools to us, to help me be a better person and wife. All the little techniques that were in the book. The book was like my Bible. The books are excellent! They were useful and having a human being who went through and understood me made me feel safe.
Acquisition and practice of coping skills	[Coach] taught me about the mood thing; you can have a bad moment but not a bad day. [Coach] taught me to take care of me before taking care of him. She showed me how to approach everything. Also, she made me feel like I was important. My husband has PTSD really bad and he always put me down. After a while, it became unbearable. And, she told me it was okay to take care of myself. The stress technique was a lifesaver. I was really impressed with your relaxation techniques and being able to catch some of the warning signs with my son's PTSD. The problem solving worksheets in the book. My husband and I are working on these as a team and committing to the process in the book.

occurred, and three-quarters of those were bothersome. Caregivers reported high prevalence of substance misuse by their loved ones with PTSD and fear that their loved ones would harm themselves or others. The number of behaviors PTSD caregivers are coping with helps to explain the number of hours they spend supervising and supporting their family members. Time on duty per day reflects caregivers' vigilance, their feeling that they must be constantly on guard (Mahoney et al., 2003). The other part of vigilance is how many hours per day caregivers are doing something for their loved one. For the caregivers served in this intervention, baseline time on duty was 17.4 hours per day and time providing care was 11.3 hours per day. When viewed through the lens of how many troubling behaviors occurred and caused bother or concern, these durations do not seem excessive. However, after participating in the REACH VA PTSD caregiver program, caregivers reported an hour decrease in providing care and decrease in numbers of troubling behaviors and bother with those behaviors. In addition, they reported that their own coping improved.

There are limitations that should be mentioned. Because this was a clinical program implementation and not a randomized clinical trial, there was no control or comparison group. The possibility that all caregivers would have improved with time and not with the intervention cannot be ruled out. Because caregivers were referred by VA clinicians and not according to eligibility criteria, there may have been a bias toward those who were more in need and might have had the most opportunity for improvement. With data collected by caregiver self-report,

there was no clinical data on the person with PTSD. As caregivers reported symptoms for the veteran, it is possible that some veterans did not have clinically diagnosed PTSD. It is also likely that many had additional comorbidities, such as traumatic brain injury, pain, or other chronic conditions (Cifu et al., 2013). Identification of these comorbidities might be useful in comparing caregiver response to the intervention. However, even without clinical data on the veteran, the intervention still targeted the caregivers' perceptions of problems and concerns. Caregiver data might have skewed positive because a staff member from the [redacted] collected the data; however, the Program Coaches identified themselves as being with the REACH program, and caregivers may not have been aware that Coaches and data collectors worked together. Another possible limitation is that some of the caregivers were receiving financial assistance from the VA through the Program of Comprehensive Family Caregiver Assistance and this could have influenced their response to the intervention. However, fewer than half (40%) were receiving this assistance.

Caregivers of those with PTSD struggle daily with burdens that seem overwhelming. To support them, the Elizabeth Dole Foundation has highlighted the need to evaluate effectiveness of programs and policies for ensuring caregiver well-being, identify effective programs to support caregivers' ability to provide care, and identify strategies for making effective programs available to more caregivers (Tanielian et al., 2017). Although these recommendations reference military caregivers, they are also appropriate for those whose PTSD is related to non-combat causes such as abuse, trauma, natural disasters, and accidents.

Reducing caregiver burden improves the life of the caregiver and can positively affect the safety and health of the person with PTSD (Bernhardt, 2009; Frain et al., 2010; Monson et al., 2009). Veterans with PTSD are perhaps more visible than those with PTSD in the general population. In addition, the VA offers many specialized services to help veterans manage PTSD symptoms and a range of services, such as education and respite, to support caregivers of veterans. With REACH VA, the VA has further expanded support for caregivers of veterans with PTSD. In October 2019, the Caregiver Support Program took over funding of the program for caregivers of any veteran, including those with PTSD. From then to the end of 2020, 786 caregivers of veterans with PTSD enrolled in the program at [redacted]. VA Medical Centers are also delivering the REACH VA program to caregivers of veterans with PTSD, and 253 caregivers had participated in the individual option and 133 in the support group option as of December 2020.

As part of the expansion, the [redacted] continues to evaluate outcomes for these caregivers, conducting a program evaluation with each caregiver to determine satisfaction and a post-test of the Risk Appraisal. In 2021, as part of the Mission Act, each VA facility now has at least one Caregiver Support Program staff member trained to deliver REACH VA individual option (as reported on here) and support group option. These caregivers will also be evaluated in the same way by [redacted]. It is expected that the numbers of caregivers of Veterans with PTSD who are served will increase even more.

However, there are millions of Americans with PTSD who are not veterans, and they may be receiving less support. The next step in the evolution of our findings would logically include non-veteran populations, investigation of the long-term effects of the intervention, and either randomized clinical trials or pragmatic trials to help tease out the effects of the intervention from time and attention. In the absence of an RCT, other strategies to investigate the effect of the intervention could involve further analysis on subgroups of caregivers, such as those defined by relationship, age, and diversity. Another area of interest is the aging of the population with PTSD and their caregivers. PTSD is a risk factor for the development of dementia for veterans (Qureshi et al., 2010; Yaffe et al., 2010) and the general population (Flatt, Gilsanz, Quesenberry, Albers, & Whitmer, Flatt et al., 2018). Caregivers of veterans with PTSD and dementia report more difficult behavior symptoms and greater use of resources for the person with PTSD and more physical strain (Pinciotti et al., 2017).

Based on previous research, there is a considerable personal toll and burden on caregivers of those with PTSD. If our findings are replicated, interventions such as REACH would improve quality of life for these caregivers.

Disclosure statement

The authors declare that there is no conflict of interest regarding the publication of this paper.

Data availability statement

Data are available upon request. Data are in a repository at [redacted].

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