IMPLEMENTATION OF A THERAPY GROUP FOR WIVES OF VETERANS WITH POSTTRAUMATIC STRESS DISORDER: DEVELOPMENT AND PRELIMINARY OUTCOMES

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The purpose of this study was to develop a manualized therapy group for wives or significant others of veterans with posttraumatic stress disorder and to evaluate its effectiveness in reducing wives’ psychological symptoms. A second aim of the study was to determine if women’s involvement in the wives group resulted in decreases in their husbands’ PTSD symptoms. Women recruited for the study were administered pre-test measures during a screening session. They then participated in a 9-session manualized therapy group designed by the researcher that included psychoeducational, process, and support components. Examples of group topics included psychoeducation regarding PTSD, assertiveness and communication, intimacy, self-care, and stress management. After completing the group sessions, participants were asked to complete post-test measures. Other factors explored in this study included marital satisfaction, perceived social support, general satisfaction with the group, and demographic variables. Results indicated that wives who participated in the group treatment exhibited significant decreases in secondary stress symptoms and increases in marital satisfaction from pre-test to post-test. The majority of participants also reported high levels of satisfaction with the group process. Therefore, it appears that the group protocol presented in this study could be a useful tool in the treatment of wives of veterans with PTSD. The results of this study have potential implications regarding the clinical treatment of families of veterans with PTSD and the development of future programs within the VA system.
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CHAPTER 1
INTRODUCTION

As soldiers return from the military operations in Iraq and Afghanistan, they are experiencing high rates of posttraumatic stress disorder (PTSD) symptoms ranging from 15-17% (Hoge, Castro, Messer, & McGurk, 2004; Hoge, Terhakopian, Castro, Messer, & Engel, 2007) to 31% (Lapierre, Schwegler, & LaBauve, 2007). These symptom levels are similar to those found among veterans of other wars including the operations in Vietnam. Ongoing studies with veterans from previous eras highlight continued relationship problems, poor marital satisfaction, and continued high levels of PTSD almost 30 years after returning home from their military service (Koenen, Stellman, Sommer, & Stellman, 2008). Such evidence underscores the importance of addressing and treating PTSD in returning veterans and providing mental health services for veterans' spouses and families (Milliken, Auchterlonie, & Hoge, 2007).

Research with partners of veterans with PTSD has indicated that partners can exhibit high levels of psychological distress, depression, marital discord, caregiver burden, and secondary PTSD symptoms (Manguno-Mire et al., 2007; Beckham, Lytle, & Feldman, 1996; Calhoun, Beckham, & Bosworth, 2002; Westerlink & Giarratano, 1999; Dekel, Solomon, & Bleich, 2005; Ben Arzi, Solomon, & Dekel, 2000; Dirkzwager, Bramsen, Ader, & van der Ploeg, 2005; Evans, McHugh, Hopwood, & Watt, 2003; Dekel & Solomon, 2007). Recent studies assessing the needs of veterans with combat-related PTSD and their families have indicated that one of the most requested services is a women-only group or wives group (Sherman, Sautter, et al., 2005). The purpose of the proposed study is to develop a manualized group therapy protocol for female spouses or cohabitating partners (hereinafter referred to as “wives” regardless of marital status) of veterans with PTSD and to evaluate its effectiveness in decreasing wives’ psychological
symptoms and caregiver burden, and increasing their marital satisfaction, perceived social support, and assertiveness. A secondary purpose is to evaluate the effectiveness of this group in increasing the functioning of the veterans themselves in regard to their PTSD symptoms and their marital adjustment.

The following literature review begins with a description of PTSD, including its definition, its prevalence among veterans, and protective factors that buffer the effects of PTSD. Next, veterans’ relationship problems are explored, followed by the impact of war and PTSD on wives of veterans. Specific wives’ distress of focus includes secondary traumatization and caregiver burden. Additionally, current psychological treatments for veterans and their wives are reviewed, followed by barriers to treatment engagement with this population. Finally, a summary of the literature that guides the development of topics for the current group protocol is presented.

Posttraumatic Stress Disorder

Posttraumatic stress disorder can be a chronic, debilitating mental illness that affects a significant minority of individuals exposed to combat situations. The operations in Iraq and Afghanistan have been the first sustained ground combat operations since the Vietnam War (Hoge et al., 2004), and the Pentagon has reported that over one million troops have served in these areas since the beginning of the war. As these soldiers return home, mental health providers continue to see an increasing demand for services for PTSD and other mental health problems.

Definition

Previously known as combat fatigue, shell shock, soldier’s heart, or extreme stress, PTSD first appeared in the Diagnostic and Statistical Manual for Mental Disorders in 1980. Criteria for this disorder have been updated since that time and currently appear in the Diagnostic and
To meet criteria for this disorder, an individual: (A) must have experienced a traumatic event, (B) must have experienced fear, helplessness or horror during this event, (C) must exhibit one symptom of re-experiencing the event (including nightmares, flashbacks, and intrusive thoughts), (D) must exhibit three avoidance symptoms (including avoiding people, places, conversations, and activities that trigger negative memories of the event), and (E) must experience two hyperarousal symptoms (including sleep problems, hypervigilance, extreme irritability, concentration problems, and an exaggerated startle response). In addition, the symptoms must last for more than one month and must cause functional impairment.

Besides the aforementioned symptoms that are required for the diagnosis of PTSD, the National Center for PTSD (2007) outlined symptoms that are commonly associated with PTSD, including alcohol or drug use, suicidal ideation, employment problems, relationship difficulties often resulting in violence or divorce, and physical symptoms including high blood pressure and headaches. In addition, up to 80% of individuals diagnosed with PTSD have comorbid psychiatric disorders including mood disorders, substance use disorders, or personality disorders (Friedman, 2006) and PTSD symptoms are significantly related to both psychological and physical abuse perpetration (Taft, Street, Marshall, Dowdall, & Riggs, 2007).

Prevalence

Although PTSD can develop after witnessing or experiencing a number of different events, including natural disasters, car accidents, rape, child abuse, and domestic violence, rates are especially high among men and women who serve in combat situations over multiple tours. A study by Lapierre et al. (2007) looking at rates of PTSD and depression among returning troops in combat zones in Iraq and Afghanistan indicated that approximately 30% of the troops
exhibited clinically significant PTSD symptoms and approximately 38% exhibited significant depressive symptoms. These prevalence rates are similar to those found with Vietnam veterans (Schlenger et al., 1992; Card, 1987). Thomas et al. (2010) examined prevalence rates for PTSD and depression with various levels of functional impairment in a large sample of United States (US) Army and National Guard soldiers following combat exposure in Iraq. He and his colleagues found that 8.5-14% of soldiers exhibited PTSD or depression with serious functional impairment and 23.2-31.1% of soldiers showed PTSD and depression with some functional impairment. Smith (2007) examined the prevalence and new onset rates of PTSD among a large military cohort that was measured at baseline between 2001 and 2003 and then at follow up between 2004 and 2006. He found that at baseline, 3.6% met criteria for PTSD. New onset PTSD was identified in around 8% of the individuals who deployed to Iraq or Afghanistan at follow-up. Magruder and Yeager (2009) conducted a meta-analysis and systematic review of PTSD prevalence across war eras. Their results indicated PTSD prevalence rates of 5-20% for Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) veterans, 2-24% for Persian Gulf War veterans, and 9-19% for Vietnam veterans.

Hoge et al. (2004) examined psychological outcomes of combat infantry units returning home from Iraq and Afghanistan. They found a linear relationship between rates of PTSD and involvement in firefights. Of those who were involved in no firefights, 4.5% met the screening criteria for PTSD, which is comparable to the level of PTSD in the general public. However, for those who were involved in one to five or more firefights in Iraq, the rates of PTSD ranged from 9.3%-19.3%. Individuals who were exposed to similar firefights in Afghanistan exhibited similar rates. These numbers are clinically important, given that 31% of those deployed to Afghanistan and 71-86% of those deployed to Iraq experienced one or more firefights. Hoge et al. (2007) also
conducted a study with 2,863 soldiers one year after returning home from combat and found that 16.6% of these soldiers screened positive for PTSD. These high percentage rates of PTSD equate to over 160,000 veterans who are in need of mental health services.

Protective Factors

In civilian populations, social and family supports have been shown to be a protective factor against the development of chronic PTSD (Johnson & Thompson, 2008; Danner & Radnitz, 2000; Al-Turkait & Ohaeri, 2008). Although a linkage between social support and PTSD has been frequently identified, not all studies show the expected pattern. Kaniasty and Norris (2008) may have identified a directional, time-sequence relation between social support and PTSD that might explain these conflicting findings. Using structural equation modeling, they found that although increased social support can lead to less PTSD symptoms during the first six to 12 months after the traumatic stressor, a different pattern emerges later. Evaluated at 18-24 months after the event, more PTSD symptoms led to a decrease in social support. This research stresses the importance of veteran outreach in the first year after returning home from deployment, and in providing wives with the communication skills that allow them to help their husbands adjust to civilian life.

Returning Veterans and Relationship Problems

It has long been recognized that veterans returning home from deployment often experience significant difficulties with relationship adjustment upon homecoming. Waysman, Mikulincer, Weisenberg, and Solomon (1993) found that families of Israeli combat veterans with PTSD were more rigid and conflict-laden than those of veterans without PTSD. Having the diagnosis of PTSD significantly increased the likelihood of relationship and marital difficulties. Specific symptom clusters of PTSD, including intrusion, avoidance, and arousal, have been
specifically linked to family dysfunction (Evans et al., 2003). Carroll, Rueger, Foy, and Donahoe (1985) compared the marital adjustment of Vietnam combat veterans with PTSD to two other groups: (a) Vietnam combat veterans without PTSD and (b) veterans with no combat experience. The research revealed that the Vietnam veterans with PTSD were less emotionally expressive toward their wives, had more difficulty adjusting to their relationship upon returning home, showed increased physical aggression, and were less willing to self-disclose information to their wives than the other two groups in the study.

Riggs, Byrne, Weathers, and Litz (1998) also explored the quality of the marital relationship in military couples. They found that over 70% of couples in which the husband was diagnosed with PTSD reported significant relationship distress, including difficulties with intimacy and consideration of separation or divorce. Only 30% of the non-PTSD couples reported significant marital distress. In a study conducted by Harris and Fisher (1985) with Vietnam veterans’ wives, alcohol abuse, aggression, and suicidal ideation were identified as the most concerning issues in their relationships with their husbands. In a study with 376 veterans and their wives (Jordan et al., 1992), veterans with PTSD were more likely to report marital problems, difficulties with parenting, and children with behavioral problems when compared to veterans without PTSD. Veterans with PTSD and their wives both exhibited higher levels of violence in the home (as self-reported by each) than those in the homes of veterans without PTSD. Additional studies with children of veterans indicate that those who have a father with PTSD view their families as more dysfunctional and report high levels of conflict (Westerlink & Giarratano, 1999; Davidson & Mellor, 2001). These findings demonstrate that PTSD not only affects the behaviors and well-being of the veteran, but it also affects members of his family.
Wives’ Distress

Wives of veterans\(^1\) have been identified in the literature as a high-risk group for developing psychological symptoms. Alessi, Ray, Ray, and Stewart (2001) conducted a study on 131 wives of veterans seeking psychological services at a Department of Veterans Affairs (VA) clinic. They administered the Minnesota Multiphasic Personality Inventory – 2 (MMPI-2), an objective measure of personality and psychopathology, to these individuals and compared their scores to the restandardized sample of married women for the MMPI-2. They found that wives of veterans produced significantly higher scores on all of the primary clinical scales on this measure. Specifically, they reported increased somatic concerns, anxiety, depression, social alienation, and family discord.

Harris and Fisher (1985), after completing therapy groups with 162 wives of Vietnam veterans, found that wives reported several common grievances. These included frustrations at the extra responsibilities they had to assume at home and with their family’s finances, feeling that they were put in the “mother” role with their husbands, having little outside social support, feeling angry at giving up their own needs, and the sense that they always had to “walk on eggshells” around their husbands. Similar results were found by Westerlink and Giarratano (1999), who conducted research with 32 wives of Australian Vietnam veterans with PTSD and a control group. They found that the PTSD wives had significantly higher rates of anxiety, insomnia, depression, and somatic complaints and lower self-esteem than the matched control group. Also, Dekel, Goldblatt, Keidar, Solomon, and Polliack (2005) interviewed nine wives of

\(^1\) Male spouses of female veterans with PTSD were excluded from the current study. Little literature exists on this population due to the complications with studying this small, yet important, population. Complications include the low numbers of female military personnel “officially” serving in combat zones and the even smaller numbers of women who present at VA clinics for treatment for combat-related PTSD. As women continue to increase their presence in the US military, this population will likely require more attention in the future.
Israeli veterans with PTSD to learn more about what it is like to live with someone with PTSD. Common points the wives discussed included feeling that PTSD controlled all aspects of their lives, struggling to maintain a sense of their own individuality, feeling that their husbands were present physically yet absent psychologically, and seeing divorce as an “impossible path.”

Manguno-Mire et al. (2007), in a study with 89 wives of veterans with PTSD, found that “15% of partners reported recent suicidal ideation, and over 60% reported that their partner demonstrated a physical threat to their well being” (p. 148). Several additional studies confirm that when compared to controls, wives of veterans with PTSD exhibit an array of significant psychological symptoms including paranoia and phobia symptoms (Dekel, 2007), financial stress and dysphoria (Beckham et al., 1996), negative reactions to their husband’s return (Mikulincer, Florian, & Solomon, 1995) and somatization and psychotic symptoms (Ben Arzi et al., 2000).

These studies indicate that wives of veterans with PTSD are more likely than the general population to be at risk for negative psychological adjustment. This underscores the need to provide support and treatment to wives of veterans with PTSD, who clearly face great challenges and exhibit high levels of psychopathology and marital discord as a group.

Secondary Traumatic Stress

Figley and Kleber (1995) originally coined the phrase “secondary traumatic stress disorder” to refer to the distress and behaviors that can result from knowing and caring for an individual who has been exposed to a traumatic stressor. This distress can manifest itself in numerous ways, from depression and anxiety, to nightmares and intrusive thoughts about their significant other’s trauma. Dirkzwager et al. (2005) studied male and female partners and parents of Dutch peacekeepers with PTSD. They found that partners of veterans with PTSD reported more symptoms of PTSD than partners of veterans without PTSD. Matsakis (1996) relayed the
stories of her support group participants, who gave a first hand account of the manifestation of secondary traumatic stress, “…there are times I feel like a vegetable, emotionally numb, just like my husband. My sexual feelings have lessened also. I guess I just got tired of being the only person who could feel” (p. 12).

There are many theories as to how symptoms of PTSD can manifest in wives of individuals with PTSD. Figley (1998) proposed a trauma transmission model for secondary traumatic stress. This model suggests that significant others, in an attempt to understand what their loved one is experiencing, display empathy toward that person and experience similar psychological symptoms. Figley also suggested that partners may experience psychological burnout that results when their attempts at helping fail to relieve the suffering of their loved ones. Because of this burnout, partners of trauma survivors experience emotions, images, sleep problems, and mood symptoms that are a direct result of visualizing their loved one’s traumatic experience.

Another possible explanation regarding the development of secondary traumatic stress involves the wife’s exposure to chronic stress by being in close proximity with a partner struggling with PTSD (Dekel & Solomon, 2007). For the wife, the chronic stress or burden in dealing with a partner with PTSD is a stressor itself. This stress can cause increased psychiatric difficulties and symptoms consistent with the development of PTSD.

A less popular theory known as assortative mating suggests that individuals tend to choose mates who are similar to themselves (Dekel & Solomon, 2007). In the case of PTSD and secondary traumatic stress, men and women with vulnerabilities to develop PTSD and other psychological problems are drawn together and tend to marry at a high statistical rate. No studies specific to PTSD to date support this theory.
A final theory regarding the development of secondary traumatic stress proposes that wives of veterans with PTSD go through an ambiguous loss (Dekel & Solomon, 2007). This posits that with the development of PTSD in their husbands, wives go through a grief process or loss of their husbands. Although their husbands are physically present, many times with PTSD, husbands can appear to be absent emotionally and psychologically. This sense of being present and absent at the same time leads to a state of confusion and distress for wives, who struggle to understand their new roles in the family and the state of their relationship with their husbands.

Caregiver Burden

Another factor that may be related to the development of secondary traumatic stress is caregiver burden. Caregiver burden was defined by Dekel and Solomon (2007) as “the perception that one’s emotional or physical health, social life, or financial status is adversely affected by caring for a relative who is ill or has special needs” (p. 12). Many studies have found that caregiver burden is common among women whose husbands have been diagnosed with PTSD. Specifically, Dekel and Solomon postulated that perceived caregiver burden influences secondary traumatization in wives. In a study with 71 veterans and their wives, Calhoun et al. (2002) found that wives of veterans with PTSD exhibit higher levels of caregiver burden than those without PTSD. In addition, they found that some factors lead to higher levels of caregiver burden, including a greater severity of PTSD symptoms and increased exposure to interpersonal violence directed toward them by their husbands.

Manguno-Mire et al. (2007) found that caregiver burden experienced by wives of combat veterans with PTSD is comparable to that of caregivers to relatives with severe physical handicaps. This finding is not surprising considering the high level of general health problems that individuals with PTSD can exhibit, such as joint pain, back pain, and headaches (Hoge et al.,
in addition to their emotional and social problems. They also found that caregiver burden in this sample was predicted by PTSD severity, barriers to mental health treatment, and perceived threat from their partner.

Dekel, Solomon, et al. (2005) attempted to study the topic of caregiver burden further by determining its role in the veterans’ level of impairment and the wives’ reported distress. They used structural equation modeling to examine these effects in 215 Israeli veterans. They found that caregiver burden completely mediated the relation between the couples’ distress levels and their functioning and marital adjustment. They also found that higher levels of impairment in the veterans predicted higher levels of distress in their wives. Similar results were found by Beckham et al. (1996) with wives of American Vietnam veterans.

Treatment Modalities for Returning Veterans

Treatment modalities vary across VA medical centers and are largely driven by demand of the target population. The most common first line of treatment for most veterans with PTSD includes psychiatric medication (Management of Post-Traumatic Stress Working Group, 2004). Although psychiatric medication can often provide some relief from mood symptoms including depression, irritability, suicidal thoughts, and sleep difficulties, it often fails to repair the disturbing images and nightmares that may cause distress to the soldier. When medication fails to provide relief from these most disturbing symptoms, many veterans choose to undergo group or individual therapy. Groups and individual psychotherapy sessions that were ongoing for many years were common with the Vietnam and World War II era veterans. However, these treatment modalities have become problematic as more and more veterans returning from Iraq and Afghanistan request services. In addition, little research exists with this population to demonstrate that these modes of treatment for PTSD show a reduction of symptoms and an
improved quality of life. Therefore, VA clinics throughout the United States are increasingly attempting to utilize time-limited treatment protocols that have demonstrated efficacy. Evidence-based psychotherapy interventions that are recommended by the VA/DoD Clinical Practice Guideline for the Management of Post-Traumatic Stress include cognitive therapy, exposure therapy, stress inoculation training, and eye movement desensitization and reprocessing (EMDR).

In addition to individual and group therapy, some clinicians have used couples therapy as an alternative form of treatment. Sherman, Zanotti, and Jones (2005) discuss how including family members in treatment seems to be common sense, considering the vast impact PTSD has on the family system and on intimate relationships. They developed a theoretical framework for couples therapy that outlines the relationship consequences of each PTSD cluster and then suggests treatment interventions that should address each of these areas. For example, to alleviate problems that can escalate from the re-experiencing cluster of symptoms, they recommend 1) providing psychoeducation regarding these symptoms, 2) teaching wives how to support their husbands when they are having re-experiencing symptoms, 3) teaching couples to communicate more effectively and deescalate situations of crisis, and 4) teaching wives to predict triggers of traumatic memories. Some other suggestions that they propose include building openness, increasing social activities, and teaching couples about stress management and sleep hygiene. Devilly (2002) studied the effectiveness of a lifestyle management course for couples on decreasing psychological symptoms in veterans and their wives. This course was an intense, five-day program carried out in a residential treatment setting that covered such topics as psychoeducation regarding PTSD, depression, anger management, self-care, and communication. He found that both veterans and their wives showed increased marital adjustment, and decreased
depression, anxiety, and stress at a six-month follow up. However, no control group was used in this study.

Although these studies show that involving couples in psychological treatment can be effective, couples therapy overlooks the needs wives have to express their grievances and personal struggles in a safe environment without their husbands’ judgment. Many of the above suggestions could be successfully implemented in group therapy specifically targeting wives of veterans with PTSD.

Barriers to Engagement in Psychological Treatment

Although many VAs have recently attempted to provide their patients with a variety of treatment modalities to best serve their needs, there continue to be barriers to treatment, caused by both the veterans themselves and the mental health care system. Hoge et al. (2004) studied 6,201 soldiers returning from Iraq and Afghanistan. Of the roughly 15% of soldiers who screened positive for a mental disorder, only 23-40% of those individuals reported receiving psychological treatment. Reported barriers to receiving help included the perceived stigma of having a mental illness and concerns about how they would be viewed by peers and leaders within the military. Erbes, Westermeyer, Engdahl, and Johnsen (2007) found a somewhat higher rate of help-seeking in a sample of 120 returning veterans, with about 56% of them seeking treatment after being positively screened for a mental disorder. Although this finding was higher, it still equates to nearly 50% of those in need of treatment failing to seek out help. In contrast, Eaton et al. (2008) founds that wives of OEF/OIF veterans were more likely to seek out care for their mental health problems (as high as 70%) and were less concerned with the social stigma associated with mental health diagnoses when compared to their veteran husbands. In addition, a recent study by Batten et al. (2009) demonstrated that 79% of veterans are interested in having
family members more involved in their mental health treatment. Because these findings may indicate that wives are more likely to seek out treatment for mental health issues and because it appears that veterans are interested in greater participation from their families in their treatment, it would likely be beneficial to provide more treatment options for wives and other family members of veterans so that veterans who are not directly seeking treatment may reap the benefits of the treatment that their significant others receive.

Wives of veterans also have barriers that prevent them from participating in psychological treatment. First of all, the VA does not currently offer individual therapy for wives of newly returning veterans. Although this was a previous benefit for veterans with 100% service connection, this option is no longer available for wives of veterans. Sautter et al. (2006) conducted phone interviews with 83 wives of Vietnam veterans to assess predictors of their engagement in PTSD treatment with their husbands. They discovered that wives with lower family incomes and higher levels of caregiver burden were more likely to participate in their husbands’ treatment. In addition, they found that wives were more likely to participate in their husbands’ treatment if their husbands were actively participating in treatment themselves.

Polizzi (2008) conducted telephone interviews with eight Korean and Vietnam veterans and their wives to gather further information on the barriers that may prevent this population from seeking treatment. He found that the stigma of having a mental illness and fears that seeking treatment for a mental illness could impact their careers were major barriers to seeking treatment. Also, transportation, appointment hours available, and cost were considered barriers to some participants, depending on their socioeconomic status and geographic location. These factors are especially important for clinicians working with veterans from rural areas, who may have to drive over 100 miles to access treatment.
Sherman, Sautter, et al. (2005) conducted a telephone survey with 89 wives (mean age 52) of Vietnam veterans with PTSD to assess their treatment needs. Fifty-four percent stated that a women’s only group for wives of veterans with PTSD would be helpful and important, whereas 20% suggested that a class or program to provide them with more information about PTSD would be helpful. Sixty-four percent of wives reported that the availability of individual therapy to help them cope with their husbands’ PTSD symptoms was important, and 78% reported that family therapy would be important. Few wives (less than 20% for each group) believed that couples therapy or individual treatment for their partner would be helpful. The above statistics highlight the importance of providing families with treatment options that do not directly involve the veteran.

In a follow-up study, Sherman, Blevins, Kirchner, Ridener, and Jackson (2008) interviewed 10 Vietnam veterans and their wives to assess barriers to utilizing family services. Veterans indicated that barriers to their families participating in treatment included beliefs such as “what goes on behind closed doors is not to be discussed” and wives should be “seen but not heard.” They also displayed beliefs that family members have no desire to understand PTSD and will be exposed to unnecessary distressing information. Barriers wives identified included hopelessness about potential for improvement in the veteran, geographic distance from the clinic, parking problems, conflicts with work schedules, finances, lack of childcare, and personal fears about participating.

Sherman et al. (2008) provided seven suggestions for increasing family involvement in treatment based on the above reported barriers to treatment. Recommendations from the authors include 1) increase publicity about family programming, 2) emphasize the benefits family treatment can have for both the veteran and the family, 3) be flexible with services by offering
evening services, childcare, and less frequent appointments, 4) challenge rigid family rules and cognitions by highlighting the benefits of connecting with others in similar situations, 5) directly address and normalize fears regarding confidentiality and exposure to trauma, 6) continuously assess suicidality, domestic violence, and child abuse, and 7) accept that family treatment is not appropriate for everyone.

One other important note regarding the treatment of returning troops involves the high numbers of National Guard members that are serving in Iraq and Afghanistan. Friedman (2006) explains that unlike enlisted soldiers, National Guard members and their families “are civilians who are neither embedded within full-time military culture nor residing on military bases alongside families who are similarly affected by repeated deployments” (p 590). As a result, the families of these National Guard members do not have the access to the mental health services and support groups provided to enlisted troops, which may further increase their feelings of isolation and burden. This is especially concerning when reviewing the report by Milliken et al. (2007) that over 42% of the previously deployed National Guard reservists in their sample were screened as needing mental health treatment compared to just over 20% of the deployed active military. The offering of wives’ groups at VAs may be specifically helpful to this subset of the military population who may feel isolated and rejected by the mainstream military system.

Taken together, these studies converge on the general finding that significant barriers exist regarding the treatment of veterans and their families. Many of the barriers involve veterans’ ambivalent attitudes regarding mental health treatment. Nonetheless, it appears that veterans are interested in having family members involved in their treatment, and wives appear willing to participate in treatment. Although more willing to participate, wives also experience logistical barriers that prevent them from participating in treatment including cost, transportation,
appointment hours, childcare, and geographic location. These barriers highlight the need for
treatment providers to be innovative in their thinking when providing treatment to this specific
population.

Previous Therapy Groups with Wives

Virtually no literature exists on the effectiveness of therapy groups for wives of combat
veterans with PTSD. Although there are vague references in the literature that many VA medical
centers are holding informal support groups for wives of veterans with PTSD, few written
reports exist regarding the structure and format of these groups and the makeup and
psychological functioning of women attending these groups. After a review of the psychological
literature on group work with wives of veterans with PTSD, only a few sources emerged that
make an attempt to describe and report on the successes of groups with this population, and no
studies have attempted to empirically study the effectiveness of wives groups.

Harris and Fisher (1985) recognized the need for a women only group for wives of
Vietnam veterans after failing to meet the needs of women requesting treatment with a couples
group. They discovered that many wives and husbands were reluctant to participate in this group
together, but would be more willing to attend separate groups. Between the years of 1980 and
1983, the Portland VA had 162 different women attend two different group formats. The first
group was an “open” group, which served as a support group with crisis intervention and
psychoeducational components. Women were allowed to come and go as they pleased with little
commitment to the group. As demand grew and some women expressed a desire to have a more
cohesive, stable group, the clinicians began a “closed” group that met for 12 weeks. Group
sessions were structured around topics including communication, assertiveness training, and
coping techniques. After conducting these two groups over several years, the researchers
collected and reported data regarding the successes and failures of these group formats. Their main findings included: 1) groups were more successful and had better attendance when women rather than men co-facilitated the groups, 2) women were more likely to attend if their husband supported their involvement in treatment, and 3) group formats tended to follow two-step groups for battered women described by Walker (1979). The open group better served those who needed crisis intervention and those who needed assurance that they were not alone in struggling with PTSD issues with their husbands (similar to Walker’s first-stage group for battered women who are in crisis and in denial about the seriousness of their situations). The closed group was more useful to those who were ready to focus on re-building their lives and learn stress management, assertiveness skills, and parenting skills (similar to Walker’s second-stage group for battered women who acknowledge the seriousness of their situation and take some responsibility for changing their circumstances). Outcomes from participation in the groups, as subjectively reported by the women, included increased self-esteem, improved communication with their husbands, and a sense of satisfaction with the group experience. Also, researchers found that the wife’s participation often influenced the veteran himself to pursue treatment if he was not already doing so. The successes of this group emphasize the need of researchers to study the treatment of this population in more depth and seriously consider use of this form of treatment as a standard treatment option in more VA healthcare settings.

Outram, Hansen, Macdonell, Cockburn, and Adams (2009) interviewed 76 wives of Australian Vietnam veterans who participated in 10 separate Partners of Veterans Association support groups to assess partner wellbeing and functioning. Although little information was provided regarding the structure of the support groups, it was indicated that groups consisted of non-judgmental acceptance, coping strategies, and informational resources. In addition, during
the interview, women indicated that the support groups were helpful, as they provided an outlet to discuss their concerns regarding their husbands and they felt a connection with the other women who could understand what they were going through.

Rabin and Nardi (1991) describe a treatment program for veterans with chronic PTSD, called “Ko’ach.” Ko’ach aims to decrease symptoms of avoidance in the veterans while providing support and psychoeducation to the veterans as well as their families. In this program, wives are provided with outreach from staff, including meetings and workshops on assertiveness training and coping skills. In addition, the families are provided with couples groups and family days. No group outcomes were reported for this treatment modality.

Finally, Matsakis (1996) provided the PTSD community with a classic writing on the struggles of wives of Vietnam veterans with PTSD, appropriately titled *Vietnam Wives*. The stories depicted in her book are case studies from the wife’s point of view, taken from Matsakis’s own therapy patients and women from her Vietnam wives support groups. As her book is written for the Vietnam wife and not directly for researchers and mental health professionals, she focuses on the struggles wives of veterans with PTSD face, and does not go into any detail regarding the structure and format of her support groups. Nevertheless, *Vietnam Wives* provides substantial information useful to the development of a structured PTSD wives group.

**Group Topics**

Topics for the PTSD wives group were chosen by reviewing suggestions in the literature cited above and assessing the needs of wives and veterans being treated at the Sam Rayburn Memorial Veterans Center in Bonham, Texas, in the year prior to initiation of the present study. The following discussion outlines rationale for including certain topics in this group protocol.
Psychoeducation Regarding PTSD

Remer and Ferguson (1998) stress the importance of providing psychoeducation to partners of trauma survivors. One of the main purposes in providing psychoeducation is to dispel any myths that may exist regarding the development and expression of PTSD. Wives of veterans may confront individuals who describe PTSD as a character flaw or weakness, or they may have difficulty understanding why their husbands have difficulties moving on with their lives. Providing education regarding the symptoms and development of PTSD allows wives to distinguish symptoms of PTSD from other symptoms that may be present, such as depression or other forms of anxiety. This information helps them gain understanding into the chronic difficulties individuals with PTSD face. In addition, Remer and Ferguson point out that the process of psychoeducation can help wives of veterans feel understood themselves and develop a support group of other women who have experienced similar interpersonal difficulties with their husbands. As women confirm within the group that their husband is experiencing the symptoms that are reviewed in this process, and share their personal experiences with these symptoms, bonds between the group members begin to form.

Marital Communication and Support

The current study aimed to examine the effects a therapy group for wives had on decreasing psychological symptoms and increasing marital and life satisfaction for the spouse and for the veteran. Past studies with Vietnam veterans indicate that those individuals who are able to make the most progress toward working through their traumatic experiences are those who communicate their experiences with a significant other (Egendorf, 1982). However, given the difficulties individuals with PTSD have with maintaining social relationships, they are likely to have a decrease in social support as their symptom severity increases (King, Taft, King,
Hammond, & Stone, 2006). Therefore, it is important that treatments focus on the interpersonal communication styles of veterans and individuals they interact with the most, which certainly includes their wives.

Shehan (1987) further explored the impact of spousal support on the persistence of PTSD, and proposed a model of intervention that focused on marital communication. She suggests that symptoms of PTSD, such as depression, guilt, re-experiencing, detachment, and anger cause a defensive communication style in the veteran that manifests as threats, judgmental statements, superiority, and indifference to the feelings of others. In addition, disruptions in trust and increases in hypervigilance cause the veteran to decrease his self-disclosure with his spouse and become more isolated. In turn, these communication styles from the veteran cause the spouse to develop what Shehan terms “communication apprehension,” defined as a fear of communicating with the spouse that develops after weighing the costs and benefits of participating in communication. Research by Sherman, Sautter, Jackson, Lyons, and Han (2006) outlines the reality that when attempting to communicate with a combat veteran with PTSD, the costs can often outweigh the benefits. She found that 81% of veterans with PTSD in her sample had committed one act of violence toward their wives in the past year and 45% had committed at least one severely violent act. Shehan suggested that these violent acts might be initiated when the partner attempts to communicate with her spouse, which may be perceived by the veteran as critical or irritating, resulting in anger and lashing out. Over time, according to Shehan, the spouse’s communication style becomes defensive and she eventual decreases her own self-disclosure to her husband, leading to the deterioration of trust and the marital relationship. Shehan suggests that the most effective way to combat this cycle of negative communication is to intervene before the spouse develops communication apprehension. Some interventions for the
spouse that she believes would be useful include psychoeducation regarding PTSD, desensitizing them to the horrors of the events their husbands may have experienced by having them read accounts of the war, encouraging wives to be active listeners if their husbands are willing to share details of their accounts, training wives to be more empathic listeners when their husbands do share details of their accounts, and encouraging wives to participate in groups where they would meet others who share their experiences. Many of these strategies were implemented in the wives group to improve communication skills and educate wives about the impact PTSD can have on their own behaviors.

**Sex and Intimacy**

Matsakis (1996) discussed the impact PTSD can have on the sexual and intimate relationship of couples. She identified several consequences of PTSD that can affect the sexual relationship. Sexual apathy is a common symptom that often results from depression and numbing that are common in veterans with PTSD. Also, veterans may lack energy for sex due to excessive muscle tension. Sexual dysfunction, also commonly associated with PTSD (see below), may cause veterans to avoid sexual encounters that could lead to embarrassment that accompanies sexual failures. In addition, veterans may have negative feelings toward sex based on experiences they witnessed during combat, which could have included rape, torture, or sexual harassment.

Paranoia is an additional symptom that could cause disruption in the sexual relationship. Because the veteran’s trust in others is often shattered by combat experiences that involve betrayal (Shay, 1995), veterans may demand sex or insist that their wives participate in uncomfortable sexual acts to prove their love to them. In addition, they may have difficulty focusing fully on sex because of their tendencies to be on guard and their need to be aware of
their surroundings at all times (Matsakis, 1996). These demands and changes in the sexual relationship may lead the wives to experience their own symptoms, such as loss of their own sexuality, decreased self-esteem, feelings of being used, and sexual apathy from depression and other psychological difficulties they may experience because of secondary traumatization.

Empirical studies of veterans with PTSD also identify the relation between PTSD and sexual problems. Kotler et al. (2000) studied sexual dysfunction and PTSD with three groups of males: one group with PTSD that had not received psychotropic medication; one group with PTSD that was undergoing psychotropic medication treatment; and one group that did not have a diagnosis of PTSD. When compared to the control group, both PTSD groups showed significantly higher rates of sexual dysfunction in all domains of sexual functioning. In addition, individuals in the group that was receiving medication displayed significantly higher rates of impairment in arousal, desire, and sexual frequency. Additional studies have found similar results with Vietnam veterans (Solursh & Solursh, 1994) and Danish Gulf War veterans (Ish/oy et al., 2001).

*Why Not Leave?*

One of the most controversial questions and discussion topics to hold in a group for wives of combat veterans with PTSD is “why not leave?” Dekel and Solomon (2007) explored this topic in their chapter and concluded that there are several possible reasons why wives stay with their husbands, even when dealing with great amounts of psychological burden, abuse, and distress. First of all, they explained that many wives of veterans are held in their marriages by a sense of moral commitment to their husbands fueled by social norms and guilt feelings that they would be abandoning their husbands in a time of need. Other women reported that they felt trapped in their marriages because their husbands had threatened to kill themselves if they left.
Still others were married before their husbands went to war and developed PTSD; they hold the hope that their husband will “return back to normal” and get better over time. Many veterans and wives present at VAs for treatment because they feel that their marriages are in trouble or they have already received threats from their wives that they will leave if they do not seek help. The purpose of including this component in the group process was not to convince wives to stay in their relationships through thick and thin, or to divorce their husbands; rather the goal was to provide wives with coping strategies and communication skills as they struggle with these questions and to provide education and support that would help them make the best possible decisions for themselves and their families.

The above literature review aided in the first purpose of this study, which was to develop a structured therapy group protocol for wives of veterans with PTSD. A second purpose of this study was to implement this new wives group approach in a clinical setting and evaluate its effectiveness in decreasing psychological symptoms in wives and husbands. This literature review also allowed several testable hypotheses to be derived.

Primary Hypotheses

The first set of hypotheses involved changes in secondary traumatic stress symptoms, caregiver burden, and marital satisfaction in the treatment group from pre- to post-test when compared to a control group. It was hypothesized that:

1) Wives who actively participated in the treatment would exhibit a significant decrease in their reported secondary stress symptoms from pre-test (Time 1) to post-test (Time 2) measurement. This change would be significantly greater than any change detected in the control group. As discussed previously, many researchers have found links between psychological symptoms in wives and PTSD in their husbands (Westerlink & Giarratano,
In addition, other forms of treatment have been successful in decreasing psychological symptoms in veterans’ wives (Devilly, 2002). It was anticipated that the coping techniques, psychoeducation, and support components of this group would lead to a decrease in secondary traumatic stress symptoms.

2) Wives who actively participated in the treatment group would exhibit a decrease in caregiver burden from Time 1 to Time 2. This change would be significantly greater than any change detected in the control group. Calhoun et al. (2002), Manguno-Mire et al. (2007), and Dekel, Solomon, et al. (2005) have demonstrated that wives of veterans with PTSD exhibit higher levels of caregiver burden than those without PTSD. Although no studies have explored the reduction of caregiver burden in PTSD caregivers after participation in group treatment, previous studies with family members of Alzheimer patients (Cummings, Long, Peterson-Hazan, & Harrison, 1998) demonstrate reduced perceived caregiver burden in individuals who attended a time-limited support group. Therefore, it was predicted that the coping techniques, support, and psychoeducational components that are included in this treatment protocol would result in a decrease in the participants’ perception of their caregiver burden.

3) Wives who actively participated in the treatment group would exhibit an increase in marital satisfaction from Time 1 to Time 2. Effects would be significantly larger than those observed in the control group. It is widely recognized that veterans with PTSD have significantly more difficulties in their marital relationships than individuals without PTSD (Carroll et al., 1985; Riggs et al., 1998; Jordan et al., 1992). Devilly (2002) and Monson, Schnurr, Stevens, and Guthrie (2004) have demonstrated that couples’
involvement in groups and psychoeducational classes can improve marital adjustment in wives. The current study hypothesized that components of the wives group treatment would result in significant improvement in wives’ perceptions of their marital adjustment, as they learned techniques such as marital communication and assertiveness.

The second set of hypotheses sought to perform a manipulation check upon components of the group process, such as the assertiveness training and support components, which were expected to lead to changes in psychological distress, marital adjustment, and caregiver burden in the wives. It was hypothesized that:

4) Women who actively participated in the treatment group would display an increase in perceived social support from Time 1 to Time 2. Effects would be larger than those of the control group. Previous reviews and meta-analyses have confirmed the impact that social support has on the reduction of psychological symptoms (Piper, 2007; Cohen & Wills, 1985). In addition, reports on previous wives’ groups (Harris & Fisher, 1985) indicated that women found relief in their psychological distress by sharing their stories with other women in the group and feeling a sense that they were not alone in their struggles. Also, it was observed that women in previous support groups made connections with one another, created friendships, and called and emailed one another; many of these connections in their lives did not exist before their engagement in the group.

5) Women who actively participated in the treatment group would display an increase in spouse-specific assertive behaviors from Time 1 to Time 2. These effects would be greater than those of the control group. Assertiveness training and effective communication was one of the important topics discussed in this group. Previous researchers (Shehan, 1987) have proposed that effective communication is important in
the reduction of secondary traumatic stress symptoms, and some have used assertiveness training with wives of veterans with PTSD as an essential part of their treatment programs for the veterans (Rabin & Nardi, 1991). Other researchers have documented positive effects of assertiveness training on couples’ relationship trust (Gordon & Waldo, 1984) and have found that these techniques increase assertiveness in psychiatric populations (Zappe & Epstein, 1987). It was expected that women who participated in the treatment group would increase their assertive behaviors with their spouse, which would in turn lead to increased marital adjustment and lower psychological symptoms.

**Exploratory Hypotheses**

Two exploratory hypotheses were initially proposed that involved expected changes in the veteran husbands as their wives participated in the group process. It was hypothesized that:

1) Veterans whose wives actively participated in the treatment group would demonstrate a decrease in their PTSD symptoms from Time 1 to Time 2. The control group was not expected to demonstrate these improvements. Previous treatment programs with couples have demonstrated a decrease in PTSD symptoms (Monson et al., 2004) as rated by clinicians and partners. In addition, previous studies have alluded to the importance of spousal support in the recovery of veterans with PTSD (Kaniasty & Norris, 2008); Harris and Fisher (1985) found that husbands were more likely to seek treatment themselves if their wives participated in a support group.

2) Veterans whose wives actively participated in the treatment group would show an increase in marital satisfaction from Time 1 to Time 2. The control group was not expected to demonstrate these improvements. Previous studies with psychoeducational couples groups have demonstrated significant gains in marital adjustment by veterans.
(Devilly, 2002). It was expected that the communication skills taught and practiced in the wives groups would translate to better marital communication outside of the group setting with their husbands, and would lead their husbands to perceive their marital relationships as more favorable.
CHAPTER 2

METHOD

Participants

Participants for the pre-test portion of the study consisted of 31 wives of veterans with PTSD and 7 of their veteran husbands. Wives who participated in the study all had veteran husbands who had verified diagnoses of posttraumatic stress disorder (PTSD) within the Department of Veterans Affairs (VA) system according to their medical charts. Wives were defined as females who cohabitated with the veteran and considered themselves to be in a serious romantic relationship with him. Wives and husbands fell into three categories regarding their participation in the study. Wives and husbands in the treatment group completed pre- and post-test measures and the wives completed the nine-session group process. Wives and husbands in the no post-test group completed pre-test measures as members of the treatment or control group, but did not complete post-test measures either because they could not be contacted for post-test as members of the control group, or the wives stopped attending the treatment group and were unable to be contacted to complete post-test measures. Finally, wives and husbands in the control group completed pre- and post-test measures, but the wives did not participate in the treatment group. Although only 31 wives participated in the study, 33 sets of data were collected for the wives, as one wife participated in both the treatment group and the control group (as a waitlist member) and one wife participated in the control group and the no post-test group. In addition, although only seven husbands participated in the study, eight sets of data were collected for the husbands, as one husband was a member of both the treatment group and the control group (as a waitlist member). Although only a single couple participated in the form of a waitlist control with subsequent treatment involvement, their control data were retained to add marginally to the
size of the small control group. Demographic variables for the husbands and wives by study group are presented in Table 1.

Women ranged in age from 25 to 75 ($M = 55.87, SD = 11.47$). The seven husbands who participated ranged in age from 56 to 67 ($M = 60.43, SD = 3.74$). Wives were to be excluded from the study if they were actively suicidal, psychotic, or deemed inappropriate for the group based on clinical evaluations during the initial intake. However, none of the study volunteers met any exclusion criteria; therefore, everyone who expressed interest was invited to participate in the study.

Other demographic variables assessed with the wives included years married to their current husband, military branch their husbands served in, combat zone where their husband served, if they knew their husband before he developed PTSD, and if children currently resided in their homes. Years married ranged from 2 to 40 ($M = 24.10, SD = 14.28$). The majority were wives of Vietnam veterans, a few were wives of Iraq veterans, and five wives answered “other.” Individuals in the “other” category had husbands who served in World War II, Operation Desert Storm, or their husbands were diagnosed with PTSD after experiencing a military-related trauma that did not involve direct combat. Regarding the military branch their husbands served in, most wives reported that their husbands served in the Army, some indicated service in the Marine Corps, and few reported service in the Navy and Air Force. Only 8 out of 19 individuals surveyed knew their husbands before he developed PTSD, and four respondents indicated that one or more children were currently residing in their household.

Additional demographic variables were also assessed with the seven husbands who participated in the study. These included whether or not he was currently receiving mental health treatment, the type of treatment he was currently receiving, and the type of mental health
treatment he had received in the past. All husbands reported that they currently receive mental health treatment, with the most common form of treatment being psychotropic medications, followed by group therapy, substance abuse treatment, and individual therapy. Past mental health treatment that was reported included individual therapy, group therapy, and anger management.

Materials

Demographics questionnaires (Appendix A) that I developed assessed background information about the veterans and their wives, such as age, years married or cohabitating, veteran’s service branch, country of service, children in the household, and veteran’s previous and current mental health treatment.

The Abbreviated Dyadic Adjustment Scale (DAS-7) was administered to both the veteran and his significant other to measure marital adjustment and satisfaction. Adapted from the original measure developed by Spanier (1976), the abbreviated version of this measure is composed of 7 items from the original measure that have been found to be the best at discriminating between well-adjusted and distressed marriages. Six of the items assess specific aspects of marital functioning (e.g., “How often do you and your partner calmly discuss something”) and are presented on a Likert-type scale, ranging from 0 to 5. The last question assesses general satisfaction with the relationship, and is presented on a Likert-type scale from 0 to 6, ranging from extremely unhappy to perfect. Scores are derived by summing a total for all items, with higher scores indicating higher levels of marital adjustment. Hunsley, Best, Lefebvre, and Vito (2001) attempted to explore the psychometric properties of this abbreviated scale using two different methods. In the first method, they explored the validity and reliability of these 7 items within the context of their original measure – that is, they looked at archival data of fully completed DAS instruments and extracted the questions that appear on the DAS-7. The
Cronbach’s alpha for the full version of the DAS in this sample of clinical and community individuals was .91. When looking at the extracted items, or items included on the DAS-7, the internal consistency was .79. In addition, community and clinical samples differed significantly on their scores, confirming the criterion validity of this measure. In their second study, the researchers administered the 7 items that comprise the DAS-7 as a stand-alone measure. Cronbach’s alpha coefficients for this study, implemented with a community sample, ranged form .75-.79. These studies confirmed the findings of Hunsley, Pinsent, Lefebvre, James-Tanner, and Vito (1995) and Sharpley and Rogers (1984). In addition, this measure has been previously used successfully with veterans and their wives in treatment outcome. Devilly (2002) found that veterans with PTSD and their wives who participated in a psychoeducational group showed improvement in marital adjustment scores as measured by the Abbreviated Dyadic Adjustment Scale from pre-test to six-month follow-up.

The Multidimensional Scale of Perceived Social Support (MSPSS) measured wives’ perceived social support from different providers including friends, family members, and significant others. Originally created by Zimet, Dahlem, Zimet, and Farley (1988), the MSPSS is a 12-item measure that assesses general perceived social support from three different groups – 1) friends; 2) family; and 3) significant others. Sample items include “I can talk about my problems with my friends” and “I have a special person whom is a real source of comfort to me.” The items are answered on a 7-point Likert-type scale, ranging from 1 (very strongly disagree) to 7 (very strongly agree). Higher scores indicate more perceived support. The Cronbach alpha reliability coefficients from a sample of American university students were .94 for friends, .92 for family, and .93 for significant others. Subsequent studies have confirmed the scale’s reliability and validity with other populations including pregnant women and pediatric residents.
(Zimet, Powell, Farley, & Werkman, 1990), and African American adolescents (Canty-Mitchell & Zimet, 2000). Specifically, Stanley, Beck, and Zebb (1998) found that when compared to a control group, a group of older adults with anxiety disorders exhibited lower levels of perceived social support as measured by the MSPSS. Also, married older adults in the control group reported higher levels of perceived social support than non-married older adults in the control group.

The Trauma Symptom Checklist – 40 (TSC-40; Briere, 1996), a revised version of the TSC-33 developed by Briere and Runtz (1989), measured psychological distress and secondary traumatic stress symptoms. Originally developed for use in research, the revised version is composed of 40 items that represent symptoms commonly experienced by individuals who have encountered a traumatic event. Respondents are asked to indicate, on a 4-point Likert-type scale ranging from 0 (never) to 3 (often), how often they have experienced the specific symptom over the last two months. Sample items include “uncontrollable crying,” “feeling isolated from others,” and “waking up in the middle of the night.” Reported Cronbach’s alpha reliability coefficients for the full scale measure range from .89 to .91, and subscale reliability coefficients range from .66 to .77 (Briere). Most widely used with sexual assault victims, the TSC-40 appears to have usefulness with individuals with secondary traumatic stress. Chrestman (1995) reported that therapists who were exposed to higher caseloads of clients with traumatic histories reported higher scores on the TSC-40 than those with less exposure to clients with traumatic histories.

One unique feature of the TSC-40 when compared to other measures of posttraumatic stress symptoms is that it does not require the subject to focus on a specific traumatic event. The goal of the current study is to measure secondary traumatic distress, which may not present in the typical form that PTSD would in an individual who directly experienced an event. Besides
obtaining a total score, another useful feature of this measure is that it is composed of six
subscales including Anxiety, Depression, Dissociation, Sexual Abuse Trauma Index (SATI),
Sexual Problems, and Sleep Disturbance (Briere). Anxiety, depression, sleep problems, and
sexual problems are some of the more commonly reported symptoms among wives with
secondary traumatic stress.

The Burden Interview (BI) assessed burden associated with caring for and living with an
individual with PTSD. Developed by Zarit, Reever, and Bach-Peterson (1980), the BI contains
22 items that are rated on a Likert-type scale ranging from 1 (never) to 5 (nearly always present).
Items evaluate areas of concern for caretakers including their health, financial difficulties, and
social limitations. Sample items include, “Do you feel strained when you are around your
relative?” and “Do you feel embarrassed over your relative’s behavior?” This measure has
demonstrated excellent internal consistency (alpha = .91) and adequate test-retest reliability
(alpha = .71; Zarit et al.). Although most commonly used to measure burden in caregivers of
dementia patients and individuals with physical impairments, the BI has recently been validated
with various mental health populations, including caretakers of veterans with PTSD (Manguno-
Mire et al., 2007; Beckham et al., 1996; Calhoun et al., 2002). For example, Beckham et al.
demonstrated that caregiver burden, as measured by the Burden Interview, was positively
correlated with PTSD symptom severity. Also, they showed that caregiver burden was related to
psychological distress and anxiety in the caretakers.

The Spouse Specific Assertion/Aggression Scale measured levels of assertiveness in
wives who actively participate in the group. This 29-item measure, developed by O’Leary and
Curley (1986), specifically assesses assertion and aggression toward one’s partner on a Likert-
type scale ranging from +3 (extremely descriptive, very much like me) to -3 (extremely
nondescriptive, not at all like me). Items include both assertive behaviors (e.g., “I do not have difficulty telling my mate my true feelings”), and aggressive/passive aggressive behaviors (e.g., “I often yell back when my mate yells at me”). O’Leary and Curley demonstrated adequate reliability for the assertiveness scale (alpha = .87) and the aggression scale (alpha = .82) with a sample of men and women in abusive and non-abusive relationships. They also demonstrated validity of the scale in this study, as low levels of assertion were more common in discordant relationships than in non-discordant relationships.

A group satisfaction measure (Appendix B) that I developed assessed group members’ perceptions of the group process, including the helpfulness of the topics covered, cohesiveness of the group, overall satisfaction with the group, and feelings of connectedness with other group members.

Finally, PTSD symptoms in the veterans were assessed using the PTSD Checklist (PCL). This checklist, endorsed for use by the National Center for PTSD, is well validated and is one of most commonly used self-reports for PTSD in veterans and active military personnel. The scale consists of 17 items that correspond to the DSM-IV criteria for PTSD and is rated on a 5-point Likert-type scale ranging from 1 (not at all) to 5 (extremely). To rate symptom severity, item scores are totaled, with higher total scores indicating more severe PTSD symptomatology. Reliability and validity was originally established by Weathers, Litz, Herman, Huska, and Keane (1993). Ruggiero, Del Ben, Scotti, and Rabalais (2003) recently demonstrated that the PCL has good internal consistency, with alpha coefficients ranging from .85-.94, adequate test-retest reliability, with coefficients ranging from .68-.92, and adequate discriminate and convergent validity. This scale has been validated with veterans in several studies previously reviewed in this document (Riggs et al., 1998; Erbes et al., 2007; Hoge et al., 2007; Hoge et al., 2004).
Procedure

Subjects were recruited by letters sent through the mail, by telephone through area veterans lists, by flyers posted throughout the Bonham VA, and by referrals from primary care physicians and mental health providers throughout the Dallas VA system. Four separate therapy groups were held over the course of the study. Groups consisted of six to eight members. Individuals who expressed interest in the study after the group began were placed on the group waitlist and used as control group subjects. Other control group participants included individuals who were not able to attend the group because of time conflicts or those who attended one group session and chose not to attend further sessions.

Procedure for Wives Participating in the Group

Upon being recruited for the study, wives underwent an hour-long, individual screening session to determine their appropriateness for the therapy group. During this session, one of the group co-leaders screened potential subjects for active suicidality and psychosis. No participants met exclusion criteria. In addition, during the screening session the group format and content was explained and the consent process was reviewed. Individuals interested in participating in the group were asked to sign the consent form and a copy of the signed consent form was given to each participant. If an interviewee has chosen not to give consent, she would still have been offered the opportunity to participate in the group. However, no individual that was screened refused to sign consent. Individuals who chose to participate in the group were then asked to complete pre-test measures. Pre-test measures included: a demographics questionnaire, the Abbreviated Dyadic Adjustment Scale, the Multidimensional Scale of Perceived Social Support, the Spouse Specific Assertion/Aggression Scale, the Trauma Symptom Checklist – 40, and the Burden Interview. Completing these measures took approximately 45 minutes. After completing
the initial screening session, all group members were invited to complete the nine-session therapy group and were informed of the start date and time. All groups were co-led by me, a social worker employed at the Bonham VA, or another doctoral-level clinical psychology practicum student. All group sessions were held in the mental health outpatient clinic at the Bonham VA.

Group sessions lasted approximately 90 minutes and were held over nine consecutive weeks. A few exceptions to this did occur if co-leaders were unable to attend or if the group fell on a national holiday. On the few occasions when this occurred, group members were either informed of the schedule change the week before during their group session or they were informed by telephone. During the first group session, confidentiality and group expectations were reviewed.² At the conclusion of the ninth group session, participants were asked to complete post-test measures that included all pre-test measures (minus the demographics form) and the group satisfaction survey. They were also referred to an ongoing therapy support group for wives of veterans with PTSD led by the VA social worker. The ongoing group meets once per month and is composed of women who completed any of the time-limited groups and desired to continue receiving support through group therapy. Three months after the completion of the time-limited therapy group, participants were contacted by phone and were asked to provide follow-up data that consisted of the same measures administered during the post-test data collection, minus the group satisfaction survey.

Procedure for Husbands of Wives Participating in the Group

Upon being recruited for the study, male veterans were asked to attend the initial intake session with their wives or attend a separate screening session. After meeting with the wives

² For persons interested in viewing the complete group protocol, or for those interested in implementing this program at your facility, please contact me for a copy of the session-by-session manual.
individually, and after the wife had been deemed appropriate for the group, husbands met separately with one of the group co-leaders who reviewed the consent form and purpose of the study. If willing to participate, they were asked to sign the consent form and were provided a photocopy of the form for their records. If the husband chose not to give consent or was unsure about participating, he was not administered pre-test measures and he was not included in the study. However, his decision not to participate in the study did not prevent his wife’s data from being included in the study if she provided consent. Veterans who chose to participate in the study were asked to complete pre-test measures that consisted of the demographics questionnaire, the Posttraumatic Stress Disorder Checklist, and the Abbreviated Dyadic Adjustment Scale. Post-test measures were collected from the veteran after the last group session and at three months after completion of the group. Post-test and follow-up assessments consisted of the same measures administered during the pre-test, minus the demographics questionnaire. Completion of the measures took approximately 10 minutes at each of the three administrations.

Procedure for Control Group

Couples who were recruited for the control group included wives who could not attend the treatment group because of scheduling conflicts or wives who were on the waitlist for the next group cohort. Participants attended a screening session to evaluate appropriateness for the study. During the first meeting, the consent form and purpose of the group were reviewed by one of the group co-leaders. Individuals who agreed to participate in the study read and signed the consent form and were given a copy for their records. Those who signed the consent form were administered pre-test measures during the screening session, post-test measures at the completion of the group, and three-month follow-up measures that mirrored those of the treatment group, minus the group satisfaction survey.
CHAPTER 3

RESULTS

Results include quantitative statistical findings related to the measures utilized for all a priori hypotheses and exploratory analyses. In addition, qualitative clinical findings that resulted from implementation of the group therapy approach are reported.

Reliability Analyses

Reliability analyses were performed for each measure utilized in this study. Cronbach’s alpha scores for each measure are presented in Table 2. All measures in this study demonstrated good to excellent reliability. The Trauma Symptom Checklist, the Burden Interview, and the PTSD Checklist all showed excellent reliability. However, it should be noted that for these scales, the determinant of the covariance matrix was approximately zero, and may indicate that at least one item was predictable from other items in the scale. The perceived social support scale also demonstrated excellent reliability. The Abbreviated Dyadic Adjustment Scale demonstrated good reliability for wives’ and husbands’ scores, and the assertiveness subscale showed good reliability. Item-total statistics were computed for all measures and indicated that item deletion would not significantly improve the alpha coefficients for any of the scales.

Descriptive Statistics

For the purpose of hypotheses testing, individuals who did not complete the post-test portion of the study survey ($n = 8$) were excluded from this portion of the data analysis. When looking at individuals who provided pre- and post-test scores in more detail, 18 individuals completed pre- and post-test measures while participating in the therapy group, four individuals served as control group participants, and one individual served as a waitlist control and then participated in the group fully, completing control pre-test measures, group pre-test measures,
and group post-test measures. Therefore, for analyses purposes, 19 wives’ data will be included in the treatment group and five wives’ data will be included in the control group. Eight wives did not provide post-test data. Demographic characteristics by study group are presented in Table 1.

Given the low sample sizes, direct statistical analyses at simple univariate levels (critical alpha = .05 unless otherwise specified) were still undertaken but will be interpreted with caution. Likewise, given the low statistical power, substantial effect sizes are examined directly for potential speculative meaning, even if statistical tests did not reach critical alpha levels. Also, individual change patterns are examined when sample sizes are too low to conduct even weak statistical tests.

Means and standard deviations for the study dependent variables were calculated. Pre-test and post-test means and standard deviations for the five variables used with wives are presented in Table 3. Although sample sizes were extremely small, an attrition analysis was conducted by computing dyadic comparisons using \( t \)-tests to determine if differences existed between the three groups on pre-test measures. There were no significant differences between dyadic group comparisons for any of the five dependent variables. Visual inspection of the means (considered necessary given the very low sample sizes) did not reveal compelling differences between the three groups at pre-test measurement.

Means and standard deviations for pre-test scores were then computed and compared to normed samples for each measure. One-sample \( t \)-tests were computed to determine if significant differences existed between the sample of wives of veterans with posttraumatic stress disorder (PTSD) recruited for this study and individuals in normed sample groups. Results did yield some significant findings. Regarding marital adjustment, the normed sample included 545 Australian couples categorized as married \((n = 453)\), living together \((n = 48)\), separated \((n = 29)\), or
divorced \((n = 15;\) Sharpley & Rogers, 1984). When pre-test scores for the current sample were compared to the mean score for the normed sample, findings indicated that women in the current study scored significantly lower on marital adjustment than individuals normed sample \((t (30) = -2.21, p = .04,\) two-tailed). The normed sample used for secondary stress symptoms consisted of 2,068 non-abused females (Elliott & Briere, 1991). The pre-test mean for trauma symptoms in the current sample was significantly higher than the mean TSC-40 total score for the women in the normed sample \((t (32) = 6.14, p = .000,\) two-tailed). Regarding the variable for perceived social support, the normed sample included 136 undergraduate women from a convenience sample (Zimet et al., 1988). The mean for perceived social support for the current sample was significantly lower than the mean for the normed sample \((t (18) = -5.43, p < .001,\) two-tailed). The normed sample utilized for caregiver burden consisted of 89 wives of veterans with PTSD (Manguno-Mire et al., 2007). Mean scores for the current sample were not significantly different from the normed sample means \((t (18) = -.78, p = .45,\) two-tailed). Finally, the normed sample for assertiveness scores consisted of 20 “satisfactorily married couples” (Rosenbaum & O’Leary, 1981). Assertiveness scores for the current sample did not differ significantly from those for individuals in the normed sample \((t (29) = 1.04, p = .31,\) two-tailed). Means and standard deviations for the entire sample along with means and standard deviations for normed samples are presented in Table 4.

Tests of Primary Hypotheses

It was originally proposed that differences between the treatment group and the control group would be analyzed using three measurement occasions (pre-test, post-test, and follow-up) via a series of separate 2 X 2 mixed model analyses of variance (ANOVAs), separately conducted on the five factors studied with the wives and for the two factors studied with the
veterans. However, due to the low number of participants in the control group, lack of participation in follow-up measures, and lack of participation from husbands, paired samples t-tests were utilized to test directional hypotheses for pre- and post-test intervention differences for the treatment group. An alpha level of .01 was used for all of these analyses to approximate a Bonferroni correction for multiple analyses. In addition, one-tailed tests were utilized for all variables, as directional differences were proposed. Dependent variables for the wives included marital adjustment, caregiver burden, secondary PTSD symptoms, assertiveness, and perceived social support. Dependent variables for the veterans included PTSD symptoms and marital adjustment. Effect sizes were calculated for each variable to determine the magnitude of the observed findings.

*Hypothesis 1: Changes in Secondary Stress Symptoms*

For Hypothesis 1, a paired samples t-test was utilized to determine if individuals in the treatment group showed a significant difference in secondary stress symptoms from pre-test to post-test. It was hypothesized that individuals in the treatment group would demonstrate a decrease in their secondary stress symptoms after participating in the nine-session therapy group. The total score from the Trauma Symptom Checklist – 40 was used as the dependent variable and the pre- and post-test scores for each individual served as the independent variable. Secondary PTSD scores decreased significantly ($p < .005$) from pre-intervention to post-intervention for the treatment group. A large effect size was observed for this difference ($r = .57$). Means and standard deviations for pre- and post-test secondary stress scores are presented in Table 3 and results from the paired samples t-test are presented in Table 5.

To utilize the control group data, line graphs were produced for each variable to visually demonstrate variability in scores for the treatment and control groups and to determine
directional relationships among control scores in relation to the treatment scores. Line graphs for secondary stress scores are presented in Figures 1 and 2. The five individuals in the control group varied greatly on their presentation from pre-test to post-test. Two individuals reported lower scores at pre-test, one individual’s score increased dramatically from pre- to post-test, one individual remained the same, and one decreased slightly from pre- to post-test. Regarding observed trends for the treatment group based on individual scores, lower pre-test scores generally remained the same, neither increasing nor decreasing from pre-test to post-test. Only two individuals out of 19 increased their secondary stress score from pre-test to post-test.

Because significant differences were found for the hypothesis involving secondary traumatic stress symptoms, specific subscales for the Trauma Symptom Checklist were explored. Subscales for the TSC-40 include Dissociation, Anxiety, Depression, Sexual Abuse Trauma Index, Sleep Disturbance, and Sexual Problems. Paired samples t-tests were utilized to explore differences in pre- and post-test scores for individuals in the treatment group on the above named subscales. Because of the exploratory nature of these analyses, two-tailed tests and a critical alpha level of .05 were utilized. Wives reported significant decreases from pre-test to post-test in dissociation symptoms, anxiety symptoms, depression symptoms, and symptoms included in the sexual abuse trauma index. Changes in sleep disturbance and sexual problems were not significant at the critical alpha level. Means, standard deviations, and paired samples t-test results for the trauma subscales are presented in Table 6.

**Hypothesis 2: Changes in Caregiver Burden**

For the second hypothesis, a paired-samples t-test was used to determine if individuals in the treatment group differed on caregiver burden, as measured by the Burden Interview, from pre-test to post-test. It was hypothesized that individuals would show a decrease in caregiver
burden scores after participating in the treatment group. The hypothesis was not supported at the .01 alpha level ($p < .03$). However, this variable demonstrated a large effect size ($r = .58$) and means generally decreased from pre-test to post-test. Means and standard deviations for pre- and post-test caregiver burden scores are presented in Table 3 and results from the paired samples $t$-test are presented in Table 5.

Again, to quantitatively describe the control group, line graphs were produced for the caregiver burden variable to observe score variability and to determine directional relationships among control scores in relation to the treatment scores. Line graphs for caregiver burden scores are presented in Figures 3 and 4. The three individuals in the control group all demonstrated an increase in caregiver burden scores from pre-test to post-test. Regarding the treatment group, higher pre-test caregiver burden scores showed the most decreases in caregiver burden, moderate scores tended to exhibit slight decreases, and lower level pre-test caregiver burden scores tended to stay the same or increase slightly.

**Hypothesis 3: Changes in Marital Satisfaction**

Wives’ marital satisfaction was statistically analyzed for the third hypothesis, and a paired samples $t$-test was again used to determine if treatment group score differences existed on this variable from pre-test to post-test. It was hypothesized that wives would demonstrate an increase in marital satisfaction, as measured by the total score on the Abbreviated Dyadic Adjustment Scale, after participating in the treatment group. This hypothesis was supported, as individuals did demonstrate a significant ($p < .005$) increase in scores after participating in the group treatment. A large effect size was observed ($r = .59$). Means and standard deviations for pre- and post-test marital satisfaction scores are presented in Table 3 and results from the paired samples $t$-test are presented in Table 5.
To utilize the control group, two line graphs were produced for marital adjustment to visually display variability in scores for the treatment and control groups and to determine directional patterns among control scores in relation to the treatment scores. Line graphs for marital adjustment are presented in Figures 5 and 6. The five individuals in the control group varied significantly in their presentation from pre-test to post-test. Two individuals who endorsed high marital satisfaction at pre-test increased their scores at post-test. Two individuals showed significant decreases in marital satisfaction from pre-test to post-test and one individual increased her score slightly at post-test. Individuals in the treatment group showed trends toward increasing marital satisfaction after participating in the group. Individuals who reported low marital satisfaction at pre-test tended to show dramatic increases in marital satisfaction at post-test. Individuals who scored the highest at pre-test for marital satisfaction tended to decrease their scores slightly at post-test. Of the 19 individuals who provided pre- and post-test scores for the treatment group, only three individuals showed a decrease in marital satisfaction from pre-test to post-test.

Hypothesis 4: Changes in Perceived Social Support

To statistically test the fourth hypothesis, a paired samples t-test was used to compare treatment group scores from pre- to post-test for the dependent variable perceived social support. It was hypothesized that after participating in the treatment group, wives would demonstrate a significant increase in perceived social support as measured by the total score on the Multidimensional Scale for Perceived Social Support. The hypothesis was not supported at the .01 alpha level ($p < .03$). However, this variable demonstrated a large effect size ($r = .58$) with the means increasing from pre-test to post-test. Means and standard deviations for pre- and post-
test perceived social support scores are presented in Table 3 and results from the paired samples $t$-test are presented in Table 5.

Line graphs were utilized to visually represent individual scores for the perceived social support variable for the control and treatment groups in order to describe score variability and to determine directional patterns among control scores in relation to the treatment scores. Line graphs for perceived social support scores are presented in Figures 7 and 8. Of the three individuals in the control group who provided scores for this variable, one showed a decrease in perceived social support, one showed a slight increase in perceived social support, and one showed an increase of greater than 10 points for the perceived social support total score. The treatment group trended toward increases in perceived social support from pre-test to post-test. Specifically, one individual produced an identical score at pre- and post-test and lower initial scores for perceived social support tended to increase dramatically at post-test. Only two individuals displayed decreases in social support after participating in the treatment group.

Because the perceived social support total score trended upward from pre-test to post-test for the treatment group, subscales of the measure were further explored to determine if specific differences existed by the individual providing support. The Multidimensional Scale for Perceived Social Support can be divided into three subscales to determine if perceived social support differs by provider. For this measure, the subscales include Friends, Family, and Significant Other. To test differences from pre-test to post-test for the treatment group, a paired samples $t$-test was utilized. Wives’ scores on the Significant Other subscale were significantly different from pre-test ($M = 4.36, SD = 1.83$) to post-test ($M = 5.86, SD = 1.98$), $t(10) = -3.06, p = .006$ (one-tailed). Specifically, individuals perceived an increase in support from their significant other after participating in the group. Family subscale pre-test ($M = 3.73, SD = 1.75$)
and post-test scores ($M = 4.70, SD = 1.69$), $t (10) = -1.80, p = .051$ (one-tailed) and Friends subscale pre-test ($M = 3.41, SD = 2.05$) and post-test scores ($M = 4.34, SD = 2.11$), $t (10) = -1.38, p = .10$ (one-tailed) also trended upward for the treatment group.

**Hypothesis 5: Changes in Assertiveness**

The fifth variable to be statistically tested using the wives’ scores was the assertiveness score. A paired samples $t$-test was utilized to determine if individuals who participated in the treatment group showed differences in their assertiveness scores from pre- to post-test. Specifically, it was hypothesized that wives would demonstrate an increase in assertiveness after participating in the treatment group. This hypothesis was not supported. A medium effect size was found for this variable ($r = .35$). Means and standard deviations for pre- and post-test assertiveness scores are presented in Table 3 and results from the paired samples $t$-test are presented in Table 5.

To examine control data for the assertiveness variable, line graphs were created to visually represent individual scores at pre-test and post-test for the treatment and control groups. Line graphs for assertiveness scores are presented in Figures 9 and 10. Four individuals from the control group provided assertiveness scores, and of these four, one individual’s score remained the same from pre-test to post-test, one decreased her score, and two showed increases in assertiveness from pre-test to post-test. The two individuals in the control group who showed increases in assertiveness reported low pre-test assertiveness. No clear trend for assertiveness was observed with the treatment group. Seven individuals showed a decrease in assertiveness after participating in the group whereas 12 individuals showed an increase in assertiveness from pre-test to post-test. Individuals who presented with lower scores on average at pre-test tended to show the most clinically significant gains in assertiveness of all of the participants at post-test.
Tests of Exploratory Hypotheses

In addition to collecting data from wives who participated in the treatment group, data were also collected from veteran husbands to test differences between veterans’ PTSD symptoms and marital satisfaction from pre-test to post-test. However, because only seven husbands agreed to participate in pre-test research, and only three provided post-test data, parametric statistical tests cannot be computed for this group. Therefore, a description of the data is provided.

Individual participants’ scores for marital adjustment and PTSD are presented in Table 7. The male participants varied significantly by group, as two had wives who only participated in the pre-test portion of the study, two were husbands of the control group participants, and four had wives who participated in the treatment group. It should be noted that one participant served as a waitlist control group participant and a treatment group participant, as his wife was initially on the waitlist and provided control group data, and then she subsequently participated in the treatment group and provided post-test data. Marital satisfaction scores \((M = 21.38, SD = 6.59)\) and PTSD scores \((M = 67.86, SD = 15.89)\) were variable and did not appear different by group based on score observations. On average, PTSD scores were substantially higher than the clinical cutoff score of 50 on the PTSD Checklist. Only one individual had a PTSD score lower than this cutoff, and it is likely that his symptoms of PTSD would be categorized as subthreshold. When looking at individuals who provided pre- and post-test data (see Table 7), Subject 2, the control group participant, demonstrated an 8-point decrease in marital satisfaction from pre-test to post-test and a 9-point decrease in PTSD symptoms from pre-test to post-test. However, his symptoms of PTSD were still significantly above the cutoff score for a diagnosis of PTSD. Concerning the two individuals in the treatment group who provided post-test data (see Table 7), Subject 4 demonstrated a 7-point decrease in marital satisfaction from pre-test to post-test and a 1-point
increase in PTSD symptoms from pre-test to post-test. However, it should be noted that this individual scored below the cutoff of 50 for PTSD symptoms and was likely experiencing subthreshold levels of PTSD prior to his wife participating in the group treatment. Subject 5 (see Table 7) demonstrated a 1-point increase in marital satisfaction from pre-test to post-test and a 24-point drop in his PTSD score from pre-test to post-test. This drop in symptoms is clinically significant, and his PTSD score is approaching the 50-point cutoff for PTSD.

Clinical Findings

In addition to the quantitative results reported above, several clinical results were gained as a result of this study. These results were based on the observations of group facilitators and verbal reports from group participants.

*Findings Related to Group Participation and Attrition:*

1) Wives of Vietnam veterans were more likely to participate in the treatment group than wives of veterans who served in Iraq and Afghanistan. Because facilitators received group referrals for veterans and wives from all war eras, and because prior research has indicated that one of the most requested services for returning veterans is a spouse group (Sherman, Sautter, et al., 2005), it was expected that greater numbers of Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) wives would participate in the group. Not only were Vietnam wives more likely to participate in the group – they were also more likely to attend the screening session and keep their appointments. Several OEF/OIF wives were scheduled for screening sessions but cancelled at the last minute or did not show for the appointment.

2) Facilitators observed that developing a therapeutic alliance with the potential group member prior to the start of group led to a greater likelihood that the individual would participate in the treatment group. This therapeutic alliance was usually established through the screening
interview, at which time the spouse was able to not only complete the required research measures and consent procedures, but she was also able to process her emotions and begin feeling listened to by an unbiased source. Other ways that a therapeutic alliance was established included cases where wives were able to speak with a clinician one-on-one regarding their husbands’ treatment or in cases where the husband had established a therapeutic alliance with a clinician and encouraged his wife to attend group therapy.

3) Individuals dealing with active crisis situations were more likely to drop out of the group. For example, one wife was dealing with her own PTSD symptoms from an abuse experience and was unable to attend the group sessions because they became overwhelming for her as she began learning about her own PTSD. In another example, the husband and wife were struggling financially and were virtually homeless during parts of the study.

*Findings Related to Social Support:*

4) Many women had difficulty identifying individuals in their social support network, and some indicated that they had no friends outside of family members. Although it was expected that these women would have low levels of social support, it was not expected that many of them would have no friends outside of their families and that many of them were isolated from members of their own families. During the group session on social support, women were asked to list individuals in their support network and identify the nature of the supportive relationship. Most women did not include their husbands as someone they could rely on for social support, and many women identified their relationships as “one-sided,” meaning that they provided social support to that person, but they rarely received social support back when it was needed.
5) Women reported that they rarely shared their family problems related to PTSD with members of their supportive network. They indicated that others would not be able to understand what they were going through, and many stated that their family and friends were not aware that their husbands had PTSD. This feeling of “lack of understanding” appears to be similar to the veterans’ feelings on this issue, as it is common that veterans feel that they can only share their military experiences and difficulties with other individuals who have served in the military. Wives also mentioned that they did not share this information with friends or family because they did not want to be perceived as a burden to others.

Findings Related to Husbands’ Reactions:

6) Veterans were often suspicious about the motives behind the therapy group and were less likely to participate in research than their wives. Veterans were less likely to attend screening sessions, even though they often agreed to attend during initial contact by phone. In addition, during screening sessions, veterans were less likely to sign the consent form, and many of them asked to “think about it” (regarding participating) and they never returned to complete the measures and give consent.

7) Many male veterans reported initial reluctance at having their wives participate in this group – however, by the end of the group process, veterans reported that their wives appeared to understand their symptoms better and were better able to manage situations in which symptoms caused difficulties in their marriage. Their initial reluctance often involved fears that their wives would not be able to understand what they were going through or that their wives would be exposed to information about war experiences that would be hurtful to them. There was also an indication from some of the veterans that their wives were not the ones who needed treatment – the veterans themselves were, and they had difficulty initially understanding how this group
could be beneficial to the marital relationship. However, several veterans reported that after the group process had concluded, their wives did appear to gain some understanding of what they were going through, their communication skills had improved, and they were better able to react appropriately during crisis situations or during active PTSD symptoms. Reactions included the ability to provide soothing care and giving them time to cool down.

**Additional Clinical Findings:**

8) Wives who participated in the treatment group demonstrated a general lack of knowledge regarding PTSD, war, and the impact of trauma. It was expected that wives who had been married to their husbands for many years would exhibit some knowledge about PTSD and war, especially given that the average number of years individuals in the treatment group had been married to their current husbands was approximately 25 years. Also, many of the wives in the group knew their husbands prior to them going off to war or met them shortly after they returned from war. However, wives seemed to have little knowledge about the experiences their husbands had gone through and they were unaware of many of the symptoms of PTSD or how the disorder develops.

9) Women’s lives were often enmeshed with those of their husbands and they had difficulty describing their own desires and goals separate from those involving their husbands. During one of the latter group sessions, women were asked to describe themselves as if they had never been married and as if their husbands did not have PTSD. Many women were unable to do this and had difficulty seeing themselves as individuals separate from their husbands. Women described how they went “everywhere” with their husbands, and some indicated that they were not allowed to go anywhere on their own, as their husbands were afraid that something would happen to them if they were not there. For many of them, their lives appeared to revolve around
the needs of their husbands and they described this experience as “walking on eggshells” to avoid conflict. Many women reported isolation from their families and even their own children in some cases because of their persistence in supporting their husbands.

10) Participants appeared uncomfortable with discussing sex and intimacy in a group setting, even in groups that appeared very cohesive. It was expected that women would be willing to talk about this subject because of the cohesiveness of the groups and because the topic was presented toward the end of the group sessions. However, group attendance tended to be lower during this session, as wives did have a schedule of topics for each group that was given during the first session. In addition, women who were present for the group participated less in the discussion and appeared uncomfortable with answering questions regarding their experiences with sex and intimacy with their husbands.

11) Wives’ self-care activities significantly increased after setting goals during group and announcing their goals to other group members. Specifically the session on self-care appeared to motivate women to improve their own functioning, especially in the areas of exercise and healthy eating. For example, one individual began swimming at her local YMCA weekly, one individual began working out on her treadmill that had not been used in years, and one changed her eating habits and set a goal to have gastric bypass surgery in order to improve her health. Women tended to motivate each other and gave suggestions for meeting goals when individuals indicated that they did not have time to work out.

12) Many participants had symptoms of PTSD related to a previous trauma (usually childhood sexual assault); however, comfort with talking about these traumas varied by group. One group in particular showed high rates of sexual abuse (approximately 50% revealed childhood or adult sexual abuse during group discussions) and discussing this issue became an
important topic for members of this group. They were able to relate their husbands’ symptoms to their own symptoms that resulted from their previous traumas. However, in other groups, although previous traumas were sometimes revealed to group facilitators one-on-one, wives’ own traumas were not addressed directly by group participants during group sessions. Vague references were sometimes made to previous traumas including “I went through a lot myself” or “I experienced some things I can’t talk about,” but group facilitators did not probe these statements, as this was not intended to be the focus of the group. In one particular case, an individual began having active PTSD symptoms after discussing PTSD symptoms during the second group session. She decided to stop attending group sessions, and she was provided with brief individual counseling, as outlined in the consent form.

13) Wives desired continued follow-up after completion of the time-limited group. It was clear, even during the screening session, that some wives desired an ongoing group, and before joining group, some asked, “Can I retake the class?” or “What will happen after the nine sessions?” Toward the end of group, women asked about follow-up and were eager to get to know other wives who had participated in previous groups. Thus, the ongoing monthly group was established. Wives attended the monthly group as needed, and there were usually four to six individuals that attended each monthly meeting. These meetings were for support and no specific topics were prepared in advance. However, wives did occasionally request that specific topics be addressed, and appeared to prefer the structured format of the time-limited group to the open format of the support group.

Exploratory Analyses Not Directly Related to Study Hypotheses

To assure that no errors were made in data entry, box and whisker, and stem and leaf plots were analyzed for all variables. All variables appeared to have a valid range of scores. In
addition to the analyses performed on each hypothesis, the relation of demographic variables to dependent variables was explored. Age was negatively correlated with perceived social support ($r (21) = -.58, p = .01$) and was positively correlated with caregiver burden ($r (21) = .45, p = .04$). Older individuals reported higher levels of caregiver burden and lower levels of perceived social support than younger individuals. In addition, “years married” was negatively correlated with perceived social support ($r (20) = -.45, p = .05$). Specifically, the longer a woman was married to her current husband, the less social support she perceived. To follow up on this finding, age and years married were correlated to determine if these variables were directionally related. Age and years married were not significantly correlated in this sample, ($r (30) = .29, p = .12$). An independent samples $t$-test was conducted to determine if knowing one’s husband before he developed PTSD was related to any of the study dependent variables. Wives who reported that they knew their husbands before they developed PTSD reported significantly less social support ($M = 3.38, SD = 1.32$) than individuals who reported that they did not know their husbands before their PTSD developed ($M = 4.86, SD = 1.25$), $t (17) = -2.50, p = .02$. In addition, wives who did know their husbands before they developed PTSD reported significantly more secondary stress symptoms ($M = 55.38, SD = 20.63$) than individuals who did not know their husbands before they developed PTSD ($M = 33.18, SD = 22.54$), $t (17) = 2.19, p = .04$.

Dependent variables for all pre-test measures were correlated to determine if relations existed among these seven variables. Secondary PTSD, caregiver burden, wives’ marital satisfaction, and perceived social support were all intercorrelated at the .01 alpha level. Specifically, higher scores of secondary PTSD were correlated with higher caregiver burden scores, lower levels of social support, and lower levels of marital satisfaction. In addition, higher caregiver burden was correlated with lower levels of social support and lower marital
satisfaction. Finally, higher levels of social support were correlated with higher levels of marital satisfaction. Two additional correlations were found at the .05 alpha level. Wives’ secondary PTSD scores negatively correlated with their husbands’ PTSD scores. In addition, wives’ marital satisfaction positively correlated with their husbands’ PTSD scores. Intercorrelations among all dependent variables for the entire sample are presented in Table 2.

To further evaluate the relations among the variables of caregiver burden, marital satisfaction, perceived social support, and secondary stress, a series of hierarchical regression analyses were computed. Multiple linear regression analysis was used to develop a model for predicting secondary stress symptoms from participants’ marital satisfaction, perceived social support, and caregiver burden scores. Intercorrelations among these four variables for wives included in the regression analysis are presented in Table 8. These variables are highly intercorrelated. The model summary and coefficient statistics are displayed in Table 9. Marital satisfaction was the only factor in the regression model that uniquely predicted secondary stress scores \( t (20) = -2.48, p = .024 \) with the other potential predictors accounted for.

In addition, multiple linear regression analysis was used to develop a model for predicting marital satisfaction from participants’ caregiver burden, perceived social support, and secondary stress scores. As before, the intercorrelations among these four variables for wives included in the regression analysis are presented in Table 8. The model summary and coefficient statistics are displayed in Table 10. Both caregiver burden \( t (20) = -2.53, p = .02 \) and secondary stress \( t (20) = -2.48, p = .02 \) uniquely predicted marital satisfaction.

Finally, multiple linear regression analysis was used to develop a model for predicting caregiver burden from participants’ marital satisfaction, perceived social support, and secondary stress scores. Again, intercorrelations are presented in Table 8. The model summary and
coefficient statistics are displayed in Table 11. Marital satisfaction was the only factor in the regression model that uniquely predicted caregiver burden scores ($t (20) = -2.53, p = .02$) with the other potential predictors accounted for.

Descriptive data regarding group satisfaction results was explored. Means and standard deviations for satisfaction with each group topic are presented in Table 12. Overall, wives found most of the group topics to be somewhat helpful to extremely helpful. The group topic concerning sex and intimacy received the lowest ratings of satisfaction. For the question rating how helpful each member found the group overall, all 10 of the respondents to this question rated the group as a 5 (extremely helpful). In addition, 10 out of 11 of the wives indicated that they had made a connection with other group members. All wives responded that their group was cohesive as a whole, but only one person responded that she had made contact with another group member by phone or email outside of the group setting. Finally, group members were asked to rate their level of satisfaction with the group on a scale ranging from 1 (not at all satisfied) to 10 (extremely satisfied). Six members rated the group as a 10, three members rated it as a 9, and one rated it as an 8.
CHAPTER 4
DISCUSSION

The findings of the present study have several implications for the treatment of veterans with posttraumatic stress disorder (PTSD) and their wives. The initial premise of this study was to develop a time-limited therapy group for wives of veterans with PTSD and determine if participating in this group would have an impact on the psychological functioning of wives of veterans with PTSD and their husbands. The literature is clear that wives of veterans with PTSD have increased psychological symptoms when compared to the general population (Mangunomire et al., 2007; Beckham et al., 1996; Calhoun et al., 2002; Westerlink & Giarratano, 1999; Dekel, Solomon, et al., 2005; Ben Arzi et al., 2000; Dirkzwager et al., 2005; Evans et al., 2003; Dekel & Solomon, 2007). These psychological problems can include caregiver burden, secondary stress reactions, and marital discord. Although it is well documented that wives struggle with these issues, few studies have attempted to document the treatment of this clinical group with treatment outcome studies. In addition, although it is well known that support groups for wives are being conducted, primarily at Department of Veterans Affairs (VA) sites, little descriptive information about these groups exists. Therefore, the primary aim of this study was to thoroughly describe a group treatment protocol for wives of veterans with PTSD, qualitatively describe clinical findings relevant to the group, and conduct an initial empirical investigation to determine if individuals who participated in the group showed a decrease in psychological symptoms after participating in the group.

The initial intent of this study was to compare wives who participated in the treatment group to wives in a waitlist control group. However, as the study began, it was clear that recruiting wives to participate in this type of group would be difficult, as many barriers to
treatment engagement were encountered. Although it initially appeared that veterans and their wives were enthusiastic about the offering of a group for wives, many of those who had asked for such a group ended up declining participation due to a number of factors including time constraints, scheduling, husbands’ reluctance to have them participate, travel distance, financial reasons, childcare issues, and denial that they needed help. These barriers to treatment are similar to those found in recent research with veterans and their families (Polizzi, 2008; Sherman et al., 2008). In addition, it was difficult to recruit a control group to participate in the study, as referrals for the group were too slow to develop a waitlist control. Individuals who were interested in the group but could not attend due to scheduling or other factors were not likely to participate fully in the control group given that they received no incentive, and often agreed but then did not show to complete post-test measures, even after several attempts were made to contact them. Even when wives were recruited to participate in treatment and control groups, it was difficult to convince their husbands to participate in the research portion of the study. These recruitment constraints and their impact on the current study will be discussed throughout this section.

A Priori Hypotheses

The first research hypothesis was that wives who participated in the treatment group would show a significant decrease in secondary stress symptoms from pre-test to post-test. It was expected that this population would report high levels of secondary traumatic stress at pre-test based on prior research that has found links between psychological symptoms in wives and PTSD in their husbands (Westerlink & Giarratano, 1999; Dekel, 2007; Beckham et al., 1996; Ben Arzi et al., 2000; Figley, 1998; Dirkzwager et al., 2005). In addition, other forms of treatment, such as a lifestyle management course for veterans and their wives have demonstrated
success in decreasing psychological symptoms in veterans’ wives (Devilly, 2002). Therefore, it was theorized that coping techniques, psychoeducation on PTSD, and support components of the group would lead to a decrease in secondary traumatic stress symptoms. The current findings supported this hypothesis. This implies that learning more about PTSD, processing emotions related to living with a spouse with PTSD, and receiving increased support from others decreases symptoms of secondary stress. Control group scores demonstrated no significant decrease in trauma symptomotology as a whole. One explanation for the observed pattern in the control group is that three participants exhibited ceiling and floor effects for their respective scores, as their scores varied little from pre-test to post-test, and their scores were on the outer ranges of the measure’s bounds. For the individual who showed a decrease in symptoms from an initially very high level, it is possible that simply meeting with a clinician during the screening session helped her to feel listened to and accounted for her drop in symptoms.

In addition, it appears that wives in this sample experience significantly more trauma-related symptoms than women in a non-clinical sample (Elliot & Briere, 1991). Their scores were more similar to non-abused women receiving outpatient services (Whiffen, Benazon, & Bradshaw, 1997). When trauma subscales were examined, dissociation, depression, anxiety, and sexual abuse trauma subscales showed significant decreases from pre- to post-test in the treatment group. This may indicate that this group format tends to affect generalized symptoms, such as depression and anxiety that are common among wives of veterans with PTSD. When comparing these subscale scores to normed samples, women who participated in this group had pre-test scores that were higher than outpatient samples (Whiffen et al.) and their scores were more similar to those of inpatients (Zlotnick et al., 1996). These findings indicate that women participating in this group are more similar to clinical samples than non-clinical samples on
trauma-related symptomatology and psychological symptoms and the current group was successful in decreasing a wide range of these psychological symptoms. This underscores the need to make services available to this population, who (like the veterans) are experiencing psychological symptoms as a result of the aftermath of war.

However, one question that arose during the first round of groups was whether the Trauma Symptom Checklist – 40 was measuring secondary PTSD symptoms, as the study intended, or if it was actually measuring primary PTSD symptoms from past traumas that the wives had experienced. As it became clear that group participants had higher levels of traumatic events in their histories when compared to the general population, it was considered that this measure may actually be measuring PTSD symptoms from previous traumas. Unfortunately, because the measure is not event specific, it is impossible to determine if the symptoms reported were related to a past trauma, their experiences with living with a partner with PTSD, or a combination of both. It is likely that a combination of both are at play, as individuals who did not report previous traumatic events showed relatively high levels of symptoms and demonstrated a decrease in symptoms after participating in the group. So regardless of whether presenting symptoms were related to primary or secondary stress, participation in this group appeared to be successful in decreasing traumatic stress symptoms.

The second hypothesis examined pre- and post-test differences in caregiver burden for wives in the treatment group. It was hypothesized that women would report a decrease in caregiver burden symptoms from pre-test to post-test after participating in the therapy group. Previous studies have demonstrated that wives of veterans with PTSD exhibit higher levels of caregiver burden than those without PTSD (Calhoun et al., 2002; Manguno-Mire et al., 2007; Dekel, Solomon, et al., 2005) and no studies have explored the reduction of caregiver burden in
PTSD caregivers after participation in group treatment. However, previous studies with family members of Alzheimer patients have demonstrated reduced caregiver burden in individuals who attended a support group (Cummings et al., 1998). Therefore, it was predicted that the coping techniques, support, and psychoeducational components that are included in this treatment protocol would result in a decrease in the participants’ perception of their caregiver burden as demonstrated in the research sited above. Support for this hypothesis was observed but was not statistically robust. This implies that this particular therapy group may have been unsuccessful in significantly reducing caregiver burden for the current sample. However, because of the low sample size and because the effect size for this difference was large, it remains possible that this hypothesis will be supported in replication. Descriptive data of the participants’ scores appear to support this possibility, as decreases in scores were observed for the majority of participants in the treatment group, whereas increases in caregiver burden scores were observed for all participants in the control group.

One possible explanation for the current pattern of results is that reductions in secondary stress symptoms had only marginal effects on the perception of burden by the wives. Reported symptoms and perception of burden are different constructs that would not necessarily both be affected in the same ways by participation in a group treatment. It is possible that by participating in the treatment group, individuals actually became more aware of their personal burdens and were better able to recognize them. They may have felt more willing to embrace that as wives of veterans with PTSD, they face greater challenges than the average wife does. Therefore, while they may be better able to manage their own symptoms after participating in the group, they continue to perceive their lives as difficult and may take the caregiver role on as an identity even further.
The third hypothesis predicted that marital satisfaction would significantly increase after participation in the treatment group. This prediction was based on prior research that indicates that veterans with PTSD have significantly more difficulties in their marital relationships than individuals without PTSD (Carroll et al., 1985; Riggs et al., 1998; Jordan et al., 1992). In addition, Devilly (2002) and Monson et al. (2004) have demonstrated that couples’ involvement in groups and psychoeducational classes can improve marital adjustment in wives. Therefore, it was hypothesized that the psychoeducational components of the wives group treatment would result in significant improvement in wives’ marital satisfaction, as they learned techniques such as marital communication and assertiveness to apply to their marriages. This hypothesis was supported. Individuals who participated in the therapy group experienced a significant increase in marital satisfaction after participating in the group. Descriptive data appeared to support these findings as well, as most women in the treatment group showed general increases in marital satisfaction whereas women in the control group showed no clear trend regarding increases or decreases in their marital satisfaction scores. These finding supports research by Shehan (1987) who proposed that psychoeducation regarding PTSD, desensitization of wives regarding military horrors, and active listening (all components integrated into the current group protocol) would lead to less communication apprehension in couples. By better understanding their husbands’ symptoms and how to react to them appropriately, wives likely gained the ability to deescalate arguments and allowed their husbands time alone when it was needed. It is likely that they were able to better recognize triggers that bring on active PTSD symptoms and help their husbands avoid triggers or create an environment where triggers were less likely to occur. Increased assertiveness may have also led to more positive experiences in their marriage, as they felt that they were able to voice their opinions and become a more active participant in the relationship. A
sense of understanding was also likely gained, and if husbands observed this increase in understanding, they may have been more likely to open up with their wives and connect with them on a deeper level. Also, gaining knowledge about PTSD may have allowed wives to view their marriages more favorably, and speaking with other wives that are experiencing similar situations to them may have given them the feeling that they are better able to handle difficult situations and that they are not alone in dealing with this situation. Similar results were found in research conducted by Outram et al. (2009).

The fourth hypothesis was that perceived social support would increase from pre-test to post-test for women who participated in the treatment group. This hypothesis was based on literature that reported that individuals who participated in previous wives’ support groups found relief in their psychological distress by sharing their stories with other women in the group and feeling a sense that they were not alone in their struggles (Harris & Fisher, 1985; Outram et al., 2009). In addition, it was observed that women in previous support groups made connections with one another, created friendships, and called and emailed one another. Therefore, it was predicted that simply offering a chance for women to meet other women who have similar experiences would lead to an increase in perceived social support. Support for this hypothesis was observed but, like hypothesis two, was not statistically robust. This implies that this particular support group was not fully successful in significantly increasing general perceived social support. However, given the low sample size and a large observed effect size, it is possible that the hypothesis can prove useful upon replication. Descriptive data of the participants’ scores appears to support this notion, as the majority of participants in the treatment group showed increases in perceived social support from pre-test to post-test whereas scores indicated no trends for the control group.
Although the total score for perceived social support was not statistically robust in showing increases from pre-test to post-test for the treatment group, the Significant Other subscale did display a significant increase from pre-test to post-test. Thus, whereas women did not perceive a significant change in their social support from family or friends, they did perceive more social support from their husbands. This finding is surprising, as it was anticipated that participation in this group would lead to an increase in perceived support from friends as they became acquainted with other women in the group. One possible explanation for this is that wives’ definitions of friends was limited to friends that they had before participating in the group. It is possible that they did not consider women they connected with in the group as friends, but placed them in another category of individuals who would not fit in the three groups measured by this instrument. Therefore, it is possible that they did perceive an increase in social support in general that did not fit in the categories measures by the Multidimensional Scale of Perceived Social Support. Regarding the finding that women perceived more social support from their husbands after participating in the group, it is possible that during the course of the group, husbands were noticing that their wives had more understanding of their struggles with PTSD, leading them to open up more with their wives. Husbands may have perceived that their wives were making an effort to support them by participating in this group and therefore they wanted to make more of an effort to be supportive to their wives. In addition, changes in communication styles may have fostered an environment in which the couple could feel more comfortable viewing their spouses as supportive. Another possibility is that because the marital relationship was a primary focus of the group, women made more efforts to foster social support with their husbands as opposed to family or friends.
Hypothesis 5 predicted that participation in the treatment group would lead to increases in assertiveness. Assertiveness training was seen as an essential component of the group, as previous researchers have suggested that assertiveness training with wives of veterans with PTSD as an essential part of veteran treatment programs (Shehan, 1987; Rabin & Nardi, 1991). The idea that assertiveness training would increase assertiveness scores was based on researchers documentation that these techniques increase assertiveness in clinical populations (Zappe & Epstein, 1987). Therefore, it was expected that women who participated in this group would increase their assertive behaviors with their husbands, leading to increased marital adjustment and lower psychological symptoms (Shehan). Results did not support this hypothesis. Individuals in the treatment group showed no significant change in assertiveness scores from pre-test to post-test. However, based on descriptive data of individual’s scores, lower scores on assertiveness at pre-test resulted in increases in assertiveness at post-test. Specifically, the lowest five scores for assertiveness showed significant improvement on assertiveness at post-test. No clear trends were observed for the control group. One possible explanation for this finding is that women who participated in the group may have varied widely on their communication styles prior to entering the group. When this hypothesis was originally proposed, it was assumed that women would display more passive personality styles and that assertiveness training would help them move from a more passive communication style to a more assertive style. Descriptive data appears to offer some support for this hypothesis, as women who scored very low on assertiveness at pre-test tended to increase their scores dramatically at post-test. However, it was observed that communication styles varied greatly by individual and there were many women in the group who presented with aggressive communication styles. It is possible that these women engaged in both assertive and aggressive behaviors and assertiveness training may have aided in the reduction of
their aggressive styles. Unfortunately, the measure used for this study was unable to clearly distinguish these three styles, and therefore it is difficult to determine why assertiveness scores did not significantly change over time. Another possible explanation is that assertiveness was covered during only one group session; it could be that women needed more exposure to assertiveness techniques during the group process to derive a noticeable change in their behaviors. In addition, post-test scores for assertiveness were assessed three weeks after assertiveness training was introduced in the group. It is possible that women were still practicing their assertiveness techniques and that three weeks was not enough time to show noticeable changes in their communication styles.

Clinical Findings

In addition to the quantitative results, many clinical results were observed by group facilitators and reported by group participants during the course of the study. These findings are important for individuals wishing to conduct groups similar to this one in the future.

Several clinical findings involved group participation and participant attrition. Wives of Vietnam veterans were more likely to participate in the treatment group when compared to wives of veterans who served in Iraq and Afghanistan. One of the most prominent explanations for this finding in the literature is the barriers to treatment that exist for family participation in treatment. Wives of veterans who served in Iraq and Afghanistan were more likely to be employed full time and have children living in the household when compared to Vietnam wives, who were more likely to be retired and living with only their husbands. Because groups were only offered during business hours, many younger women reported that they could not attend due to these factors. Similar barriers to treatment were found by Polizzi (2008) and Sherman et al. (2008). Another explanation is that wives of returning veterans may be less likely to engage in treatment because
they may be in denial that their husbands’ symptoms are a significant problems in their lives, or they may unknowingly believe that their husbands’ symptoms are temporary and will resolve naturally. It is also possible that Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) veterans are less willing to have their wives participate in a treatment group, as they may be in denial of the significance of their symptoms themselves. The facilitators observed this in more than one case. In these cases, when attempting to contact wives by phone to participate in the group, husbands would answer the phone and indicate that his wife was not home or indicate that she was not interested in the group without consulting with her first. This could account for why many of the OEF/OIF wives scheduled appointments by phone and ended up not showing up for their appointments. It is possible that when they spoke with their husbands about the group, their husbands were opposed to having them participate. This interpretation would support research by Sherman et al. who found that veterans indicated that barriers to treatment included that “what goes on behind closed doors is not to be discussed” and wives should be “seen but not heard.” Although not fully assessed in this study, it is possible that veterans whose wives did not participate in the treatment group were not participating in treatment themselves, leading their wives to be less likely to participate in treatment, as was found in a study conducted by Sautter et al. (2006).

Developing a therapeutic alliance with the potential group member prior to the start of group led to a greater likelihood that the individual would participate in the treatment group. One explanation for this finding is that the initial screening session may have alleviated any fears wives had about the group and allowed them to ask questions about the group without feeling intimidated by having to ask questions in front of several strangers during the first group session. In addition, one-on-one sessions allowed wives to be more vulnerable and more open with their
feelings, leading to a greater sense of comfort with and faith in the facilitator that she was genuine in her desire to help. Another reason why this component may have been helpful involves the husband’s invitation to be involved in the screening session. Wives may have felt more comfortable participating when an outside source was able to speak with their husbands about the purpose of the group, whereas if the husband was not involved in the screening process, they may have had a difficult time explaining to their husbands why they desired to participate in the group.

An additional clinical finding involved group member attrition – specifically, individuals dealing with active crises were more likely to drop out of the group when compared to those who were not. Previous research with at-risk populations including suicidal clients indicates that individuals in crisis are more likely to drop out of treatment before it is completed (Gibbons, Stirman, Brown, & Beck, 2010). It is possible that wives dealing with crisis situations felt that they had more severe problems than other group members, and therefore, they felt that continuing group sessions and sharing their struggles would be a burden for other group members. Another possibility is that women dealing with crisis situations may have viewed other women’s problems as petty, causing them to become frustrated with the group. It is also possible that these women felt embarrassed when talking about their problems with other group members, causing them to stop attending the group. In all of the cases in which these situations occurred, facilitators offered these women individualized treatment with the opportunity to join the next round of groups if desired.

Other clinical findings involved wives’ perceptions of social support. Specifically, women had difficulty identifying individuals in their social support network, and some indicated that they had no friends outside of family members. There are several interpretations for this
finding that likely involve the impact of PTSD on their lives. King et al. (2006) proposed that PTSD symptoms such as avoidance of social situations, emotional numbing, and anger can lead to a decrease in social support over time. In addition, Clapp and Beck (2009) propose that “negative network orientation” (viewing social support as useless in times of need) can lead to decreases in social support in individuals with PTSD. It would make sense that these factors that affect social support for veterans would also affect wives’ utilization of social support. In addition, women who participated in the group reported that their husbands tended to isolate themselves from the world, keeping them from grocery stores, restaurants, and other places that involved social interaction. Wives are naturally pulled into this state of isolation, as their husbands expect them to be home with them most of the time and only leave the house when necessary. Several wives in the study groups reported that their husbands would not allow them to leave the house without knowing where they were going, when they would be back, and whom they would be seeing. In some cases, husbands would time their wives’ trips and accuse them of lying to them about their whereabouts when trips took longer than usual. This response by the husband is likely related to his attempts to decrease anxiety associated with hyperarousal symptoms, as he fears that if his wife is out of his sight, something bad will happen to her. This desire for control by the husbands naturally leads wives to feel isolated and to distance themselves from others. Some wives also reported that their husbands became jealous when they spent time away from them with family or friends. To avoid conflict, wives often felt that they had to choose between their husbands and their families. Naturally, this would lead to lower perceptions of social support. One consequence of this choice is that women may hold resentment towards their husbands and feel that he is not supportive toward them at all. This appeared to be true in the case of this sample, as most of the wives did not list their husbands as
sources of social support during a group exercise. Finally, it was observed that for the women who were able to list sources of social support, they often identified those relationships as “one-sided.” Women felt that they provided social support to the person listed, but indicated that the person was unable to return an equal level of social support when they needed it. This may be related to the finding regarding social support, namely that wives reported unwillingness to share their own problems with members of their social support network. They often reported that their families did not understand what they were going through, or they expressed feelings of embarrassment or shame when they attempted to talk about their husbands’ PTSD symptoms with family or friends.

Some clinical findings related to husbands’ reactions. It was observed that veterans were often suspicious about the motives of the group and were less likely to participate in research than their wives. This finding may be related to the veterans’ diagnoses of PTSD. Research has indicated that veterans with PTSD endorse more delusional beliefs and entertain paranoid thoughts more often than individuals without PTSD (Campbell & Morrison, 2007). Veterans may have been less likely to participate out of fear that their PTSD scores would be used against them regarding their disability benefits. This was a question that was often encountered during screening sessions with the husbands. In addition, veterans also seemed reluctant to have their wives participate in the group and asked many questions about the motives of the group. It is possible that veterans believed their wives would reveal unflattering information about them in the group that would not be kept confidential by other group members. This was a realistic fear, as many of the wives who participated in the group had husbands participating in PTSD groups. Therefore, it is possible that wives from the group would tell their husbands information about what other wives revealed about their husbands, leading veterans in the group to know more
about each other than they desired. Hopefully, this did not occur in the groups that were conducted, as it was made very clear that there were strict boundaries to confidentiality specifically for these reasons. No adverse breeches of confidentiality were reported, and therefore it is assumed that this did not occur. However, it is understandable that husbands may have been reluctant to participate for this reason.

In addition, veterans who did have wives who participated fully in the treatment group reported that their wives appeared to understand their symptoms better and were better able to manage situations in which symptoms caused difficulties in their marriage. Although initially reluctant to have their wives participate in a PTSD group, veterans reported that their wives’ level of understanding regarding PTSD had improved significantly and they felt closer to their wives because of their participation in the group. Some participants added that they found it easier to talk to their wives and that there were clearer expectations regarding behavior and coping with situations in which active PTSD symptoms occurred. These findings are likely due to the information women gathered in the group on assertiveness, communication, psychoeducation regarding PTSD, and coping with PTSD symptoms. Previous studies with caregivers of patients with schizophrenia have demonstrated that psychoeducational groups for family members can lead to decreases in caregiver burden for the caregivers, increased knowledge regarding bipolar disorder, and improvement in social relationships for the patients (Magliano, Fiorillo, Malangone, De Rosa, & Maj, 2006; Reinares et al., 2004). It is likely that women applied the skills they learned in group to situations encountered in their relationships, and as a result their husbands noticed significant changes that improved their relationship functioning.
Several more clinical findings involved other observations by the facilitators and reports by the wives that could not be grouped by a specific topic. It was observed that wives who participated in the treatment group demonstrated a general lack of knowledge regarding PTSD, war, and the impact of trauma. This was surprising considering that most veterans whose wives had participated had been diagnosed with PTSD long ago and received treatment for many years. This finding was also surprising because within the media, posttraumatic stress disorder has received wide attention, and it was expected that women would possess greater knowledge on the topic because of its coverage as a result of the wars in Iraq and Afghanistan. It does not appear that wives played an active role in learning more about their husbands’ diagnoses, nor were they aware of how to access psychoeducational materials that would aid in their understanding of the disorder. This supports research in which veterans indicated that their wives were uninterested in learning about their symptoms and wives indicated that it took patience and dedication to learn about PTSD (Sherman et al., 2008). Another possible explanation is that husbands avoided talking about their symptoms with their wives, and as a result, their wives were unaware of many of the more subtle symptoms they were experiencing. It was also apparent that many of the women received little self-disclosure from their husbands regarding their experiences in combat, and therefore were unaware of many of the horrors that occurred during war. This tendency toward lack of self-disclosure is present in the literature (Carroll et al., 1985). Husbands may fear that speaking about the horrors they experienced in war will hurt their wives and cause them psychological damage. In addition, there is the perception that if they reveal killings or other acts that they committed, they will be viewed negatively by their wives (Sherman et al., 2008). It was also observed that many of the wives who participated in the group had experienced their own traumas and were unaware that these traumas could also lead to
symptoms of PTSD. It appeared that most women in the group associated PTSD with combat experiences and were less aware of the other traumas that can lead to PTSD.

Wives often reported that their lives were enmeshed with those of their husbands and that they had difficulty describing their own desires and goals separate from those involving their husbands. Similar results were found in a study of wives of veterans with PTSD conducted by Dekel, Goldblatt, et al. (2005). One possible explanation for this finding is that symptoms of PTSD put the wife in the caregiver role. It may be the case that women who are attracted to veterans with PTSD, or those that stay with these men after they are diagnosed with PTSD have personality styles that promote enmeshment and their role as caretaker. Another possibility is that women who have experienced a trauma are more likely to seek out other individuals who have been traumatized (as suggested in Dekel & Solomon, 2007), and therefore there is a common bond that they share that keeps them in the relationship. Because they share this common bond and share many of the same symptoms, their lives may become enmeshed as they as they struggle to cope with these symptoms.

Treatment group participants appeared uncomfortable with discussing sex and intimacy in a group setting. This was not surprising, and many of the women participating in the group were very modest regarding deeply personal information, and may have felt uncomfortable sharing this information in front of other group members. Sex and intimacy are always difficult subjects to discuss with a client, and addressing this topic in a group setting can make it even more difficult, as women may feel that their sexual problems are unique and are afraid to reveal them in a group setting to avoid embarrassment or shame.

Women’s self-care activities significantly increased after setting goals during group and announcing their goals to other group members. Previous research in sports psychology confirms
that assigning goals and setting goals in a group setting leads to better outcomes on task performance (Boyce & Wayda, 1994). It appears that announcing goals during the group process served as peer motivation to accomplish these goals. Because women were encouraged to share goals within the group, to avoid disappointing feelings, they were motivated to increase self-care activities and meet the goals they set for themselves. Because women in the groups often had low levels of social support from family and friends, having other women they could related encourage them to meet their goals may have given them more motivation to work toward those goals. Other group members may have had an impact on increasing self-esteem, giving them more confidence that they could achieve their goals. Also, it is likely that women rarely thought of their own goals and desires, and therefore just discussing these in a group setting allowed them to set goals for themselves and realize that they were neglecting their self-care.

Many treatment group participants had symptoms of PTSD related to a previous trauma (usually childhood sexual assault); however, comfort with talking about these traumas varied by group. It is unclear why members of one group were more open about discussing their sexual abuse experiences. This particular group did not appear more cohesive than the others, nor was discussion regarding past traumas more encouraged by the facilitators. One possible explanation is that this group had a more diverse age range than other groups. It is possible that younger women are more likely to discuss their sexual abuse experiences openly, thereby encouraging other women to open up about their experiences. Sexual abuse may be less taboo among younger women when compared to women in the Vietnam generation resulting in more comfort with discussing this topic in a group setting. Regarding the finding that many of the women in this study had experienced their own traumatic events, this is not surprising, considering that 15-25% of women in the general population experience sexual abuse in their lifetimes (Leserman, 2005).
However, the number appeared even larger in our population leading one to believe that there are other factors at work with this population. One possibility is the assertive mating hypothesis – namely like attracts like (Dekel & Solomon, 2007). Women who have experienced trauma are more likely to seek out men who have experienced trauma and vice versa. Another possible explanation is that women attracted to men in the military have some common personality trait that makes them more vulnerable to experiencing trauma. A third interpretation is that women who participated in this group were treatment seeking individuals and therefore it is more likely that they would exhibit higher psychological symptoms than those women who chose not to participate in the group. Therefore, it would be expected that women with more psychological issues to begin with would be more likely to have experienced a trauma in their past. As a result, treatment-seeking wives of veterans with PTSD may have more previous traumas than non-treatment-seeking wives.

The final clinical finding involved wives’ desire for follow-up after completion of the time-limited group. One reason participants may have desired follow up is because they found the time-limited group to be beneficial and desired continued benefit and education regarding their husbands’ PTSD diagnosis. Another possibility is that women viewed the group as a steady source of support and therefore, desired for this support to continue beyond the scope of the time-limited group. For many women, this group time appeared to be the one opportunity during the week that they were able to be open and honest with their feelings and be separated from their husbands.

Other Exploratory Findings

Age was found to be negatively correlated with perceived social support and positively correlated with caregiver burden. Older individuals reported less perceived social support and
more caregiver burden than younger individuals. One possible interpretation of this pattern is that older women have been married to their husbands for longer periods of time than younger women, and have become more isolated from friends and families, leading them to perceive less social support. In addition, because they likely lived with their husbands longer than younger individuals, their lives have become more enmeshed with their husbands’ lives, leading them to take on more responsibility for their husbands’ wellbeing and thereby perceiving more caregiver burden. However, in the present sample, age and years married were not significantly correlated. Therefore, another possible explanation for this finding is that older women perceive less social support in general, as they no longer have support from co-workers if they are retired, they do not have children in the home, and they may be more likely to stay home because of health problems or because of the ailing health of their husbands. Heller and Mansbach (1984), in a community sample of elderly women, found that age was negatively correlated with support network size and emotional support. They also showed that older women reported spending less time with family and friends. Also, in a review of literature on social support and demographic factors, Vaux (1985) found that social support from friends tends to decrease with age. These factors would also likely lead to an increase in caregiver burden in older individuals, as they are more likely to struggle with health issues, causing them to feel more burdened by their husbands’ symptoms. In addition, their husbands likely not only experience PTSD, but may be beginning to experience chronic health conditions that require more care at home. Also, they may spend more time with their husbands, especially if both individuals in the couple are retired, leading the wives to cope with symptoms on a hour by hour basis. Younger individuals, on the other hand, may be able to make more social connections through their jobs or may have more opportunity for social engagement as they are involved in their children’s school activities. In addition,
younger women are more likely to be married to younger men who have less health problems in addition to their PTSD symptoms, leading to a perception of less burden. These conclusions appear to be supported by McCullagh, Brigstocke, Donaldson, and Kalra (2005), who studied caregiver burden in caregivers of stroke patients. They found that low family support predicted higher caregiver burden, and that older age predicted lower quality of life for the caretakers. 

Women who were married to their husbands longer perceived less social support than those married for shorter periods of time. One interpretation of this finding is that the longer a woman is married to an individual with PTSD, the more isolated she becomes. One of the more prominent symptoms of PTSD is social isolation of the veteran, and this social isolation often includes the spouse, as the spouse feels obligated to stay home with the veteran. Individuals who were married for fewer years may not experience the same level of social isolation as those who were married for more years. In addition, many of the couples married for shorter periods of time likely married after the husband served in combat and developed PTSD. Wives who knew their husbands before they developed PTSD perceived less social support than individuals who met their husbands after they developed PTSD. Pavalko and Elder (1990) found that WWII soldiers who married before their military service were more likely to divorce than those who married after their military service. Some explanations they suggest are that couples who marry before military service face long separations, possible economic hardships, and disruption of family roles that does not occur when marriage occurs after military service. Therefore, these marital hardships may have led women to perceive less social support in general and experience more psychological difficulties. Another explanation for this finding is that individuals who already knew their husbands before PTSD developed saw a dramatic change in their husbands’ behavior, leading them to perceive less support from their husbands. On the other hand, women who met
their husbands after he had developed PTSD did not see a change in their husbands’ supportive behaviors, and therefore, they had no baseline to compare their husbands’ level of support to, possibly leading them to perceive him as more supportive. Individuals who knew their husbands before they developed PTSD also reported more secondary stress symptoms than those who did not know their husbands before they developed PTSD. It is possible that because PTSD symptoms tend to be more severe in the first few years of returning from combat, women saw firsthand the more severe symptoms of PTSD and were more likely to view the change in their husband and their relationship as traumatic, leading to the development of traumatic stress symptoms. Women who met their husbands after he had developed PTSD, on the other hand, were more likely to view the veteran’s behavior as the norm for him, as they had no prior experience to base his behavior on. This lack of knowledge of how he was before may have acted as a barrier to the development of secondary stress symptoms.

High secondary stress was correlated with high levels of caregiver burden, which was correlated with lower social support and lower marital satisfaction. This pattern may suggest that this group is quite cohesive in regards to symptom presentation and that constructs measured in these scales may represent a larger construct for a syndrome that wives may experience if their husbands have combat-related PTSD. Marital satisfaction appears to predict both caregiver burden and secondary stress symptoms. Although perceived social support correlated with caregiver burden, secondary stress, and marital satisfaction in this sample, these factors appear to overlap in different ways. It is possible that wives with pre-existing lower levels of social support are attracted to other individuals with lower perceived social support (including individuals with PTSD). A woman with few family contacts and friends may seek a common bond with a man with the same views of social support. Another possibility is that while men are overseas serving
in combat, their wives are left alone, leading to a decrease in perceived social support. Mansfield et al. (2010) found that when compared to military wives of soldiers who are not deployed, wives of deployed soldiers exhibit more symptoms of depression, anxiety, and acute stress. Therefore, whereas the wife may develop secondary stress, caregiver burden, and low marital satisfaction as a result of military deployment and living with an individual with PTSD, these developments may not cause her level of perceived social support to decrease. To synthesize how symptoms measured in this study could develop in a woman who marries an individual with PTSD, a clinical scenario is provided below:

Mary has been raising her three children alone on a military base for the last year while her husband was serving in a combat zone overseas. Her family of origin lives thousands of miles away and she rarely sees them. She has made a few friends on the military base, but her old friends from her hometown rarely talk to her anymore because of the distance. Her perceived social support has significantly declined since her husband was deployed. Mary’s husband returns home from combat and she is very excited for his arrival. She is ready for things to return to normal in their household. However, when her husband arrives home, he appears to be a changed person. He is more reserved, quick to get angry, has difficulty sleeping, and is more paranoid and hypervigilant than he was before. Mary attempts to make connections with her husband by asking him questions about what he has experienced, only to be cutoff by him and responded to with anger. Because of her husband’s new symptoms, Mary feels that she must “walk on eggshells” around him and she becomes more anxious and hypervigilant at home, leading to an increase in traumatic stress symptoms. As her husband’s symptoms progress, he becomes socially isolated from his peers and family; avoids leaving the house, crowds, and watching the news; and has begun neglecting his self-care. As a result, Mary’s marital
satisfaction decreases as she is forced to take on more responsibility around the house and feels responsible for the care of her husband. Her role in the family is less that of a wife and more of a caregiver, especially because she already has three children to take care of. She may feel overwhelmed by these new responsibilities, leading to an increase in caregiver burden. Now that she has new responsibilities around the house, she has less time to socialize with her acquaintances on the base, leading to a further decrease in her perceived social support. She may also feel some embarrassment or shame regarding her situation, and may not feel comfortable confiding in her friends or family regarding her situation, causing her to isolate herself even more. After months or years of living her life like this, she may be dissatisfied with her marriage; however, because she is now in the caretaker role, she may feel obligated to stay with her husband with the hope that he will “return to his old self.”

Three surprising findings that emerged from the exploratory analyses were that wives’ secondary stress negatively correlated with their husbands’ PTSD symptoms, wives’ marital satisfaction positively correlated with their husbands’ PTSD symptoms, and husbands’ and wives’ marital satisfaction levels were not correlated. One important note to account for before interpreting these findings is that all but one of the husbands who provided PTSD scores met the cutoff score for the diagnosis of PTSD. However, it was surprising that as PTSD severity for the veteran rose, wives’ secondary stress symptoms declined and their marital satisfaction increased. One possible explanation for the finding related to secondary stress is that this score does not represent secondary stress at all, but it represents wives’ PTSD symptoms that resulted from a previous trauma. In this case, we would not expect PTSD symptoms for the wives and veterans to be related, and this finding may be spurious. Another possible explanation is that women with higher levels of secondary stress have more understanding of what their husbands are going
through, leading them to provide more support to their husbands, thereby lessening their husbands’ PTSD symptoms. Their own symptoms may serve as a buffer for PTSD severity. Women who experience little secondary stress, on the other hand, have difficulty showing understanding for their husbands that lead the husband to experience more severe PTSD symptoms. This finding is contrary to research conducted by Hamilton, Goff, Crow, and Reisbig (2009) who found that higher PTSD symptoms in wives of veterans is associated with lower relationship satisfaction in wives and husbands. They suggest that PTSD symptoms exhibited by veterans increase primary trauma symptoms in wives.

The finding for the relation between husbands’ PTSD symptoms and marital satisfaction for wives is more difficult to interpret. One possible interpretation is that as husbands exhibit more severe levels of PTSD, wives may view PTSD more as an illness that the veteran is not responsible for, thereby leading them to feel obligated to stay with him and value their role in the marriage, leading to greater marital satisfaction. On the other hand, women whose husbands exhibit more mild or moderate symptoms of PTSD may place responsibility on the husband to change his behavior, and therefore, they may feel less satisfied with their relationships. This interpretation appears consistent with research conducted by Renshaw, Rodrigues, and Jones (2008), who studied marital satisfaction in wives of OIF veterans. They found that marital satisfaction in wives was dependent on wives’ perception of the amount of combat exposure their husbands had experienced. When they perceived their husbands as having experienced low levels of combat, their marital satisfaction was lower. PTSD symptoms were viewed as out of the veterans’ control when wives believed their husbands had experienced significant combat exposure. Regarding the finding for marital adjustment, it was expected that wives’ and husbands’ scores for marital satisfaction would be correlated. However, this was not the case. It
appears that men and women in this study had differing views of their satisfaction with their relationship. There appeared to be no trend for who out of the couple scored higher for marital satisfaction, as four wives reported lower marital satisfaction than their husbands and three wives reported higher marital satisfaction than their husbands.

Overall, women found the group treatment to be both helpful to them and satisfying. This was clear during group sessions, as women expressed their gratitude throughout the group process. Eight of the nine topics were rated as *somewhat helpful* to *extremely helpful* confirming the usefulness each of these topics with the current population. Sex and intimacy was rated as the least helpful group topic, and women in these groups appeared uncomfortable with discussing sexual issues in this setting. However, I believe that this component of the group is important, and should remain in the group protocol. Although some discomfort was apparent, it was likely that the presentation of psychoeducational material on this topic was helpful to at least some of the group members. In addition, although they may have found it uncomfortable to discuss in the group setting, it may have prompted the discussion of this topic with their husbands at home.

As observed by the facilitators, all participants rated the groups as cohesive, and all but one of the group participants reported that they had developed a connection with other group members. This was one of the goals of this group, as it is proposed by me that one of the predictors for change in psychological symptoms is making connections with other individuals experiencing similar situations to them and developing the feeling that they are not alone. In a review of social support interventions, Hogan, Linden, and Najarian (2002) found that support groups can increase participants’ perceived family support, social contact, social network, and contacts with professionals, and lead to a perception of increased quality of social support. They also found that providing support to other group members leads to increased sense of well-being.
and satisfaction with the group process. One of the disappointing findings that arose from the present study was that only one person had made contact with another group member outside of the group setting. Prior to the start of group, it was expected that women would not only develop bonds within the group, but that they would rely on each other for support outside of the group. This was prompted with a distribution of a list of phone numbers and email addresses for consenting members of the group. However, this intended result did not play out. One possible reason for this might be that nine weeks was not long enough for women to develop enough trust in one another to confide in each other outside of the group. No follow-up data was collected with individuals who continued coming to the monthly support group meetings, so it is possible that with several months of follow-up, women may have began contacting each other. Hogan et al. found conflicting results regarding this issue in their review of social support interventions. Whereas some studies found that social support had remained the same or increased at a follow-up after completion of the group, several studies found no improvement in social support at follow-up.

Clinical Implications

The results of this study have clinical implications for the treatment of veterans with PTSD and their families. Based on the current findings, the group protocol developed for this project appears to be useful in the treatment of wives of veterans with PTSD. This research confirms that wives of veterans with PTSD are experiencing significant symptoms of caregiver burden, traumatic stress symptoms, marital distress, and low social support that approach clinical levels. In addition, although this study had a very small sample size, significant effects with large effect sizes were found in the reduction of secondary stress symptoms and an increase in marital adjustment scores for those who participated in the group. Although quantitative analyses of the
effects of this group on veterans’ functioning could not be conducted on this small sample, reports from husbands whose wives participated in the group indicated that they found the group helpful in improving their relationship functioning. VA clinicians and other clinicians who work with veterans and their families should consider implementing a similar treatment group in their PTSD program. It is important for clinicians to acknowledge the effect that PTSD has on the family, especially on wives, and it may be important to have wives present during feedback sessions with veterans newly diagnosed with PTSD, highlighting topics such as secondary PTSD and caregiver burden in the session. It is my hope that projects such as this one highlight the need within the VA system for more focus on family treatment options and funding for projects that expand or replicate this research.

Another clinical finding that was discouraging, yet important for clinicians is the barriers to treatment with this population. Because high demand for this group was observed in the VA this study was conducted in, it was assumed that participation would be high. This was not the case. Clinicians should be aware of the difficulties involved in recruiting individuals for this group, and should expect to put forth significant effort at the front end of group implementation. Clinicians should take advantage of group protocols that are already created to lessen this burden and increase the speed of program implementation by focusing more on subject recruitment.

Limitations

There are several limitations to the current study that may have an effect on the interpretation of the presented data. First of all, the sample size for this study was modest and this limited the comparison of group differences as was originally intended. In addition, because of the small size of the control group, it is impossible to determine if the effects that were found with the treatment group were a result of the treatment protocol or other unknown variables. As a
result, all statistical results should be interpreted cautiously, especially those involving group differences. In addition, much of the exploratory analyses involved descriptions of specific cases, and therefore these findings cannot be generalized to the population.

Another limitation to this study was that most of the participants in this sample were Vietnam-era wives. It was difficult to recruit wives from other war eras, and therefore this sample was very heterogeneous. Results of this study are more appropriate to generalize to Vietnam era wives and not to all wives of veterans with PTSD. It is likely that differing outcomes may have occurred had a greater percentage of OEF/OIF wives participated. In addition, although not specifically assessed in this study, the racial makeup of individuals who participated in this group was almost exclusively Caucasian. This was possibly a result of the rural setting of this particular VA. Therefore, results may not fully generalize to more urban population or those with more racially diverse representations.

Another limitation of the study was the flexible nature of the treatment protocol. Although attempts were made to standardize the treatment presentation between groups, this proved difficult, as different groups often presented with different issues that could not be ignored in a clinical setting. In addition, it was clear from the study that facilitator characteristics played a role in the development of rapport with each group as well as the presentation of material. It was observed that with each passing group, facilitators became more familiar with the protocol and sessions ran more smoothly as time progressed. Because facilitator characteristics were not investigated, it is difficult to determine if these characteristics are integral to the success of the group.

An additional limitation to the study is that it is unclear if the Trauma Symptom Checklist – 40 was truly measuring the construct of secondary stress symptoms. Although some research
studies have utilized this measure to study secondary stress symptoms, it is likely that within this population, this scale also measured primary PTSD symptoms, as many of the participants reported significant traumas that would cause score increases in this scale. Therefore, the change in secondary stress scores from pre-test to post-test may actually represent a decrease in primary PTSD symptoms rather than a change in secondary stress symptoms.

All measures used in the present study were self-reports. There are inherent limitations to using self-report measures, especially when individuals are reporting on past symptoms. For example, it is possible that current stressors may have had an impact on the reporting of secondary stress symptoms or marital satisfaction. In addition, social desirability may have come into play with the individuals’ responses. Many of the questions addressed sensitive topics and individuals may have felt uncomfortable answering truthfully about the difficulties in their marriages or the burdens they feel as a result of being a caretaker to a husband with PTSD. Most of the women expressed high levels of loyalty toward their husbands and may have felt restrained in providing information on the true nature of their own symptoms.

Suggestions for Future Research

To further our knowledge in the field of PTSD and family involvement in treatment, it is important that further research be conducted in these areas. First of all, replication of this study is needed. Significant changes with large effect sizes were found for many of the symptom variables in this study, and marginally significant effects were found with other variables. It is likely that variable relations would become more clear with a larger sample size and with the addition of a true control group to determine causal factors that lead to psychological change.

In addition, it is important that scales are developed that appropriately measure secondary stress symptoms in wives versus general PTSD symptoms. Although the measure used in this
study appeared to be reliable in measuring secondary stress symptoms, it may also have been measuring PTSD symptoms from a primary trauma as it was originally intended. More reliable measures created specifically for this population may help to identify treatments that may be effective in reducing these specific symptoms.

Although research in the area of barriers to treatment and factors that lead to attrition with this population does exist, it is important to continue studying these factors, as it is possible that they differ by sample. For example, the current research was conducted in a rural VA setting and it is likely that barriers to treatment faced by rural residents are different from those of more urban populations. Factors within certain treatment facilities that influence attrition and group participation may also be important to explore in future studies.

One important factor in determining the cause of change in this population is determining whether or not women actually gained knowledge regarding PTSD and other skills that were introduced through this group. It is important that researchers implement psychoeducational gains measures to determine if psychoeducational programs are actually increasing participants’ knowledge regarding PTSD. Another possible way to measure gains in knowledge is to have women journal after group about what they learned. This may help them to better process information learned in the group and refer back to the information when they have difficulty remembering it. Also, it would have been helpful for husbands in this study to journal on the changes they saw in their wives or their own symptoms from a subjective perspective, as it is likely that changes were occurring in the dyadic relationship that were not assessed by the objective measures.

In addition, future studies may want to further explore group facilitator characteristics that affect change in the group. For example, this group used female facilitators for all groups.
Would the treatment be as successful with male facilitators, considering that all participants in this group are women? Also, would females be less willing to participate in the group if they were aware before the group began that the facilitator was a male?

Another important research question that will be important to examine as the percentage of females serving in combat rises is the effectiveness of this group with male spouses of female veterans with PTSD. Would different symptoms emerge and would it be more effective to have a male facilitator? In addition, would it be possible to combine male and female spouses in a group? Little research exists on the impact of PTSD on male spouses, and this literature is needed before treatments for this population can be made available. Another related question is would this group be just as effective if other family members, such as mothers, sisters, or daughters were included in the group to learn more about the impact of PTSD. Some literature does exist on the impact of PTSD on non-spouse family members, but little research exists on the effectiveness of treating this population.

Finally, future research may look to explore veterans’ factors that affect participation and treatment of their wives. For example, PTSD severity or functional impairment could be explored as a possible variable that leads wives to participate in this type of treatment or drop out of the group. In addition, it may be important to examine the impact co-morbid psychological disorders have on wives’ participation and treatment effectiveness. Some possible co-morbid disorders to explore include substance use disorders, depression, and traumatic brain injuries. It is possible that these subpopulations of individuals with co-morbid disorders have different treatment needs that could be addressed in a group setting.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Treatment Group</th>
<th>Control Group</th>
<th>No Post-Test</th>
</tr>
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<td>( M ) (SD)</td>
<td>( M ) (SD)</td>
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<td>3 (33.3)</td>
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<td>3 (33.3)</td>
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*(table continues)*
Table 1 (continued).

Demographic Variables for Veterans

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<th>Control Group (n = 2)</th>
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<tr>
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<td>Past treatment</td>
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</tr>
<tr>
<td>Therapy</td>
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<td>1 (50)</td>
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<tr>
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## Table 2

*Alpha Internal Consistency (Diagonals) and Intercorrelations of Dependent Variables for the Entire Sample*

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<td>-.67**</td>
<td>-.14</td>
<td>-.78*</td>
<td>.12</td>
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<td>n = 8</td>
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<tr>
<td>2. CARE</td>
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<td>-.84**</td>
<td>-.71**</td>
<td>-.32</td>
<td>-.69</td>
<td>-.13</td>
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<td>n = 21</td>
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<td>n = 21</td>
<td>n = 20</td>
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<td>n = 8</td>
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<td>3. ADAS (wives)</td>
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<td>.73**</td>
<td>.13</td>
<td>.85*</td>
<td>-.19</td>
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<td>n = 33</td>
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<td>n = 32</td>
<td>n = 7</td>
<td>n = 8</td>
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<tr>
<td>4. PSS</td>
<td>(.92)</td>
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<td>.61</td>
<td>-.19</td>
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<td>5. ASSERTIVE</td>
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<td>6. PCL</td>
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<td>7. ADAS (husbands)</td>
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*Note.* TSC = Trauma Symptom Checklist – 40. CARE = Burden Interview. ADAS = Abbreviated Dyadic Adjustment Scale. PSS = Multidimensional Scale of Perceived Social Support. ASSERTIVE = Assertiveness subscale of the Spouse Specific Assertion/Aggression Scale. PCL = PTSD Checklist. *p<.05. **p<.01.
Table 3
Pre-test and Post-test Means and Standard Deviations for Participants in Treatment, Control, and No Post-Test Groups

<table>
<thead>
<tr>
<th>Measure</th>
<th>Treatment Group ($n = 19$)</th>
<th>Control Group ($n = 5$)</th>
<th>No Post-Test ($n = 8$)</th>
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<td></td>
<td>$M$ ($SD$)</td>
<td>$M$ ($SD$)</td>
<td>$M$ ($SD$)</td>
</tr>
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<td>TSC</td>
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<td>ASSERTIVE</td>
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<td>8.60 (22.14)</td>
<td>10.57 (9.95)</td>
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<table>
<thead>
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<th>Measure</th>
<th>Treatment Group ($n = 19$)</th>
<th>Control Group ($n = 5$)</th>
<th>No Post-Test ($n = 8$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$ ($SD$)</td>
<td>$M$ ($SD$)</td>
<td>$M$ ($SD$)</td>
</tr>
<tr>
<td>ADAS</td>
<td>23.21 (5.35)</td>
<td>22.80 (7.82)</td>
<td></td>
</tr>
<tr>
<td>PSS</td>
<td>4.97 (1.59)</td>
<td>4.22 (0.47)</td>
<td></td>
</tr>
<tr>
<td>TSC</td>
<td>31.32 (22.87)</td>
<td>50.20 (32.31)</td>
<td></td>
</tr>
<tr>
<td>CARE</td>
<td>34.27 (10.73)</td>
<td>49.33 (23.80)</td>
<td></td>
</tr>
<tr>
<td>ASSERTIVE</td>
<td>11.32 (19.67)</td>
<td>8.00 (17.53)</td>
<td></td>
</tr>
</tbody>
</table>

Note. ADAS = Abbreviated Dyadic Adjustment Scale. PSS = Multidimensional Scale of Perceived Social Support. TSC = Trauma Symptom Checklist – 40. CARE = Burden Interview. ASSERTIVE = Assertiveness subscale of the Spouse Specific Assertion/Aggression Scale.
Table 4

*Pre-test Means and Standard Deviations for the Entire Sample and Means and Standard Deviations for Normed Samples for Each Measure Utilized*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Study sample</th>
<th>Normed sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>n</td>
</tr>
<tr>
<td>ADAS</td>
<td>19.81 (6.78)</td>
<td>31</td>
</tr>
<tr>
<td>PSS</td>
<td>4.24 (1.46)</td>
<td>19</td>
</tr>
<tr>
<td>TSC</td>
<td>46.29 (22.96)</td>
<td>31</td>
</tr>
<tr>
<td>CARE</td>
<td>41.53 (22.73)</td>
<td>19</td>
</tr>
<tr>
<td>ASSERTIVE</td>
<td>6.37 (22.42)</td>
<td>30</td>
</tr>
</tbody>
</table>

**Note.** ADAS = Abbreviated Dyadic Adjustment Scale. PSS = Multidimensional Scale of Perceived Social Support. TSC = Trauma Symptom Checklist – 40. CARE = Burden Interview. ASSERTIVE = Assertiveness subscale of the Spouse Specific Assertion/Aggression Scale.

Table 5

*Paired Samples t-tests for Pre- and Post-test Scores for Individuals in the Treatment Group*

<table>
<thead>
<tr>
<th>Measure</th>
<th>df</th>
<th>t</th>
<th>p (one-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAS</td>
<td>18</td>
<td>-3.110</td>
<td>.003*</td>
</tr>
<tr>
<td>PSS</td>
<td>10</td>
<td>-2.261</td>
<td>.024</td>
</tr>
<tr>
<td>TSC</td>
<td>18</td>
<td>2.977</td>
<td>.004*</td>
</tr>
<tr>
<td>CARE</td>
<td>10</td>
<td>2.258</td>
<td>.024</td>
</tr>
<tr>
<td>ASSERTIVE</td>
<td>18</td>
<td>-1.571</td>
<td>.067</td>
</tr>
</tbody>
</table>

**Note.** ADAS = Abbreviated Dyadic Adjustment Scale. PSS = Multidimensional Scale of Perceived Social Support. TSC = Trauma Symptom Checklist – 40. CARE = Burden Interview. ASSERTIVE = Assertiveness subscale of the Spouse Specific Assertion/Aggression Scale. *p <.01.
### Table 6

*Means, Standard Deviations, and Paired Samples t-test Results for Trauma Subscales for Participants in the Treatment Group (n = 19)*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Pre-test M (SD)</th>
<th>Post-test M (SD)</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissociation</td>
<td>6.00 (4.26)</td>
<td>4.32 (4.40)</td>
<td>2.40</td>
<td>18</td>
<td>.03</td>
</tr>
<tr>
<td>Anxiety</td>
<td>9.21 (5.44)</td>
<td>6.63 (5.88)</td>
<td>2.81</td>
<td>18</td>
<td>.01</td>
</tr>
<tr>
<td>Depression</td>
<td>11.00 (6.53)</td>
<td>7.95 (4.94)</td>
<td>2.81</td>
<td>18</td>
<td>.01</td>
</tr>
<tr>
<td>Sexual Abuse Trauma Index</td>
<td>6.37 (5.10)</td>
<td>4.95 (4.55)</td>
<td>2.34</td>
<td>18</td>
<td>.03</td>
</tr>
<tr>
<td>Sleep Disturbance</td>
<td>9.26 (5.86)</td>
<td>7.47 (5.50)</td>
<td>2.00</td>
<td>18</td>
<td>.06</td>
</tr>
<tr>
<td>Sexual Problems</td>
<td>7.79 (5.14)</td>
<td>5.95 (4.96)</td>
<td>2.01</td>
<td>18</td>
<td>.06</td>
</tr>
</tbody>
</table>
Table 7

*Individual Male Veterans’ Martial Satisfaction and PTSD Scores (n = 8)*

<table>
<thead>
<tr>
<th>Participant with Wives’ Group Specification</th>
<th>Marital Satisfaction</th>
<th>PTSD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
</tr>
<tr>
<td>Subject 1 (control)</td>
<td>22</td>
<td>60</td>
</tr>
<tr>
<td>Subject 2 (control)*</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>Subject 3 (treatment)*</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Subject 4 (treatment)</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Subject 5 (treatment)</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>Subject 6 (treatment)</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Subject 7 (no post-test)</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Subject 8 (no post-test)</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Subject 2 and 3 data were collected from the same participant. He served as a control subject and then became a treatment subject when his wife entered the group.

Table 8

*Intercorrelations of Dependent Variables for Wives Included in the Regression Analysis (n = 21)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TSC</td>
<td>---</td>
<td>-.82**</td>
<td>.73**</td>
<td>-.67**</td>
</tr>
<tr>
<td>2. ADAS</td>
<td>---</td>
<td>-.84**</td>
<td>.73**</td>
<td></td>
</tr>
<tr>
<td>3. CARE</td>
<td>---</td>
<td></td>
<td>-.71**</td>
<td></td>
</tr>
<tr>
<td>4. PSS</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* TSC = Trauma Symptom Checklist – 40. CARE = Burden Interview. ADAS = Abbreviated Dyadic Adjustment Scale. PSS = Multidimensional Scale of Perceived Social Support. **p<.01.
Table 9

Summary of Hierarchical Regression Analysis for Variables Predicting Secondary Stress Symptoms (n = 21)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAS</td>
<td>-2.03</td>
<td>0.82</td>
<td>-.65**</td>
</tr>
<tr>
<td>CARE</td>
<td>0.09</td>
<td>0.28</td>
<td>0.08</td>
</tr>
<tr>
<td>PSS</td>
<td>-0.20</td>
<td>0.30</td>
<td>-0.14</td>
</tr>
<tr>
<td>R²</td>
<td>.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
<td>12.44***</td>
</tr>
</tbody>
</table>

Note. ADAS = Abbreviated Dyadic Adjustment Scale. CARE = Burden Interview. PSS = Multidimensional Scale of Perceived Social Support. **p<.01. ***p<.001.

Table 10

Summary of Hierarchical Regression Analysis for Variables Predicting Marital Satisfaction (n = 21)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARE</td>
<td>-0.16</td>
<td>0.06</td>
<td>-.44*</td>
</tr>
<tr>
<td>PSS</td>
<td>0.06</td>
<td>0.07</td>
<td>0.14</td>
</tr>
<tr>
<td>TSC</td>
<td>-0.13</td>
<td>0.05</td>
<td>-0.41*</td>
</tr>
<tr>
<td>R²</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
<td>23.22***</td>
</tr>
</tbody>
</table>

Note. CARE = Burden Interview. PSS = Multidimensional Scale of Perceived Social Support. TSC = Trauma Symptom Checklist-40. *p<.05. **p<.01. ***p<.001.
Table 11

*Summary of Hierarchical Regression Analysis for Variables Predicting Caregiver Burden (n = 21)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAS</td>
<td>-1.77</td>
<td>0.70</td>
<td>-.62*</td>
</tr>
<tr>
<td>PSS</td>
<td>-0.28</td>
<td>0.25</td>
<td>-0.21</td>
</tr>
<tr>
<td>TSC</td>
<td>0.07</td>
<td>0.21</td>
<td>0.07</td>
</tr>
<tr>
<td>R²</td>
<td></td>
<td>.72</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>14.88***</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* ADAS = Abbreviated Dyadic Adjustment Scale. PSS = Multidimensional Scale of Perceived Social Support. TSC = Trauma Symptom Checklist-40. *p<.05. **p<.01. ***p<.001.

Table 12

*Means and Standard Deviations for Group Satisfaction Questionnaire Completed by Treatment Group Members*

<table>
<thead>
<tr>
<th>Group Topic</th>
<th>n</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychoeducation regarding PTSD</td>
<td>11</td>
<td>4.82 (.41)</td>
</tr>
<tr>
<td>Coping with PTSD symptoms</td>
<td>11</td>
<td>4.82 (.41)</td>
</tr>
<tr>
<td>Secondary PTSD and caregiver burden</td>
<td>10</td>
<td>4.70 (.48)</td>
</tr>
<tr>
<td>Self-care and stress management</td>
<td>11</td>
<td>4.55 (.52)</td>
</tr>
<tr>
<td>Communication and assertiveness</td>
<td>11</td>
<td>4.45 (.69)</td>
</tr>
<tr>
<td>Sex and intimacy</td>
<td>10</td>
<td>3.70 (1.16)</td>
</tr>
<tr>
<td>Social support and your own goals</td>
<td>10</td>
<td>4.50 (.53)</td>
</tr>
</tbody>
</table>

*Note.* Questions were rated on a 1-5 scale with higher numbers indicating greater satisfaction with the group topic.
Figure 1. Secondary stress pre- and post-test scores for wives in the control group.
Figure 2. Secondary stress pre- and post-test scores for wives in the treatment group.
Figure 3. Caregiver burden pre- and post-test scores for wives in the control group.
Figure 4. Caregiver burden pre- and post-test scores for wives in the treatment group.
Figure 5. Marital satisfaction pre- and post-test scores for wives in the control group.
Figure 6. Marital satisfaction pre- and post-test scores for wives in the treatment group.
Figure 7. Perceived social support pre- and post-test scores for wives in the control group.
Figure 8. Perceived social support pre- and post-test scores for wives in the treatment group.
Figure 9. Assertiveness pre- and post-test scores for wives in the control group.
Figure 10. Assertiveness pre- and post-test scores for wives in the treatment group.
APPENDIX A

DEMOGRAPHICS QUESTIONNAIRES
Demographics Questionnaire

Your Age: ______

Please circle where your husband served (multiple answers possible):
Iraq    Afghanistan    Vietnam    Korea
Other (please specify country): ____________________

Circle husband’s service branch below:
Marine Corps    Army    Navy    Air Force    National Guard

Years married to your current husband: ______

**If not married, years cohabitating with current significant other: ______

Did you know your husband/significant other before he developed PTSD?
YES    NO

If known, how long has your husband had PTSD? ______

Number of children living in your household: _____
Demographics Questionnaire

Your Age: ______

Please circle where you served (multiple answers possible):
Iraq   Afghanistan   Vietnam   Korea
Other (please specify country): __________________

Circle service branch below:
Marine Corps   Army   Navy   Air Force   National Guard

Are you currently receiving mental health treatment? YES  NO

If yes, which of the following best describes the type of treatment you are currently receiving (circle all that apply):
Medication   Anger Management
Individual therapy   Substance use treatment (drugs or alcohol)
Group therapy   Tobacco cessation

Circle any of the past treatments you have received but are no longer receiving (circle all that apply):
Medication   Anger management
Individual therapy   Substance use treatment (drugs or alcohol)
Group therapy   Tobacco cessation
APPENDIX B

GROUP SATISFACTION QUESTIONNAIRE
### Group Satisfaction Questionnaire

Please rate how helpful you found each topic discussed in our group:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Not at all helpful</th>
<th>Not really helpful</th>
<th>No opinion/not sure</th>
<th>Somewhat helpful</th>
<th>Extremely helpful</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Education about PTSD symptoms and the development of PTSD</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Coping with PTSD symptoms</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Secondary traumatic stress and caregiver burden</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Self-care and stress management</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Communication and assertiveness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Sex and intimacy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Social support and discussing own goals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Overall, how helpful did you find this group?**

**YES**    **NO**

---

Do you feel that you were able to make a connection with other group members? **YES**    **NO**

Do you feel that the group was cohesive as a whole? **YES**    **NO**

Have you made contact with any of the group members outside of the group setting (emailed, called)? **YES**    **NO**

**Overall, on a scale of 1-10, how satisfied were you with the group (1 = not at all satisfied; 10 = extremely satisfied)**

______
REFERENCES


