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## The Case for Treating Depression in Military Spouses

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### Abstract

The increased operational tempo associated with current deployments to Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) is placing considerable strain on military families. Among other sequelae of OIF and OEF deployment, findings from recent studies suggest high rates of depression in spouses of service members. This review presents a rationale for targeting depression among military spouses. It examines how stressors relating to the deployment cycle may contribute to depression in spouses, and outlines the effects of spousal depression on the mental health of service members and their children. Mental health services currently available to military spouses as well as barriers to their care are also described. Considerations for the adaptation of treatment to their unique circumstances and needs are discussed.

### Keywords

military spouses; depression; service members; deployment

### Military Families: A Conceptual Framework

To date, more than 1.8 million American military personnel have been deployed to the conflicts in Iraq (Operation Iraqi Freedom; OIF) and Afghanistan (Operation Enduring Freedom; OEF), many of them multiple times (Department of Defense [DoD], 2009). At the time of writing (February 2011), a total of 5,931 coalition service members have lost their lives, and almost 42,000 Americans have returned from the combat zone with physical injuries, many of them resulting in permanent disability (DoD, 2010; Iraq Coalition Casualty Count, 2011). Epidemiological studies suggest that as many as one third of all OIF and OEF service members return home with psychological injuries such as posttraumatic stress disorder (PTSD), depression, suicidality, and substance use disorders (American Psychological Association [APA] Presidential Task Force on Military Deployment Services for Youth, Families, and Service Members, 2007; Thomas et al., 2010).

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Less is known about the psychological impact of OIF and OEF on the families of those deployed. This “home front” comprises a vast number of people: more than half of the 3.6 million military personnel are married, and of these over 75% have dependent children (Deputy Under Secretary of Defense [DUSD], 2009; National Military Family Association [NMFA], 2004). During deployment, the spouse must temporarily assume the role of single parent while the service member is away for long periods. Deployment stress may tax the spouse's resources and can trigger or exacerbate mental health problems, such as depression and anxiety (Mansfield et al., 2010). Left untreated, these problems may affect the long-term mental health of the spouse, the well-being of the children, and the service member's system of support during deployment and reintegration into the family unit and civilian life following the return home.

This paper discusses the mental health needs of spouses of OIF/OEF-deployed service members. We first present the research findings on the mental health impact of these operations on military families, focusing on depression in military spouses and its potential implications for the mental health of their children and the service members. We then comment on mental health services and barriers to care among military spouses. Finally, we present a rationale for adapting mental health interventions to military spouses' unique situation and needs.

## The Deployment Cycle and Military Families

A 20-year body of literature on the impact of military deployment has identified various stages of the deployment cycle: the *pre-deployment*, *deployment*, *reunion* and *post-deployment* phases each present unique circumstances and challenges (Pincus, House, Christensen, & Adler, 2005). During the *pre-deployment phase*, service members and their families may suffer anxiety in anticipation of the deployment (Pincus et al., 2005). Service members' need to focus on the logistics of the upcoming deployment can result in spouses experiencing them as “physically present while psychologically absent” (Weins & Boss, 2006, p. 33). The *deployment phase* covers the period when the service member is physically absent from the family. During this period, spouses and children frequently undergo a period of emotional disorganization and destabilization (MacDermid, Olson, & Weiss, 2002; Pincus et al., 2005). In particular, the service member's spouse may experience multiple stressors related to the shift in family dynamics and roles including loneliness, role overload, role shifts, financial concerns, changes in community support, and increased parenting demands (Drummet et al., 2003). These stressors are intensified by fear for the safety of the deployed service member (NMFA, 2004). The *reunion phase*, during which the service member and family prepare for the service member's return home, is frequently characterized by both excitement and apprehension. Returning service members are challenged by the adjustment to civilian life, and the service member's family must again undergo a shift in family dynamics in a household where roles have inevitably changed (Segal, 2006). Working through these issues represents the main challenge of the *post-deployment phase* (Lincoln et al., 2008). Family roles and routines must be renegotiated and redefined in the post-deployment phase (Pincus et al., 2005), and spouses, service members, and their children alike may feel uncertain of their position in this reconfigured system. Thus, the sense of loneliness and isolation many spouses experience during deployment can extend into the post-deployment phase. Spouses may also feel a loss of independence following the return of the service member, and may need an adjustment period to transition back to a co-parenting role (Faber, Willerton, Clymer, MacDermid, & Weiss, 2008; Pincus et al., 2005).

Psychological issues relating to separation, the stress of adjustment to the various deployment stages, and the challenges associated with coping as a de facto single parent

have all been observed in families of service members, during both peace time deployments and previous combat operations such as Operation Desert Storm (ODS) in Kuwait in 1991. However, literature before OIF and OEF suggests that: (1) overall, there was less psychopathology in military families than civilian ones (Jensen, Xenakis, Wolf, & Bain, 1991; Morrison, 1981); (2) depression observed in military spouses tended to remit spontaneously following deployment (Nice, 1983); (3) poor marital adjustment was accounted for by the pre-existence of marital problems (Rosen, Durand, Westhuis, & Teitelbaum, 1995); (4) during deployment, there were some increases in children's externalizing and internalizing symptoms, but this was largely explained by the children's past history of mental health problems (Rosen, Teitelbaum, & Westhuis, 1993), as well as the mental health status of their non-deployed parent (Jensen, Martin, & Watanabe, 1996; Ursano, Holloway, Jones, Rodriguez, & Belenky, 1989), low family cohesion (Kelley, 1994) and poor quality of family relationships before deployment (Jensen & Shaw, 1996); and (5) following reunification, children's mental health problems dropped to normative levels (Kelley, 1994).

Even during ODS - at that time, the largest military operation since Vietnam - mean scores on measures of psychopathology in spouses and children fell below clinical cut-offs (Jensen et al., 1996; Rosen et al., 1993). Likewise, marital satisfaction was not affected by routine deployments nor by operations such as ODS and Operation Restore Hope in Somalia in 1993 (Bell, Teitelbaum, & Schumm, 1996; Schumm, Bell, Knott, & Rice, 1996). In other words, multiple studies throughout the 1980s and 1990s showed that spouses and children of service members often experienced symptoms of depression and anxiety during and immediately after their loved one's deployment (Kelley, 1994; Ursano et al., 1989); however, the military family picture was essentially one of successful negotiation of the demands of military life.

## Impact of OIF/OEF-Deployment on Military Families

Research on the impact of deployment on military families conducted since the onset of OIF and OEF presents a different picture. Current operational conditions have intensified the stress associated with today's deployments compared to those of the previous twenty years. The dangerous and unpredictable nature of counter-insurgency warfare provokes constant concern for the service member's safety (Spera, 2009). This stress accumulates due to the current high operational tempo (OPTEMPO): deployments often extend anywhere from 6-18 months, the lengthiest since World War II (Sheppard, Malatras, & Israel, 2010); there is an exponential increase in multiple deployments; and dwell time at home between deployments is reduced. As stated by one military spouse, "the normal of what [we] used to know is no more" (NMFA, 2004).

During the current period of elevated OPTEMPO, feelings of lack of control, loneliness, and concern about service members' safety all exacerbate the burden placed on spouses (NMFA, 2004; Padden, Connors, & Agazio, 2010; Spera, 2009). Frequent communication between the spouse and deployed service member may be a mixed blessing (Greene, Buckman, Dandeker, & Greenberg, 2010; Schumm, Bell, Ender, & Rice, 2004). Daily contact via modern technologies such as email and webcam may help them maintain a strong relationship and sustain morale, but may also increase spouses' levels of anxiety about dangerous missions, especially in the event of an unanticipated break in communication (NMFA, 2005). Gaps in communication may also generate feelings of jealousy and suspicions of infidelity (Pincus et al., 2005).

Extended deployments also bring with them many role changes and role overload for military spouses as they take on responsibility for all aspects of looking after the home and

family (Drummet, Coleman, & Cable, 2003). The strain of these role transitions may be intensified by a lack of resources. These may take the form of financial difficulties (Castaneda et al., 2008) and decreased social support after moving to a new base (Flake, Davis, Johnson, & Middleton, 2009), or—in the case of many Reserve and National Guard families—a lack of access to health care and other military-based services (APA, 2007).

It is important to note, however, that a loved one's deployment should not be seen as inevitably pathological for those left behind (Cozza, Chun, & Polo, 2005). Nor should risk and resilience be viewed categorically. Contemporary definitions of resilience refer to an *outcome or process*, rather than to a trait of the individual or family. Thus military families are not in themselves resilient; instead they may achieve resilient outcomes, in which both individual attributes (e.g., self-esteem) and contextual factors (e.g., degree of deployment preparedness and access to social support) are determinants (Luthar & Zelazo, 2003). Spera and Jones (2004), for example, showed that spousal ability to cope with deployment is related to the amount of advanced notice provided prior to the deployment.

Social support may have a particularly important moderating effect on development of psychopathology in response to stressful life events (Kilpatrick et al., 2007). In a genotype  $\times$  environment study with survivors of Hurricane Katrina, presence of the 5-HTTLPR polymorphism (a genetic variable implicated in the development of psychopathology) increased risk for PTSD and MDD only for those with high exposure to the hurricane and low social support (Kilpatrick et al., 2007). In a study by Rosen & Moghadam (1990) of 1,090 military wives, the impact of the stressor (frequency of a husband's absence) on subjective distress as measured by the General Well-Being Scale was buffered by wives' perceived levels of social support from other wives in their husband's unit. However, the protective role of social support in moderating the impact of OIF/OEF deployment-related stress in military spouses has not been assessed extensively.

## Mental Health of Spouses of OIF/OEF-Deployed Service Members

Although most families function well and adapt successfully to the challenges of the deployment cycle (Weins & Boss, 2006), a number of recent studies suggest high levels of distress in military spouses. In one cross-sectional study, Lester and colleagues (2010) studied 163 partners of active duty Army or Marine Corps and found significantly elevated levels of depression and anxiety (measured with the Brief Symptom Inventory) compared to community norms. Eaton and colleagues (2008) conducted a large quantitative survey with 940 spouses (51% participation) investigating the impact of OIF/OEF deployment on major depression and generalized anxiety disorder. The authors used two different types of diagnostic definitions, using a past month time frame: a broad screening definition that followed current psychiatric diagnostic criteria measured with a self-administered questionnaire (Patient Health Questionnaire); and a strict definition that included both diagnostic and functional criteria. Results indicated that 17.4% of spouses screened positive for generalized anxiety and 12.2% screened positive for a major depressive episode (MDE) according to DSM-IV symptomatic criteria. When including functional impairment as a diagnostic criterion, these rates were 7.2% for generalized anxiety disorder and 6.7% for major depressive disorder. These rates of depression are comparable to those found among soldiers following combat (Hoge et al., 2004) and are approximately double the point prevalence of MDE estimated in the general population (Kessler et al., 2003).

Multiple and prolonged deployments are associated with increased anxiety and depression in the spouses of the service members. In their study surveying medical records of active duty U.S. Army soldiers ( $n = 250,626$ ), Mansfield and colleagues (2010) found that rates of psychopathology in wives correlated with deployment length. After adjusting for

characteristics of soldiers and spouses (i.e., number of previous OIF/OEF-deployments and history of mental health diagnosis), and using spouses of non-deployed soldiers as the reference group, the number of excess cases of depression was 27.4 per 1,000 wives associated with deployment of 1–11 months, and 39.3 excess cases with deployment of more than 11 months. Rates of anxiety followed a similar but less pronounced pattern: there were 15.7 excess cases of anxiety associated with deployment of 1–11 months, and 18.7 excess cases with deployment of more than 11 months.

Spouses of National Guard members appear to be particularly vulnerable to the stress associated with OIF/OEF deployments. In a survey of 212 National Guard Member spouses completed 45-90 days after their loved one's return from a 12-month deployment during a mandatory integration workshop, 22% met criteria for minor or major depression (BDI-II > 14 for past 2-week symptoms), 17% met screening criteria for PTSD (Short Screening Scale for DSM-IV PTSD, assessing past month symptoms), and 10% reported suicidal ideation (Gorman, Blow, Ames, & Reed, 2011).

Although research on the mental health of OIF/OEF-deployed service members indicates elevated levels of both depression and anxiety, this review focuses on spousal depression. The aforementioned studies by Mansfield and colleagues (2010) and Gorman and colleagues (2011) suggest that OIF/OEF-deployment confers a particularly significant risk for depression in military spouses. Lester and colleagues (2010) found that rates of anxiety were significantly lower among wives of recently returned service members than among wives of those currently deployed, suggesting spontaneous remission in many cases. In contrast, rates of depression were not significantly lower in the recently returned group. Given its persistence and potential for long-term impairment, spousal depression and its treatment merit particular attention.

### **Impact of Military Spouses' Mental Health Problems on Their Children**

More than 1.2 million children have an active duty parent and over 700,000 US children have experienced at least one parental deployment since 2001 (McFarlane, 2009). An extensive literature is emerging on the impact of OIF/OEF-deployment on the children of service members. These types of deployments have been associated with attachment disturbances, depression, and anxiety in service member's children (Chandra et al., 2010; Chartrand et al., 2008). Young children, in particular, may be vulnerable to the effects of long separations and a parent's combat stress (Cozza & Lieberman, 2007). Increased OPTEMPO may also be linked with the rising rates of child maltreatment observed in military families (Rentz et al., 2007). Elevated rates of depression, anxiety, and externalizing symptoms persist in the offspring (Lester et al., 2010). A large cohort study examining the outpatient medical records of children ( $n = 642,397$ ) of active-duty personnel aged three to eight years during the years 2006 and 2007 found that visits for mental and behavioral health disorders increased by 11% when a child had a deployed parent; stress disorders increased by 18% and behavioral disorders increased by 19% (Gorman, Eide, & Hisle-Gorman, 2010).

Numerous studies in military families have found that children's depression and internalizing and externalizing symptoms are predicted by the non-deployed parent's mental health status in general, and depression in particular (Drummet et al., 2003; Flake et al., 2009; Jensen et al., 1996). These data mirror an extensive literature in the civilian population documenting high rates of depressive, anxiety, and disruptive disorders in the children of depressed parents (Lieb, Isensee, von Sydow, & Wittchen, 2000; Weissman et al., 2006). It should be noted, however, that for younger children, it has recently been shown that parental deployment to OIF/OEF may confer an additional risk for pathology. Chartrand and colleagues (2008) found that children aged 3–5 with deployed parents showed significantly higher rates of both externalizing and internalizing behavioral symptoms compared to same-



age peers without a deployed parent, even when controlling for parents' depressive symptoms and stress.

### **Impact of Military Spouses' Mental Health on Deployed Service Members**

Military spouses play an important role in ensuring family cohesion and maintaining a balanced, salutary environment during service members' deployment (Spera, 2009). By providing a stable, healthy home environment to returning service members, spouses may ease their transition back into civilian life and bolster their resilience (Tanielian & Jaycox, 2008). Service members are more likely to seek treatment for post-traumatic stress if they are satisfied in their relationships with their significant others (Meis, Barry, Kehle, Erbes, & Polusny, 2010). In addition, family support is associated with reduction in veterans' PTSD symptom severity (Byrne & Riggs, 1996; Solomon, Mikulincer, & Avitzuer, 1988; Tarrier et al., 1999).

Spouses struggling with depression may find it hard to provide the supportive role that can ease service members' transition back to civilian life. Over and above the absence of this protective factor, spousal depression may lead to marital conflict which exacerbates returning service members' stress and adjustment issues. Studies in the civilian literature show that spousal depression contributes to significant deterioration of the marital relationship (Christian-Herman, O'Leary, & Avery-Leaf, 2001), increased rates of divorce (Pilowsky, Wickramaratne, Nomura, & Weissman, 2006), and depression in the other spouse (Burke, 2003). Bliese, Wright, Adler, Thomas, and Hoge (2007) found that soldiers' mental health deteriorated over the four months following the return home and that, after anger, relationship problems were the most commonly reported problem. In a recent study (Sayers et al., 2009), more than 75% of service members who screened positive for a mental health disorder post-deployment reported marital conflict.

PTSD has been shown to impair marital relationships (for a review, see Galovski & Lyons 2004). In a study of 50 military veterans and their spouses, Riggs and colleagues (1998) found that of couples in which the service member experienced PTSD symptoms, 70% also reported relationship distress, but in non-PTSD couples, only 30% reported relationship distress. It is less clear how depression in the spouse impacts service member's PTSD. However, depressed spouses, who may exhibit hostility or withdrawal, may inadvertently accommodate avoidant behavior, which many theories posit as the primary maintenance mechanism for the disorder (e.g., Monson, Taft, & Fredman, 2009).

### **A Rationale for Targeting Depression in Military Spouses**

Civilian literature suggests that anti-depressant treatments (psychotherapy or medication) can lead to significant improvement in symptoms and functioning in depressed patients and their family members (National Guideline Clearing House, 2006). Psychotherapy for depression, for example, has been shown to lead to higher levels of marital satisfaction and better communication between spouses (Emanuels-Zuurveen & Emmelkamp, 1996). Moreover, it is now known that successful treatment of the mother's depression to remission, whether with medication (Pilowsky et al., 2008) or psychotherapy such as Interpersonal Psychotherapy (IPT) (Swartz et al., 2008), is associated with improvement in children's depression and overall functioning. However, this association has not yet been studied in military families with a deployed parent.

### **Current Mental Health Services for Military Families**

In 2006 the APA established the Task Force on Military Deployment, in response to concerns raised by members of the military community about the psychological needs and

resources available to service members and their families. The report indicated a “striking” lack of systematic research investigating the psychological consequences of OIF/OEF deployment on service members and their families, the paucity of controlled studies of interventions tailored to military populations, and great variability in the quality, availability, and utilization of care (APA, 2007, p.11). The interventions for military families they surveyed were geared primarily toward prevention and early intervention as opposed to treatment of psychological disorders, and to military children rather than spouses. The report also emphasized the absence of a well-coordinated, centralized approach to providing mental health care services to military families, limited human resources (e.g., clinicians trained in evidence-based treatments) and the absence of research examining the specific needs of particular populations within the military such as female service members, minorities, National Guard members, and Reservists. The limited data on the psychological needs of military families and lack of research on interventions for this population limited the recommendations the authors of the taskforce were able to make at that point. For this reason, they emphasized the preliminary nature of the findings, and the APA established a two-year task force with the goal of developing a long-term plan of action and more specific recommendations for mental health services for service members and their families.

## Barriers to Mental Health Care for Military Spouses

Barriers to mental health care can be categorized into three treatment-related factors: availability, accessibility, and acceptability.

### Availability

Due to a shortage of uniformed mental health care professionals and a system flooded with returning service members, families are often referred to civilian services. This can result in long wait times, receipt of care from providers who are not familiar with military-specific stressors and experiences, and increased costs (APA, 2007). TRICARE, the military's health insurance program is not accepted by all civilian providers, co-payments may be required, and families of Reservists may not have coverage when the service member is not on active duty. Navigating a complicated insurance system may be particularly difficult for spouses who are depressed and struggling to function. Even when military families do have access to specialized military providers within the TRICARE system, the quality of care varies (APA, 2007). Providers within the TRICARE system are not required to have any specific training in deployment-related behavioral health interventions. Furthermore while treatments employed may have shown efficacy in civilian populations, empirical evidence supporting their effectiveness in the military context is lacking.

### Accessibility

Referral to outside services may also limit family members' access to care. Logistical barriers such as a lack of reliable transport to an off-base clinic, difficulty getting time off work, and limited availability of childcare have been observed as hindrances to military families' help-seeking. In their study addressing obstacles to care among primary-care seeking military spouses, Eaton and colleagues (2008) found that of those spouses screening positive for a mental health problem, 43% reported difficulty getting time off work, 26% had difficulty making an appointment, and 26% saw cost as a barrier to seeking care. Many families, and African Americans in particular (Snowden, 1998), seek support through resources outside the health care system such as churches, extended family, and other social networks. Families living on base, however, may be cut off from these extended supporting mechanisms (Lowe, Hopps, & See, 2006). The issue of accessibility is likely to arise when the family most requires support and services, during the service member's deployment--when the spouse is effectively acting as a single parent.

## Acceptability

For many service members and their families, availability and accessibility of care may pose a greater obstacle to mental health treatment than perceived stigma. Today, more soldiers and families than ever before are seeking counseling for deployment-related issues.

Although a number of studies have noted stigma and negative attitudes to mental health care seeking in military personnel (Greene-Shortridge, Britt, & Castro, 2007; Hoge et al., 2004), these findings are not replicated in the emerging literature on spouses of OIF/OEF-deployed service members. Eaton and colleagues (2008) found that almost 70% of spouses screening positive for mental health problems sought help. Twenty percent of spouses reported that receiving care would be too embarrassing, as compared to 41% of service members, and 22% thought they would be seen as weak, in contrast with 65% of service members (Eaton et al., 2008; Hoge et al., 2004). Perceived lack of confidentiality due to a military duty to disclose such information may hinder help-seeking among military spouses. Eaton and colleagues (2008) found that 20% thought that seeking help would negatively affect their partners' careers.

## Services for the Families of National Guard Members and Reservists

Due to high troop levels and a shortage of active duty personnel, National Guard members and Reservists now constitute roughly 40% of the military serving in Iraq and Afghanistan (Chartrand & Siegel, 2007). They receive less extensive training, and are deployed more frequently and for longer, than active duty personnel (Huebner, Mancini, Bowen, & Orthner 2009). They also report higher levels of mental health concerns than active duty personnel at post-deployment (Milliken et al., 2007). Similarly, the spouses and children of National Guard members and Reservists face unique challenges, particularly because they tend to be geographically separated from military communities. They may live far from bases, and are therefore isolated from other military families who can offer social support. By the same token, they lack access to the more formal resources that military posts can offer, such as Family Support Groups and Army Family Team Building training. In a study comparing community integration and perceived support among spouses of Active Duty Army, National Guard, and Army Reserve service members, Burrell and colleagues (2010) found that Army Reserve and National Guard spouses had significantly lower levels of integration in the military community compared to active duty spouses (Burrell et al. 2010). Specifically, fewer spouses had completed Army Family Team Building (AFTB) and they had less access to Family Support Groups (FSG).

Families of National Guard members and Reservists may not be entitled to military health services, in which providers are typically more familiar with deployment-related concerns (Hoshmand & Hoshmand, 2007). These families also frequently face financial difficulties as service members juggle deployments with civilian jobs (APA, 2007). In the recent survey by Gorman and colleagues (2011), spouses of National Guard members identified the costs of mental health care and scheduling conflicts as the most important barriers to treatment seeking.

## Considerations in Treating Depression in Military Spouses

A number of issues need to be addressed when treating depression in military spouses. Psychiatric comorbidities may complicate the clinical picture. For example, spouses of National Guard members frequently meet screening criteria for suicidal ideation, PTSD, and hazardous alcohol use in addition to depression (Gorman et al., 2011). Whenever possible, patients' preferences for medication versus psychotherapy need to be taken into account, since they have been shown to affect the probability of treatment seeking (Dwight-Johnson, Sherbourne, Liao, & Wells, 2000). Sometimes medication is contraindicated. For example,



taking anti-depressant medication during pregnancy may confer risk for birth defects (Alwan, Reefhuis, Rasmussen, Olney, & Friedman, 2007). This consideration may be of particular relevance to military spouses, the majority of whom are of childbearing age.

In light of these considerations, a variety of pharmacological and psychotherapeutic treatments with established efficacy for depression should be offered to military spouses. The 2007 APA Task Force Report noted a shortage of clinicians trained in evidence-based treatments, and an absence of interventions tailored specifically to military populations. Since then a number of psychosocial interventions tailored to military families have been developed (e.g., Gottman, Gottman, & Atkins, 2011; Lester et al., 2011). The efficacy of these interventions is still being evaluated. Furthermore, to our knowledge no evidence-based interventions have been adapted specifically to target depression in military spouses.

## Adapting Interventions to the Military Context

A number of psychotherapies have shown efficacy for the treatment of adult depression in civilian populations (Hollon & Ponniah, 2010). However, given the unique context and challenges presented by current operations, any evidence-based treatment needs to be adapted and tested for effectiveness in military populations prior to dissemination. When adapting interventions, both content issues (e.g., psychosocial stressors unique to the military context) and logistical considerations (e.g., availability and acceptability of services) need to be elucidated and factored into treatment design.

When adapting treatment content, a host of military-specific complexities which may contribute to depression need to be addressed. For example, reintegration following deployment may elicit complex attitudes and motivations. Spouses may feel overwhelmed by returning service members who are exhibiting aggression, irritability, and heightened arousal symptoms (Solursh, 1989), and who may be abusing substances in an attempt to cope (Dao, 2011). For service members, especially those suffering from posttraumatic stress, combat operations may have taken on an “addictive” quality (Galovski & Lyons, 2004) and they might feel under-stimulated and unfulfilled upon their return to civilian life. Differences within military populations should also be taken into account when adapting treatments. For example, Westhuis and colleagues (2006) found that the effect of age, marital satisfaction, and financial problems on coping is moderated by different cultural values among Caucasians, African American, and Hispanic military spouses. Other variables such as rank may also moderate the impact of deployment on spousal depression.

Treatment adaptation should also address local logistical factors which limit access to care. Practical considerations such as transportation to sessions, scheduling difficulties, and arranging child care may all limit treatment accessibility (APA, 2007; Gorman et al., 2011), and thus require attention. Issues surrounding mental health stigma (Hoge et al., 2004) and treatment confidentiality (APA, 2007) can also impact treatment, and need to be understood within the local context. For example, how are mental disorders and psychotherapy viewed by people around the base? What are the disclosure policies in the military health care system? How does this influence people's help-seeking?

The collection of qualitative data is an important first step in treatment adaptation; even when a treatment need is well-established by empirical data, qualitative assessment informs the what (i.e., content) and how (i.e., logistics) of the treatment. Focus groups, key informant interviews, surveys, and direct observation, all provide an efficient, practical means of collecting such data. Whatever the method, assessment should involve multiple stakeholders to gain a range of perspectives on spouses' unique mental health needs, psychosocial stressors, currently available resources, access to care, and treatment acceptability.

Following treatment adaptation, the next step is to test the intervention for feasibility, acceptability, and effectiveness in a clinical trial. Testing should be conducted with an eye towards dissemination, ensuring that the treatment can be embedded in the usual care of military families and delivered by the clinicians who routinely treat spouses.

## Conclusion

In the APA Task Force Report of 2007, the authors highlight the need for further data on the psychological needs of military families, and stress the importance of developing evidence-based psychotherapies tailored for this population. Since then, several studies (Eaton et al., 2008; Gorman et al., 2011; Mansfield et al., 2010) have identified depression in military spouses as a particular area of concern. There remains an important need for scientifically supported interventions for this population, adapted to meet the unique challenges posed by current OIF and OEF deployments.

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## References

- Alwan S, Reefhuis J, Rasmussen SA, Olney RS, Friedman JM. Use of selective serotonin-reuptake inhibitors in pregnancy and the risk of birth defects. *The New England Journal of Medicine*. 2007; 356(26):2684–2692.10.1056/NEJMoa066584 [PubMed: 17596602]
- American Psychiatric Association. Practice guidelines for the treatment of patients with major depressive disorder (revision). *The American Journal of Psychiatry*. 2000; 157(4 Suppl):1–45.
- American Psychological Association Presidential Task Force on Military Deployment Services for Youth, Families, and Service Members. *The psychological needs of US military service members and their families: A preliminary report*. Washington, DC: American Psychological Association; 2007.
- Bell DB, Teitelbaum JM, Schumm WR. Keeping the home fires burning: Family support issues. *Military Review*. 1996; 76(2):80–84.
- Bliese PD, Wright KM, Adler AB, Thomas JL, Hoge C. Timing of postcombat mental health assessments. *Psychological Services*. 2007; 4(3):141–148.10.1037/1541-1559.4.3.141
- Burrell, L.; Adams, GA.; Durand, D.; Castro, CA. Families facing the demands of military life: new research directions. In: Bartone, PT.; Pastel, RH.; Vaitkus, MA., editors. *The 71-F advantage: applying Army research psychology for health and performance gains*. National Defense University Press; Washington, D.C.: 2010. p. 371-393.
- Burke L. The impact of maternal depression on familial relationships. *International Review of Psychiatry (Abingdon, England)*. 2003; 15(3):243–255.10.1080/0954026031000136866
- Byrne CA, Riggs DS. The cycle of trauma; relationship aggression in male Vietnam veterans with symptoms of posttraumatic stress disorder. *Violence and Victims*. 1996; 11(3):213–225. [PubMed: 9125790]
- Castaneda, LW.; Harrell, MC.; Varda, DM.; Hall, KC.; Beckett, MK.; Stern, S. *Deployment experiences of Guard and Reserve families*. Santa Monica, CA: RAND; 2008.
- Chandra A, Lara-Cinisomo S, Jaycox LH, Tanielian T, Burns RM, Ruder T, Han B. Children on the homefront: the experience of children from military families. *Pediatrics*. 2010; 125(1):16–25.10.1542/peds.2009-1180 [PubMed: 19969612]
- Chartrand MM, Frank DA, White LF, Shope TR. Effect of Parents' Wartime Deployment on the Behavior of Young Children in Military Families. *Archives of Pediatrics Adolescent Medicine*. 2008; 162(11):1009–1014.10.1001/archpedi.162.11.1009 [PubMed: 18981347]

- Chartrand MM, Siegel B. At war in Iraq and Afghanistan: children in US military families. *Ambulatory Pediatrics: The Official Journal of the Ambulatory Pediatric Association*. 2007; 7(1): 1–2.10.1016/j.ambp.2006.11.004 [PubMed: 17261472]
- Christian-Herman JL, O'Leary KD, Avery-Leaf S. The impact of severe negative events in marriage on depression. *J Soc Clin Psychol*. 2001; 20:24–40.10.1521/jscp.20.1.24.22250
- Cozza SJ, Chun RS, Polo JA. Military families and children during operation Iraqi freedom. *The Psychiatric Quarterly*. 2005; 76(4):371–378.10.1007/s11126-005-4973-y [PubMed: 16217632]
- Cozza S, Lieberman A. The young military child: Our modern Telemachus. *Zero to Three*. 2007; 27(6):27–33.
- Dao, J. *The New York Times*; 2011 February 17. Staying in touch with home, for better or worse. Retrieved from <http://www.nytimes.com>
- Department of Defense. DoD News Briefing with Press Secretary Geoff Morrell from the Pentagon. June 24. 2009 Retrieved from <http://www.defense.gov/transcripts/transcript.aspx?transcriptid=4438>
- Deputy Under Secretary of Defense. Demographics Profile of the Military Community. Washington, DC: Office of the Deputy Under Secretary of Defense; 2009.
- Drummet AR, Coleman M, Cable S. Military Families Under Stress: Implications for Family Life Education. *Family Relations*. 2003; 52(3):279–287.10.1111/j.1741-3729.2003.00279.x
- Dwight-Johnson M, Sherbourne CD, Liao D, Wells KB. Treatment preferences among depressed primary care patients. *Journal of General Internal Medicine*. 2000; 15(8):527–534.10.1046/j.1525-1497.2000.08035.x [PubMed: 10940143]
- Eaton KM, Hoge CW, Messer SC, Whitt AA, Cabrera OA, McGurk D, Cox A, et al. Prevalence of mental health problems, treatment need, and barriers to care among primary care-seeking spouses of military service members involved in Iraq and Afghanistan deployments. *Military Medicine*. 2008; 173(11):1051–1056. [PubMed: 19055177]
- Emanuels-Zuurveen L, Emmelkamp PM. Individual behavioural-cognitive therapy v. marital therapy for depression in maritally distressed couples. *The British Journal of Psychiatry: The Journal of Mental Science*. 1996; 169(2):181–188. [PubMed: 8871794]
- Faber AJ, Willerton E, Clymer SR, MacDermid SM, Weiss HM. Ambiguous absence, ambiguous presence: a qualitative study of military reserve families in wartime. *Journal of Family Psychology*. 2008; 22(2):222–230.10.1037/0893-3200.22.2.222 [PubMed: 18410209]
- Flake EM, Davis BE, Johnson PL, Middleton LS. The psychosocial effects of deployment on military children. *Journal of Developmental and Behavioral Pediatrics: JDBP*. 2009; 30(4):271–278.10.1097/DBP.0b013e3181aac6e4 [PubMed: 19606059]
- Galovski T, Lyons JA. Psychological sequelae of combat violence: A review of the impact of PTSD on the veteran's family and possible interventions. *Aggression and Violent Behavior*. 2004; 9(5):477–501.10.1016/S1359-1789(03)00045-4
- Gorman LA, Blow AJ, Ames BD, Reed PL. National Guard families after combat: mental health, use of mental health services, and perceived treatment barriers. *Psychiatric Services (Washington, DC)*. 2011; 62(1):28–34.10.1176/appi.ps.62.1.28
- Gorman GH, Eide M, Hisle-Gorman E. Wartime military deployment and increased pediatric mental and behavioral health complaints. *Pediatrics*. 2010; 126(6):1058–1066.10.1542/peds.2009-2856 [PubMed: 21059715]
- Gottman JM, Gottman JS, Atkins CL. The Comprehensive Soldier Fitness program: Family skills component. *The American Psychologist*. 2011; 66(1):52–57.10.1037/a0021706 [PubMed: 21219048]
- Greene T, Buckman J, Dandeker C, Greenberg N. How communication with families can both help and hinder service members' mental health and occupational effectiveness on deployment. *Military Medicine*. 2010; 175(10):745–749. [PubMed: 20968264]
- Greene-Shortridge TM, Britt TW, Castro CA. The stigma of mental health problems in the military. *Mil Med*. 2007; 172:157–61. [PubMed: 17357770]
- Hoge CW, Castro CA, Messer SC, McGurk D, Cotting DI, Koffman RL. Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *The New England Journal of Medicine*. 2004; 351(1):13–22.10.1056/NEJMoa040603 [PubMed: 15229303]

- Hollon SD, Ponniah K. A review of empirically supported psychological therapies for mood disorders in adults. *Depression and Anxiety*. 2010; 27(10):891–932.10.1002/da.20741 [PubMed: 20830696]
- Hoshmand LT, Hoshmand AL. Support for military families and communities. *Journal of Community Psychology*. 2007; 35(2):171–180.10.1002/jcop.20141
- Huebner AJ, Mancini JA, Bowen GL, Orthner DK. Shadowed by war: Building community capacity to support military families. *Family Relations*. 2009; 58(2):216–228.10.1111/j.1741-3729.2008.00548.x
- Iraq Coalition Casualties Count. 2011. Retrieved from <http://icasualties.org>
- Jensen PS, Martin D, Watanabe H. Children's response to parental separation during operation desert storm. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1996; 35(4):433–441.10.1097/00004583-199604000-00009 [PubMed: 8919705]
- Jensen, P.; Shaw, JA. The effects of war and parental deployment upon children and adolescents. In: Ursano, RJ.; Norwood, AE., editors. *Emotional aftermath of the Persian Gulf War: Veterans, families, communities, and nations*. Washington, DC: American Psychiatric Press; 1996. p. 83-109.
- Jensen PS, Xenakis SN, Wolf P, Bain MW. The “military family syndrome” revisited: “by the numbers”. *The Journal of Nervous and Mental Disease*. 1991; 179(2):102–107. [PubMed: 1990071]
- Kelley ML. The effects of military-induced separation on family factors and child behavior. *The American Journal of Orthopsychiatry*. 1994; 64(1):103–111.10.1037/h0079499 [PubMed: 8147419]
- Kessler RC, Berglund P, Demler O, Jin R, Koretz D, Merikangas KR, et al. Wang PS. The epidemiology of major depressive disorder: Results from the national Comorbidity Survey Replication (NCS-R). *JAMA*. 2003; 289:3095–3105.10.1001/jama.289.23.3095 [PubMed: 12813115]
- Kilpatrick DG, Koenen KC, Ruggiero KJ, Acierno R, Galea S, Resnick HS, et al. Gelernter J. The Serotonin Transporter Genotype and Social Support and Moderation of Posttraumatic Stress Disorder and Depression in Hurricane-Exposed Adults. *American Journal of Psychiatry*. 2007; 164(11):1693–1699.10.1176/appi.ajp.2007.06122007 [PubMed: 17974934]
- Lester P, Peterson K, Reeves J, Knauss L, Glover D, Mogil C, et al. Beardslee W. The long war and parental combat deployment: Effects on military children and at-home spouses. *J Am Acad Child Adolesc Psychiatry*. 2010; 49(4):310–320.10.1016/j.jaac.2010.01.003 [PubMed: 20410724]
- Lieb R, Isensee B, von Sydow K, Wittchen HU. The early developmental stages of psychopathology study. *Eur Addict Res*. 2000; 6:170–82.10.1159/000052043 [PubMed: 11124570]
- Lincoln A, Swift E, Shorteno-Fraser M. Psychological adjustment and treatment of children and families with parents deployed in military combat. *Journal of Clinical Psychology*. 2008; 64(8): 984–992.10.1002/jclp.20520 [PubMed: 18612969]
- Lowe TB, Hopps JG, See LA. Challenges and stressors of African American armed service personnel and their families. *Journal of Ethnic & Cultural Diversity in Social Work*. 2006; 15:51–81.
- Luthar, SS.; Zelazo, LB. Research on resilience an integrative review. In: Luthar, SS., editor. *Resilience and vulnerability: Adaptation in the context of childhood adversities*. New York: Cambridge University Press; 2003. p. 510-550.
- MacDermid, SM.; Olson, TM.; Weiss, H. Military Family Research Institute; 2002. Supporting military families throughout deployment. Retrieved January 22, 2007, from [http://www.cfs.purdue.edu/mfri/pages/research/MFRI\\_Brief\\_Deployment\\_Support.pdf](http://www.cfs.purdue.edu/mfri/pages/research/MFRI_Brief_Deployment_Support.pdf)
- Mansfield AJ, Kaufman JS, Marshall SW, Gaynes BN, Morrissey JP, Engel CC. Deployment and the use of mental health services among U.S. Army wives. *The New England Journal of Medicine*. 2010; 362(2):101–109.10.1056/NEJMoa0900177 [PubMed: 20071699]
- McFarlane AC. Military deployment: the impact on children and family adjustment and the need for care. *Current Opinion in Psychiatry*. 2009; 22(4):369–373.10.1097/YCO.0b013e32832c9064 [PubMed: 19424067]
- Meis LA, Barry RA, Kehle SM, Erbes CR, Polusny MA. Relationship adjustment, PTSD symptoms, and treatment utilization among coupled National Guard soldiers deployed to Iraq. *Journal of Family Psychology*. 2010; 24(5):560–567.10.1037/a0020925 [PubMed: 20954766]

- Milliken CS, Auchterlonie JL, Hoge CW. Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. *JAMA*. 2007; 298:2141–2148.10.1001/jama.298.18.2141 [PubMed: 18000197]
- Monson CM, Taft CT, Fredman SJ. Military-related PTSD and intimate relationships: from description to theory-driven research and intervention development. *Clinical Psychology Review*. 2009; 29(8): 707–714.10.1016/j.cpr.2009.09.002 [PubMed: 19781836]
- Morrison J. Rethinking the military family syndrome. *The American Journal of Psychiatry*. 1981; 138(3):354–357. [PubMed: 7468833]
- National Guideline Clearinghouse. Depression clinical practice guidelines. 2006. Retrieved from <http://www.guideline.gov/content.aspx?id=9632>
- National Military Family Association. *Serving the Home Front: An Analysis of Military Family Support from September 11, 2001 through March 31, 2004*. Alexandria, VA: National Military Family Association; 2004.
- National Military Family Association. *Report on the Cycles of Deployment: An Analysis of Survey Responses from April through September, 2005*. Alexandria, VA: National Military Family Association; 2005.
- Nice DS. The course of depressive affect in Navy wives during family separation. *Military Medicine*. 1983; 148(4):341–343. [PubMed: 6406936]
- Padden DL, Connors RA, Agazio JG. Stress, coping, and well-being in military spouses during deployment separation. *Western Journal of Nursing Research*. 2011; 33(2):247–267.10.1177/0193945910371319 [PubMed: 20647551]
- Pilowsky D, Wickramaratne P, Nomura Y, Weissman M. Family discord, parental depression and psychopathology in offspring: 20-year follow-up. *J Am Acad Child Adolesc Psychiatry*. 2006; 45:452–460.10.1097/01.chi.0000198592.23078.8d [PubMed: 16601650]
- Pilowsky DJ, Wickramaratne P, Talati A, Tang M, Hughes CW, Garber J, Malloy E, et al. Children of depressed mothers 1 year after the initiation of maternal treatment: findings from the STAR\*D-Child Study. *The American Journal of Psychiatry*. 2008; 165(9):1136–1147.10.1176/appi.ajp.2008.07081286 [PubMed: 18558646]
- Pincus, SH.; House, R.; Christensen, J.; Adler, LE. The emotional cycle of deployment: a military family perspective. 2005. Retrieved January 22, 2007, from <http://www.hooah4health.com/deployment/familymatters/emotionalcycle.htm>
- Rentz ED, Marshall SW, Loomis D, Martin SL, Casteel C, Gibbs D. Effect of deployment on the occurrence of child maltreatment in military and non military families. *Am J Epidemiol*. 2007; 165(10):1199–1206.10.1093/aje/kwm008 [PubMed: 17329716]
- Riggs D, Byrne C, Weathers F, Litz B. The quality of the intimate relationships of male Vietnam veterans. *J Trauma Stress*. 1998; 11(1):87–101.10.1023/A:1024409200155 [PubMed: 9479678]
- Rosen LN, Duran D, Westhuis D, Teitelbaum J. Marital adjustment of Army spouse one year healthy marriages literature reviews after Operation Desert Storm. *J Appl Soc Psychol*. 1995; 25(8):677–692.10.1111/j.1559-1816.1995.tb01768.x
- Rosen LN, Moghadam LZ. Matching the support to the stressor: Implications for the buffering hypothesis. *Military Psychology*. 1990; 2(4):193–204.10.1207/s15327876mp0204\_1
- Rosen LN, Teitelbaum JM, Westhuis DJ. Children's reactions to the Desert Storm deployment: initial findings from a survey of Army families. *Military Medicine*. 1993; 158(7):465–469. [PubMed: 8351048]
- Sayers SL, Farrow VA, Ross J, Oslin DW. Family problems among recently returned military veterans referred for a mental health evaluation. *J Clin Psychiatry*. 2009; 70(2):163–170.10.4088/JCP.07m03863 [PubMed: 19210950]
- Schumm WR, Bell DB, Ender MG, Rice RE. Expectations, Use, and Evaluation of Communication Media among Deployed Peacekeepers. *Armed Forces & Society*. 2004; 30(4):649–662.10.1177/0095327X0403000407
- Schumm WR, Bell DB, Knott B, Rice R. The perceived effect of stressors in marital satisfaction among civilian wives of enlisted soldiers deployed to Somalia for Operation Restore Hope. *Mil Med*. 1996; 161(10):601–6. [PubMed: 8984421]



- Segal, MW. Implications for military families of changes in the Armed Forces of the United States. In: Caforio, G., editor. *Handbook of the Sociology of the Military*. 2006. p. 225
- Sheppard SC, Malatras JW, Israel AC. The impact of deployment on U.S. military families. *American Psychologist*. 2010; 65(5):599–609.10.1037/a0020332 [PubMed: 20822199]
- Snowden LR. Racial differences informal help-seeking for mental health problems. *Journal of Community Psychology*. 1998; 26:429–438.10.1002/(SICI)1520-6629(199809)26:5<429::AID-JCOP3>3.0.CO;2-M
- Solomon Z, Mikulincer M, Avitzur E. Coping, locus of control, social support, and combat-related posttraumatic stress disorder. *J Pers Soc Psychol*. 1988; 5:279–285.10.1037/0022-3514.55.2.279 [PubMed: 3171908]
- Solursh LP. Combat addiction: Overview and implications in symptom maintenance and treatment planning. *J Trauma Stress*. 1989; 2:451–662.10.1002/jts.2490020408
- Spera C. Spouses' ability to cope with deployment and adjust to Air Force family demands: Identification of risk and protective factors. *Armed Forces & Society*. 2009; 35(2):286–306.10.1177/0095327X08316150
- Spera, C.; Jones, A. *Study of spouses' ability to prepare for and cope with family separation*. Fairfax, VA: Caliber Associates; 2004.
- Swartz HA, Frank E, Zuckoff A, Cyranowski JM, Houck PR, Cheng Y, et al. Shear MK. Brief interpersonal psychotherapy for depressed mothers whose children are seeking psychiatric treatment. *Am J Psychiatry*. 2008; 165:1155–1162.10.1176/appi.ajp.2008.07081339 [PubMed: 18558645]
- Tanielian, T.; Jaycox, LH., editors. *Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery*. Santa Monica, CA: RAND Corporation; 2008. p. 488-492.
- Tarrier N, Sommerfield C, Pilgrim H. Relatives' expressed emotion (EE) and PTSD treatment outcome. *Psychol Med*. 1999; 29:801–811. [PubMed: 10473307]
- Thomas JL, Wilk JE, Riviere LA, McGurk D, Castro CA, Hoge CW. Prevalence of mental health problems and functional impairment among active component and National Guard soldiers 3 and 12 months following combat in Iraq. *Archives of General Psychiatry*. 2010; 67(6):614–623.10.1001/archgenpsychiatry.2010.54 [PubMed: 20530011]
- Ursano RJ, Holloway HC, Jones DR, Rodriguez AR, Belenky GL. *Psychiatric Care in the Military Community: Family and Military Stressors*. *Psychiatric Services*. 1989; 40(12):1284–1289.
- Weins, TW.; Boss, P. Maintaining family resiliency before, during, and after military separation. In: Castro, CA.; Adler, AB.; Britt, TH., editors. *Military life: The psychology of serving in peace and combat, Vol 3. The military family*. Westport, Bridgeport, CT: Praeger Security International; 2006. p. 13-38.
- Weissman MM, Verdeli H, Gameroff MJ, Bledsoe SE, Betts K, Mufson L, Fitterling H, Wickramaratne P. National survey of psychotherapy training in psychiatry, psychology, and social work. *Archives of General Psychiatry*. 2006; 63(8):925–934.10.1001/archpsyc.63.8.925 [PubMed: 16894069]
- Westhous D, Fafara R, Ouellette P. Does Ethnicity Affect the Coping of Military Spouses? *Armed Forces & Society*. 2006; 32:584–603.10.1177/0095327X06287050