Review of assessment and treatment of PTSD among elderly American armed forces veterans

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SUMMARY

Background The number of elderly combat veterans is steadily increasing in the US and estimates project that a notable percentage of these veterans experience symptoms of posttraumatic stress disorder (PTSD). Limited data exist specifically related to prevalence, assessment, and treatment of PTSD among the elderly veteran population.

Objective This review summarizes the available research related to difficulties in assessment with the elderly American Armed Forces veteran population. In addition, both psychotherapeutic and pharmacological treatment interventions for PTSD are discussed.

Methods A literature search was conducted using PsycINFO, Medline, and the National Center for PTSD’s PILOTS database.

Results Evidence suggests that elderly veterans generally present more somatic symptoms of PTSD. Medical and psychological comorbidities, such as depression, substance abuse, or cognitive deficits can further complicate the assessment process. Cut-scores for existing instruments need to be further established with elderly veterans. Use of exposure therapies with the elderly has not been adequately researched and mixed results have been obtained for supportive therapy for treatment of PTSD. Controlled research investigating pharmacological interventions for PTSD with the elderly is also limited.

Conclusion Evidence suggests that some psychotherapeutic and pharmacological interventions already utilized with younger individuals may be useful with the elderly veteran population. However, research indicates that modifications may be required for working with the elderly population and further research in the areas of assessment and treatment are necessary. Copyright © 2005 John Wiley & Sons, Ltd.

KEY WORDS — elderly; veterans; PTSD; review

Some estimates (Summers et al., 1996) purport that approximately 25% of older adults in the US were veterans of either World War II (WWII) or Korea. Another community study found that 20% of older adults had experienced combat in their lifetimes (Norris, 1992). Predictions suggest that by the year 2020, approximately 50% of male veterans will be age 65 or older (Cook et al., 2001), although since the US is currently involved in military conflict, growth of the elderly population may be somewhat lower than the original predictions. One study with older veterans (Schnurr et al., 2002) indicated that approximately 80% of the sample had experienced at least one traumatic event during their lifetimes and almost half had experienced more than one type of trauma. Since PTSD is a relatively common phenomenon after combat exposure, one might expect that some of the geriatric veteran population are faced with such difficulties. Some estimates predict that approximately 1 million elderly veterans currently experience symptoms of PTSD (Snell and Padin-Rivera, 1997).

One difficulty in the treatment of elderly veterans with PTSD is that limited research is available that specifically addresses assessment and treatment of
PTSD among older veterans (Schnurr, 1991). Research with this population is critical, as elderly veterans may experience PTSD symptoms differently than younger veterans, necessitating alterations in assessment and treatment approaches to some degree (Summers et al., 1996). The following review outlines existing research on the assessment, prevalence rates, and treatment of PTSD among elderly veterans. Recommendations for further research will be made to broaden the knowledge base surrounding PTSD and the growing geriatric veteran population. A literature search was conducted using PsycINFO, Medline, and the National Center for PTSD’s PILOTS database. Keywords such as PTSD, elderly, veterans, older adults, assessment, and treatment were utilized as search terms. No restriction was placed on year of study. The term ‘elderly’ was used to encompass the population aged 55 and above.

ASSESSMENT-RELATED ISSUES

Assessment of PTSD in the elderly can be a complicated process due to several factors. For individuals having experienced a trauma in childhood or early adulthood, the passage of time brings with it several confounds, including various life events occurring throughout ensuing years. Pre-morbid level of functioning (i.e. prior to the traumatic event) is also rarely known (Ruskin and Talbott, 1996), but could impact severity of symptoms and whether or not PTSD develops, as well as the severity of symptoms. Concerns about the process of PTSD assessment with the elderly often focus on differential diagnosis, symptom overlap, and comorbidity issues (Sutker et al., 1991). Nichols and Czirr (1986) proposed that elderly individuals with PTSD are often misdiagnosed, with their primary diagnoses being alcoholism, depression, antisocial personality disorder, or schizophrenia.

Symptom presentation

Research suggests that while older adults may experience PTSD symptoms similar to younger individuals, the course of the disorder, intensity and expression of symptoms, and comorbid diagnoses may differ for older individuals (Hyer et al., 1995; Averill and Beck, 2000). In addition, changes in the physiologic response to stress in older adults may affect both the experience and presentation of anxiety disorders such as PTSD (Kogan et al., 2000). Older veterans may manifest symptoms in more of a somatic rather than a psychological manner and thus be more likely to report physical difficulties instead of emotional ones when compared with younger individuals (Bonwick and Morris, 1996; Clipp and Elder, 1996; Snell and Padin-Rivera, 1997). Older individuals also may not associate their current symptoms with a past trauma and simply determine that symptoms are a result of aging (Falk et al., 1994). PTSD can occur during or shortly after a trauma and resolve relatively quickly; symptoms may be ongoing since the trauma; or symptoms may occur in later life (Clipp and Elder, 1996). Some authors (Bramsen and van der Ploeg, 1999) suggest that the aging process may exacerbate symptoms or in other cases lead to symptoms becoming more difficult to manage. This variety of symptom presentations in turn makes diagnosis of PTSD in the elderly challenging.

Another factor contributing to difficulty in assessing PTSD in the elderly is the limited number of longitudinal studies that investigate the course of PTSD symptomatology (Dirzwager et al., 2001). Port and associates (2001) conducted a four-year longitudinal study of PTSD symptomatology among WWII and Korean War ex-POWs and also examined retrospective reports of the course of post-war symptoms. Results suggested a pattern of fluctuating symptoms across the lifespan, with symptomatology being highest for this sample shortly after the trauma, declining in ensuing years, and then increasing as individuals entered later life (Port et al., 2001). POWs often differ in severity of symptoms from other combat veterans. Therefore, continued research with other elderly veterans is necessary to confirm this process. Dirzwager et al. (2001) also conducted a longitudinal examination of a sample of Dutch veterans of WWII and Korea. Twenty-seven percent of veterans in the study met criteria for a diagnosis of PTSD at the outset of the study, while six years later, 29% met criteria, highlighting the persistence of PTSD over time (Dirzwager et al., 2001).

Retrospective studies are most common among the literature on symptom presentation, although these types of studies have obvious limitations when compared with longitudinal data. Nearly 25% of a sample of WWII POWs reported that they had experienced difficulties with PTSD symptoms continuously, while 62% indicated they were periodically troubled by these symptoms over the course of 40 years (Zeiss and Dickman, 1989). Another study with former WWII POWs indicated that 67% had PTSD at some point in their lifetimes, with approximately 29% fully recovered, 39% reporting mild symptoms, 24% reporting moderate symptoms, and 8% reporting no improvement or worsening of symptoms (Kluznik et al., 1986).
Late-onset PTSD

Research also has focused on cases of delayed-onset PTSD in which individuals are not symptomatic for many years and suddenly begin experiencing PTSD symptoms or an exacerbation of these symptoms in later years. In such cases, combat-related PTSD has occurred among some veterans as late as 50 years after combat without previous psychiatric symptoms or re-exposure to battle (Van Dyke et al., 1985; Spiro et al., 1994; Ruskin and Talbott, 1996; Sutker et al., 1995; Molinari and Williams, 1995; Snell and Padin-Rivera, 1997; Cook, 2001). One study with ex-POWs from WWII and Korea indicated that a relationship exists between higher levels of PTSD and greater numbers of negative health changes, lower social support, and lower death acceptance (Port et al., 2001). Some authors (Macleod, 1994) purport that PTSD may be reactivated by similarities between ill health and the stress of wartime. Molinari and Williams (1995) suggest that these life events may activate feelings of vulnerability associated with earlier trauma and that the structure of work and other activities may have assisted veterans in coping with their trauma to that point. Other authors (Aarts and Op den Velde, 1996) suggest that reemergence of PTSD symptoms in later life may be related to developmental tasks of old age such as mourning losses and the need to process losses that may have occurred when they were traumatized earlier in life. In contrast, some longitudinal investigations (Lee et al., 1995; Dirzwager et al., 2001) have not found evidence of an increase in PTSD symptoms related to life events and the aging process. There is a lack of controlled research studies conducted to investigate whether PTSD occurs more frequently in elderly individuals who experience late-life stressors (e.g. death of spouse, retirement, physical illness) versus elderly individuals who do not experience these stressors (Ruskin and Talbott, 1996).

Attitudes toward psychological difficulties

Differences in attitudes towards psychological difficulties may also complicate the assessment process. Researchers often suggest that veterans of World War II, the Korean War, and Vietnam are hesitant to report psychological distress that arises after combat experience, tending to avoid or suppress memories and feelings related to the trauma (Nichols and Czirr, 1986; Bonwick and Morris, 1996; Clipp and Elder, 1996). Older ex-POWs also have been described in the literature as being prone to minimize symptoms, repress feelings, and be suspicious of government programs (Molinari and Williams, 1995), compounding difficulties with both assessment and treatment of PTSD. Macleod (1994) emphasized the difficulties with obtaining detailed clinical information from elderly individuals who may be reluctant to share information and psychological problems. Negative responses from others with whom the veteran shares his/her experiences and reactions may also serve to discourage disclosure in future situations (Nichols and Czirr, 1986). Cohort effects, such as attitudes of society towards various war efforts and mental illness also are suspected influences on reported levels of psychological distress among veterans (Fontana and Rosenheck, 1994).

Type of combat exposure

Another factor that may influence the symptom presentation of PTSD is the type of combat exposure experienced and the war cohort. Evidence suggests that severity of PTSD is related to the degree of combat exposure (Sutker et al., 1991; Hermann and Eryavec, 1994; Spiro et al., 1994). Spiro et al. (1994) found that WWII veterans were more likely than Korean War veterans to have killed someone in combat, been wounded in battle, or experienced survivor guilt. Moreover, this study indicated that men who reported more combat exposure indicated they experienced a higher number of PTSD symptoms, with WWII veterans exposed to moderate or heavy combat having approximately 13 times a greater risk of developing PTSD symptoms when compared with non-combat veterans.

Research suggests that differences exist between the various wars in combat exposure and experiences (Fontana and Rosenheck, 1994). Comparisons of symptomatology among WWII, Korean, and Vietnam veterans indicate no significant differences in PTSD severity between the wars, but significantly greater levels of general psychiatric distress for Korean War veterans versus both other groups. Korean War veterans also reported more suicidality than WWII veterans (but not Vietnam veterans), while Vietnam veterans reported significantly more guilt.
than WWII and Korean War veterans (Fontana and Rosenheck, 1994). Davidson and associates (1990a) found that Vietnam veterans with PTSD exhibited significantly more severe symptoms (e.g. depression, PTSD, and global illness severity) than World War II veterans. A study comparing treatment-seeking, older Korean War and WWII veterans found that Korean War combat veterans reported significantly more severe PTSD symptomatology than WWII combat veterans on both self-report and structured interview measures (McCranie and Hyer, 2000). Fontana and Rosenheck (1994) hypothesized that the lower degree of symptomatology reported by WWII veterans when compared with Korean War and Vietnam veterans may be a result of sociocultural factors, largely more favorable attitudes towards WWII, and less acceptance and understanding of mental illness at that time.

Comorbidity of PTSD and other medical and psychiatric disorders

Misdiagnosis may also occur due to similarities in symptom presentation between PTSD and other medical and psychiatric disorders. Medical problems typically increase with aging and older combat veterans with PTSD particularly have been known to have a high occurrence of significant medical problems that complicate diagnosis and treatment (Lipton and Schaffer, 1988). Many medical conditions (e.g. cardiovascular, endocrine, neurological problems) often include somatic symptoms of anxiety (Gurian and Miner, 1991; Sheikh, 1996), thereby potentially masking an anxiety disorder. Further, medications provided to treat other physical problems commonly contribute to symptoms of anxiety in the elderly (Flint, 2004).

The PTSD assessment process with the elderly veterans also can be complicated by the presence of other psychiatric disorders. Both delirium and dementia, disorders which are more commonly found in the older population, may be diagnostically confused with anxiety and other disorders due to some symptom overlap (Caine and Lyness, 2000). Delirium may include memory impairment, difficulty with concentration, increased startle reaction, sleep disturbance, irritability, hypervigilance, and may also be accompanied by anxiety, all of which are potentially shared by the PTSD symptom presentation (Liptzin, 2004). Dementia also includes symptoms of memory impairment and anxiety, as well as secondary behavioral disturbances such as sleep difficulties and suspiciousness, symptoms that again may complicate a PTSD assessment (Gatz, 1994). Actual research in the area of cognitive impairment and its relationship to anxiety are currently lacking (Beck and Stanley, 2001), although case series data suggests that PTSD symptoms may become worse with increases in cognitive impairment from dementia (Mittal et al., 2001).

Depression, dysthymic disorder, alcohol abuse/dependence, and generalized anxiety disorder are common comorbid psychiatric disorders in veterans with PTSD (Hermann and Eryavec, 1994; Kaup et al., 1994). In a sample of WWII and Korean War POWs and combat veterans, Sutker and Allain (1996) found that 66% of veterans with a diagnosis of current PTSD had at least one other psychiatric diagnosis, while 80% of individuals with a lifetime PTSD diagnosis had at least one other comorbid disorder. Anxiety, depressive, and alcohol disorders were the most common comorbid diagnoses in this sample. Further, in a sample of Vietnam combat veterans diagnosed with PTSD, over 75% of the individuals met criteria for at least one additional diagnosis (Keane and Wolf, 1990). Research has indicated that a strong relationship exists between PTSD and alcohol abuse/dependence in both clinical and nonclinical samples of veterans (Stewart, 1996). For example, Hermann and Eryavec (1994) found that more than half of their sample of elderly WWII veterans in a long-term care facility also had a diagnosis of alcohol abuse at some point in their lifetimes. Lifetime alcohol abuse/dependence rates for groups of POWs and combat veterans, both of whom had experienced heavy combat, were 17% and 43%, respectively (Sutker, Allain, and Winstead, 1993).

Age effects

While several studies have compared older and younger individuals who have experienced trauma and findings generally suggest that elderly adults survive these traumatic events well in comparison (Green et al., 1996), many of these studies were focused on survivors of natural disasters (Ollendick and Hoffmann, 1982; Thompson et al., 1993; Norris et al., 1994; Green et al., 1996). However, some age comparison studies have been conducted with the veteran population. Davidson et al. (1990a) compared World War II and Vietnam veterans with PTSD and found that younger veterans in the sample reported more severe PTSD symptomatology than older veterans. The older veterans indicated they experienced some similar symptoms to that of younger veterans, but reported more physical difficulties and concerns about incapacity and captivity (Davidson et al., 1990a). The authors suggested that age at the time of
study may moderate PTSD leading to lower symptom levels among WWII veterans. Other studies have also documented a higher level of PTSD symptoms among younger versus older veterans (Sperr et al., 1990).

In addition, research indicates some age-related changes in physiological measures in individuals with PTSD (Bremner and Narayan, 1998), specifically reduction in hippocampal volume with related memory deficits. Other evidence with elderly veteran samples suggests similarities to younger trauma survivors, with older individuals with PTSD exhibiting greater cortisol suppression following a low-dose dexamethasone suppression test as also occurs with younger individuals with PTSD (Yehuda et al., 1995; Yehuda et al., 2002). Such physiological findings are important given that cortisol suppression following dexamethasone administration has been found to be related to PTSD severity (Yehuda et al., 1995).

Beyond these physiological findings, some research suggests that age has an effect on the experience of stress, with early entry military recruits (immediately after high school) and late entry recruits (approximately age 30 and above) having greater risks for stress effects (Elder et al., 1994). Elder and colleagues suggest that negative effects on health may occur for the young due to lack of full maturation, while for late entry recruits, marital and work responsibilities are disrupted. Furthermore, Hastings (1991) examined a sample of veterans from the Stanford-Terman Longitudinal Study and found that older veterans (at time of mobilization) were more likely to have greater coping resources due to higher educational levels and more life experience. Comparisons of younger and older cohorts from this sample suggested that younger combat veterans who were officers were not more likely to experience postwar emotional problems than older veterans. However, Hastings’s study focused on differences evident 5–15 years post-trauma and focused on distinctions based on age at mobilization. In addition, while Hastings emphasized the likelihood that younger veterans who were officers had more duties, the possibility also exists that these young officers by the nature of their positions (and depending on rank) may have been less likely to be exposed to very high rates of trauma. For POWs, age at capture seems to be a risk factor for development of PTSD, with individuals who were older at the time of capture being less likely to develop PTSD (Engdahl et al., 1997).

Assessment instruments

Combined with the difficulties of symptom presentation and medical and psychiatric comorbidity mentioned above, the limited number of validation studies conducted for PTSD measures with the elderly population contributes to the problem of assessment with this group. Falk et al. (1994) noted that many assessment instruments used to diagnose PTSD in elderly veterans were validated with Vietnam veterans and thus may have questionable diagnostic usefulness with other groups. Some authors have noted that many measures of anxiety containing large numbers of somatic items may make distinguishing between medical and psychological causes of anxiety symptoms difficult, since these measures were often originally developed for younger individuals, often with fewer somatic complaints (Kogan et al., 2000).

Working to alleviate this deficit, Hyer and associates have conducted several studies to establish validity of PTSD assessment instruments with older veterans. Hyer et al. (1992) examined the validity of the MMPI-PTSD and Mississippi Scale for Combat-Related PTSD with elderly veterans, comparing three groups of elderly veterans and a younger veteran group. Results indicated that the older veterans with PTSD reported more health problems than the other groups, but the younger veterans with PTSD obtained higher scores on all clinical scales of the MMPI. Both the older and younger veterans with PTSD reported similar symptoms of PTSD on the Mississippi PTSD Scale and the MMPI-PTSD scale. The authors indicated that both scales were valid in measuring PTSD symptomatology with elderly veterans, although the sample size was too small to allow for calculation of meaningful cut-off scores for this population (Hyer et al., 1992). Hyer and colleagues (1996) also examined the appropriateness of the Clinician Administered PTSD Scale (CAPS) with a non-psychiatric sample of older combat veterans who served in WWII or the Korean War and found the measure to have good internal consistency reliability (alpha = 0.95) and high specificity and sensitivity.

Neal and associates (1995) assessed the convergent validity of measures of PTSD such as the MMPI-PTSD, Mississippi Scale, and Impact of Event Scale (IES) with a sample of elderly WWII ex-POWs. Results indicated that the Mississippi Scale most accurately measured severity of PTSD by adjusting the cutoff score to 81 (vs 107 with younger samples) with sensitivity at approximately 0.78 and specificity at 0.57. The authors indicated that the MMPI-PTSD was best able to discriminate between individuals with and without PTSD and that the IES was of least utility in assessing PTSD severity due to difficulties in discriminating between avoidance and intrusion symptoms with older veterans in this sample (Neal et al., 1995).
Norms must be re-evaluated for assessment instruments that were developed for younger and middle-aged populations, since adjusted cutoff scores may provide more accurate results in older veteran samples (Engdahl and Eberly, 1994). Cutoff scores on PTSD assessment instruments such as the MMPI-PK scale, IES, and Mississippi Scale that were developed with Vietnam veterans have been shown to be significantly lower for World War II and Korean War veterans (Summers et al., 1996), emphasizing the need to modify these cut-points. Kogan et al. (2000) also noted that differences in symptomatology may exist between individuals in the early years of the geriatric age spectrum and those in the old-old category and thus further investigation of validity of current PTSD assessment instruments is warranted.

PREVALENCE

Since assessment difficulties likely have an effect on gathering data on PTSD prevalence rates among elderly veterans, we present this information after discussion of current assessment difficulties with this population. PTSD prevalence rates in the general geriatric population in the US are relatively unknown, as studies have typically focused on either specific combat groups or patient populations (e.g. inpatient, out-patient, non-treatment-seeking) (Schnurr, 1991). Various studies have provided estimates of the prevalence of PTSD, categorized by details such as the war participated in, treatment-seeking status, or type of combat exposure. Differences in prevalence rates have often been attributed to the type of sample surveyed, varied definitions of PTSD, scales utilized to assess PTSD, as well as the time interval that has passed since the traumatic experience (Molinari and Williams, 1995).

Some research suggests that older individuals generally present with lower rates of PTSD in response to traumatic events, including combat exposure (Norris, 1992; Flint, 1994; Baker et al., 1998). Prevalence rates are deemed lower among the elderly population because of the retrospective nature of reports as well as selective mortality (e.g. those with more severe symptoms having a higher degree of mortality) (Hyer et al., 1992). Other authors suggest that lower PTSD prevalence rates may result from differences in cohort war experiences, how soldiers were received upon returning to the US, and denial of psychiatric difficulties (Hyer and Woods, 1998; Schnurr et al., 2002). Cohort effects may significantly impact data on prevalence of PTSD, as many older combat veterans (e.g. WWII and Korean War) grew up at a time when males were discouraged from admitting to psychological difficulties and more stigma was attached to mental illness (Fontana and Rosenheck, 1994). Thus, many older veterans are reluctant to admit to psychological symptoms (Lipton and Schaffer, 1988), likely contributing to an underestimate of PTSD prevalence in various studies.

Prevalence rates are often categorized by specific war exposure. Studies of this nature report rates of lifetime PTSD among Vietnam veterans at around 31% (Kulka et al., 1990). Fifteen percent of these individuals met current criteria for PTSD and approximately 36% of Vietnam veterans exposed to heavy combat in this sample had current PTSD. These statistics are important as the Vietnam veteran population continues to move into the geriatric age range. Incidence of current PTSD among samples of WWII and Korean War POWs has been estimated between 29% in a community sample (Engdahl et al., 1997) and 70% in a non-treatment-seeking sample of WWII POWs experiencing high levels of combat exposure (Sutker et al., 1993). Studies of World War II and Korean War veterans estimate lifetime prevalence rates of PTSD from 3 to 56% with higher rates obtained in studies utilizing structured clinical interviews versus self-report measures (see Averill and Beck, 2000). The wide range of reported PTSD prevalence rates in these studies is likely due to differences between study samples (e.g. treatment-seeking status, level of combat exposure) and the variety of assessment instruments utilized for diagnostic purposes.

Prevalence studies also categorize veterans by their treatment-seeking status. For example, Blake et al. (1990) found that 9% of World War II veterans and 7% of Korean conflict veterans who had never obtained psychiatric treatment met criteria for current PTSD. For those veterans who had sought psychiatric treatment, 37% of WWII and 80% of Korean conflict veterans met criteria for current PTSD (Blake et al., 1990). Other estimates of current PTSD rates for treatment-seeking veterans have ranged from 55% of WWII veterans to 65% of Korean War veterans (Fontana and Rosenheck, 1994). Another study conducted with elderly WWII veterans in a long-term care facility, found that lifetime prevalence of PTSD was 23%, with 57% of individuals with lifetime PTSD having chronic symptoms (Hermann and Eryavec, 1994). Sixteen percent of veterans in this sample met criteria for current PTSD. In a psychiatric hospital sample of geriatric World War II combat veterans, 27% met criteria for current PTSD (Rosen et al., 1989). Despite assessment problems and the
potential for underestimating PTSD prevalence, data suggest that PTSD remains a distinct concern for some elderly combat veterans.

COMMENT

While less is known about the assessment process with elderly individuals with PTSD, general assessment methods likely still apply and are typically utilized. However, evidence suggests that differences in symptom presentation, comorbidity, and cut-off scores for frequently used assessment instruments may exist for the geriatric veteran population. Elderly veterans generally present more somatic symptoms than younger veterans and clinicians must take note of this when attempting to determine a diagnosis. Comorbidity of medical problems as well as common diagnoses such as depression and substance abuse can also cloud the diagnostic picture. Further work is necessary to determine appropriate cut-scores on current assessment instruments for the elderly veteran population. One way this could be accomplished is through studies utilizing ROC curves based on age, cohort, or war to ascertain optimal cut-off points. New assessment instruments that incorporate the more somatic symptom presentation of elderly individuals may also be helpful in accurately diagnosing PTSD with this population. Accurate PTSD prevalence rates are difficult to determine with this population, in large part due to difficulties with assessment already discussed. However, what we do know about rates of PTSD in elderly veterans suggests that PTSD treatment with the elderly population is an important issue to examine.

TREATMENT OF PTSD IN THE ELDERLY

Adequate psychotherapeutic and pharmacological intervention studies for PTSD in the geriatric population have not yet been conducted (Ruskin and Talbott, 1996; Weintraub and Ruskin, 1999; Sheikh and Cassidy, 2000; Cook, 2001). Intervention studies examining PTSD were largely conducted with Vietnam veterans who were generally in their 40s (Nichols and Czirr, 1986). Thus, further research is needed to extend these results to older veterans. Treatment for older veterans with PTSD is often based on the assumption that treatments established as effective with younger patients are generalizable to older patients (Sheikh and Cassidy, 2000); however, insufficient evidence exists for evaluating this assumption. Furthermore, Sheikh and Cassidy (2000) assert that treatments for anxiety disorders in the elderly must address the unique physiological and psychological concerns with the geriatric population, such as increased medical illness and difficulties with psychiatric comorbidity.

Psychotherapy

Generally, controlled research studies have indicated that behavioral and cognitive-behavioral treatments are effective in reducing symptoms of PTSD and depression (Sherman, 1998). One review of controlled PTSD treatment studies (Solomon et al., 1992) illustrates that flooding and desensitization therapies are effective treatments; however, none of these studies involved geriatric individuals. Flint (2004) also adds that CBT treatments may not be appropriate for use with older adults with moderate to severe cognitive impairment or with significant physical restrictions. Furthermore, Shapiro (1995) and Hyer and Woods (1998) assert that caution must be taken with application of intensive exposure treatments to older adults due to the increased levels of autonomic arousal which could pose potential health complications with medical comorbidities such as severe cardiovascular disease or respiratory problems. While this hypothesis has not been systematically tested, it emphasizes the need to investigate these intensive types of exposure treatments for use with elderly individuals.

One randomized clinical trial compared an exposure-based trauma-focused group therapy (TFGT) with present-centered group treatment (PCGT) among a Vietnam veteran sample (Schnurr et al., 2003). TFGT includes exposure components, but utilizes these methods in conjunction with psychoeducation, cognitive restructuring, coping skills development, and relapse prevention, while PCGT had no focus on trauma and was used as a comparison to general psychotherapy. After 30 weeks, no significant differences were found between the two treatments. However, this was a modification of prolonged exposure (PE) and no trial of standard PE has been conducted with older veterans. Thomas and Gafner (1993) report on a case study using Eye Movement Desensitization and Reprocessing (EMDR) with an elderly veteran of World War II and Korea (see Table 1). EMDR consists of having the client imagine a traumatic memory while the therapist induces saccadic eye movements (Shapiro, 1991). The elderly male veteran in Thomas and Gafner’s (1993) study demonstrated reduced symptoms of depression and distress after two sessions.
Other intervention strategies also have been recommended for use with elderly veterans. Snell and Padin-Rivera (1997) describe a process of education and normalization of symptoms, reorienting to the present during flashback episodes, and teaching of thought-stopping techniques in working with elderly veterans with PTSD, although no controlled trial or case study data are presented. Most research involving psychotherapeutic treatment of PTSD among the geriatric population has utilized either life review or supportive therapy techniques (Hyer et al., 1995; Wetherell, 1998; Maercker, 2002). Life review was modeled after Erikson’s (1982) theory of developmental stages, which asserts that old age is the final developmental task, during which individuals assess the past events in their life. According to Erikson, a successful process of integration facilitates ego integrity in later life. While some evidence suggests improvements in PTSD symptomatology with life review among non-veteran elderly individuals surviving the 1945 Dresden bombing (Maercker, 2002), these research reports are based on case studies rather than controlled research.

Supportive group therapy with elderly veterans with combat-related PTSD has been utilized (Lipton and Schaffer, 1986; Games and Hayden, 1991; Boehnlein and Sparr, 1993; Bonwick, 1998). Boehnlein and Sparr (1993) conducted group therapy with a geriatric sample of eight WWII ex-POWs. Veterans attended bi-weekly group sessions over the course of two years. The authors reported that measures of psychological distress and PTSD symptomatology indicated no significant change in symptoms after one year of treatment, although no specific data were presented. However, group members reported some improvements in social functioning (Boehnlein and Sparr, 1993). Bonwick (1997, 1998) described a 16-week group treatment for elderly veterans with PTSD, although no formal data were presented to evaluate treatment success. In addition to group therapy, the treatment program includes relaxation training, medication, psychoeducation, symptom management, and physical exercise. Lipton and Schaffer (1986) also describe a combined supportive group therapy and medication approach to PTSD treatment utilized with older veterans and ex-POWs.

**Table 1. Psychotherapeutic intervention studies for PTSD with elderly veterans**

<table>
<thead>
<tr>
<th>Sample</th>
<th>Study design</th>
<th>Type of therapy</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boehnlein and Sparr (1993)</td>
<td>8 WWII ex-POWs Age (M) = 70 years</td>
<td>Case series</td>
<td>Supportive group therapy</td>
</tr>
<tr>
<td>Bonwick (1998) and Bonwick (1997)</td>
<td>WWII and KW veterans</td>
<td>Case series</td>
<td>Supportive group therapy</td>
</tr>
<tr>
<td>Lipton and Schaffer (1986) and Lipton and Schaffer (1988)</td>
<td>WWII and KW veterans, many of whom were POWs (Total # not reported); Age range 44 to 73 (M not reported)</td>
<td>Case series</td>
<td>Supportive group therapy combined with medication (tricyclic antidepressants or alprazolam)</td>
</tr>
<tr>
<td>Molinar Williams (1995)</td>
<td>WWII and KW ex-POWs (nine core group members, four periodically attended, 13 attended for period of time and discontinued) Age range = 69–76</td>
<td>Case series</td>
<td>Supportive group therapy (similar to life review)</td>
</tr>
<tr>
<td>Thomas and Gafner (1993)</td>
<td>WWII and KW veteran Age = 68</td>
<td>Case study</td>
<td>Eye movement desensitization reprocessing (EMDR)</td>
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</table>
from WWII and the Korean War. Participants attended weekly 90-min groups and accessed other treatment approaches, such as family counseling, biofeedback, relaxation training, and medication when indicated (Lipton and Schaffer, 1988). Again, no formal assessment results were provided, although group members reported varied levels of symptom relief related to PTSD and physical symptoms (Lipton and Schaffer, 1986; Schaffer and Lipton, 1988). Finally, Molinari and Williams (1995) have described an open-ended, supportive group therapy approach conducted with ex-POWs from WWII. Group topics focused on current life difficulties and past experiences as a POW. The authors compared this treatment approach to a form of life review, although specifically focused on the common experience of combat among group members. Most participants in this group reported some improvements in PTSD symptoms, but these gains were not measured utilizing structured assessment instruments (Molinari and Williams, 1995). Overall, the impact of supportive therapy is not clear since controlled studies have not yet been performed. Table 1 summarizes available reports of psychotherapeutic interventions with elderly veterans with PTSD.

Pharmacotherapy

While limited research on pharmacological treatment of PTSD has focused on the geriatric veteran population (Peskind et al., 2003), research suggests that some treatment success has been achieved with the general veteran population. Results of pharmacotherapy studies with combat veterans have been mixed, with some studies indicating efficacy of phenelzine (an MAOI) and imipramine (TCA) in reducing intrusive symptoms of PTSD (Frank et al., 1988; Kosten et al., 1991; see Table 2), while others suggest phenelzine is not effective (see Shalev et al., 1996; Solomon et al., 1992 for reviews). Some benefit from treatment

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**Table 2. Sample psychopharmacological intervention studies for combat veterans with PTSD**

<table>
<thead>
<tr>
<th>Drug/Dose</th>
<th>Sample</th>
<th>Study design</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davidson et al. (1990b)</td>
<td>Amitriptyline (50–300)</td>
<td>46 veterans from WWII, Korean War and Vietnam (Age not reported)</td>
<td>RCT</td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td></td>
<td></td>
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<tr>
<td>Hertzberg et al. (2000)</td>
<td>Fluoxetine (10–60)</td>
<td>12 Vietnam veterans; Age (M) = 46 years</td>
<td>RCT</td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td></td>
<td></td>
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<tr>
<td>Van der Kolk et al. (1994)</td>
<td>Fluoxetine (20–60)</td>
<td>31 veterans, 33 civilian PTSD Age (M) = 40 years</td>
<td>RCT</td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td></td>
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<tr>
<td>Frank et al. (1988)</td>
<td>Phenelzine (15–75)</td>
<td>11 Vietnam veterans</td>
<td>RCT</td>
</tr>
<tr>
<td></td>
<td>Imipramine (50–300)</td>
<td>12 Vietnam veterans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>11 Vietnam veterans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Age (M) = 38 years</td>
<td></td>
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</tr>
<tr>
<td>Kosten et al. (1991)</td>
<td>Phenelzine (60–80)</td>
<td>Sixty Vietnam veterans; Age (M) = 39 years</td>
<td>RCT</td>
</tr>
<tr>
<td></td>
<td>Imipramine (50–300)</td>
<td>Placebo</td>
<td></td>
</tr>
<tr>
<td>Peskind et al. (2003)*</td>
<td>Prazosin (2–4)</td>
<td>nine older males (8 veterans) Age (M) = 76 years</td>
<td>Open label</td>
</tr>
<tr>
<td>Raskind et al. (2003)</td>
<td>Prazosin (9–10)</td>
<td>ten male Vietnam veterans Age (M) = 53 years</td>
<td>RCT</td>
</tr>
<tr>
<td>Zohar et al. (2002)</td>
<td>Sertraline (50–200)</td>
<td>42 Israeli military veterans; Age (M) = 40 years</td>
<td>RCT</td>
</tr>
</tbody>
</table>

*Geriatric sample.
with amitriptyline (TCA) also has been noted, with decreases in avoidance symptoms of PTSD (Davidson et al., 1990b). SSRIs are often recommended as a first-line treatment for PTSD in nonveteran samples (Friedman et al., 2000) and thus, research also has investigated their use with veterans. Studies with fluoxetine also have produced mixed findings, with some research indicating no improvement in PTSD symptoms (Hertzberg et al., 2000) and other research reporting reductions in PTSD symptomatology for veteran samples (Van der Kolk et al., 1994). Another randomized placebo-controlled study with Israeli combat veterans with PTSD receiving treatment with sertraline found no significant improvements in PTSD symptomatology (Zohar et al., 2002).

The exception to date regarding pharmacological treatment research with elderly individuals with PTSD is a study by Peskind et al. (2003). Peskind and colleagues (2003) conducted an 8-week open-label trial of prazosin (2 to 4 mg) with nine older men with PTSD, eight of whom were veterans. Eight of nine veterans had reduced nightmares according to the Clinician Administered PTSD Scale (CAPS), as well as marked or moderate improvement in overall PTSD severity according to the Clinical Global Impression of Change scale. The authors indicated that the medication was well-tolerated in this sample of older males who also had a range of medical comorbidities (Peskind et al., 2003). Similarly, Raskind and associates (2003) conducted a placebo-controlled study of prazosin with ten Vietnam combat veterans, entering into the geriatric age range (mean age = 53 years). Veterans received prazosin for 10 weeks and placebo for 10 weeks in this double-blind crossover study. The authors found prazosin superior to placebo in reducing nightmares, sleep disturbance, and PTSD severity (Raskind et al., 2003). Despite this promising beginning, pharmacological research on PTSD treatments must be further evaluated with the geriatric population, as older patients are often at higher risk for adverse reactions from medications than younger patients and are more likely to have medical conditions that may intensify side effects (Sheikh and Cassidy, 2000). Example studies of pharmacological treatment of PTSD with combat veteran samples are presented in Table 2.

CONCLUSION AND CLINICAL IMPLICATIONS

The current review focused on research conducted largely with elderly American Armed Forces veterans. Thus, conclusions cannot be generalized to veterans of other nationalities or civilians who have witnessed combat and develop PTSD, but certain specifically to the population of elderly American veterans. Diagnosis and treatment of PTSD in elderly populations always involves additional issues involved in geriatrics in general. This includes the presence of medical comorbidities, the development of potential cognitive deficits in patients and issues revolving around loss, all of which could be potential stressors for exacerbating PTSD. In addition, these added problems may lead to a more confusing diagnostic picture. For instance, the development of a comorbid mild cognitive disorder would place a patient at even greater risk for depression and accompanying disability in comparison to patients having PTSD alone. Thus, greater diagnostic scrutiny is required. Furthermore, pharmacologic management becomes more complex in these individuals. For instance, factoring in potential drug–drug interactions in pharmacologic treatment of both PTSD and comorbid dementia becomes an issue. As a result, the evaluation of the elderly patient with PTSD requires an even more thorough assessment not only with the patient, but also with significant other individuals involved in the patient’s life. This applies not only to the diagnostic workup but also with treatment. Alliance with family members is crucial to ensure that patients adhere to their treatment programs in order to maximize the outcomes.

The lack of well-controlled empirical trials in this population makes the treatment of the elderly population with PTSD even more challenging. For instance, exposure therapies have been found to be effective interventions for PTSD, although there are no research studies published other than the EMDR case study mentioned previously (Thomas and Gafner, 1993). In addition, mixed results have been obtained for supportive therapy approaches to treating PTSD. Modifications to existing interventions will likely be necessary due to the possibility of declining physical health and cognitive impairments that may occur with aging. Furthermore, research regarding pharmacological interventions for PTSD among the elderly is as yet limited. However, the higher potential for adverse reactions among the elderly population emphasizes the need for extensive research in this area to establish effective dosages with the least risks. To date, the authors could find no controlled research studies comparing the effectiveness of pharmacological, psychological, and/or the combination of these two modes of treatments among elderly veterans. Controlled studies for combined psychotherapy and medication treatment of PTSD in younger patients are also
absent (Foa et al., 2000). Thus, more intervention studies targeted toward this population are clearly needed.

REFERENCES


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