

Iraqi Gulf War Veteran Refugees in the U.S.: PTSD and Physical Symptoms

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ABSTRACT. Veterans of the Gulf War present various symptoms and maladies. Reports by governmental and private entities have yielded mixed results and have been fraught with criticisms of biased research design. The vast majority of these studies have focused on U.S. veterans, with a much smaller number focusing upon British veterans. Very few have examined Iraqi Gulf War veterans. Our study involves administering a health issues questionnaire to a sample of Iraqi Gulf War veteran refugees in the U.S. Results indicate relationships between Post-Traumatic Stress Disorder (PTSD) scores and health outcome measures of chronic fatigue, fibromyalgia, functional status, quality of life, and health care utilization in terms of frequency and level of intensity. Implications for further inquiry are presented. doi:10.1300/J010v43n04_06 [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address:

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INTRODUCTION

In the historical context of war involving the United States, the casualties of each such conflict has resulted in specific war syndromes suffered by its combatants (Hyams, Wignall, & Roswell, 1996). In keeping with that phenomenon, Gulf War (GW) veterans report ailments in some ways common to those of previous war veterans, yet in other ways unique. The broad range of symptoms reported by U.S. veterans of the GW are similar to those reported by British and Canadian GW veterans, such as chronic fatigue (CF), fibromyalgia, and a host of other medical maladies. Although there is a general perception among the American public of Iraqis as the "enemy," largely based on a lack of information (Bennett, 1994) coupled with inherent bias of mainstream news media (Halliday, 1997), many Iraqi GW veteran refugees were exiled from their homelands subsequent to the GW because of their role as U.S. allies in the conflict (Nassar-McMillan & Larson, 2003; Jamil, Nassar-McMillan, & Lambert, 2004). Given this immigration pattern, study of GW impacts on Iraqi veteran and other refugee groups have recently also begun to surface.

To address this alarming trend of reported symptomologies, the U.S. government assigned various committees to scientifically investigate the medical aftereffects of those who served in the GW. While some of the governmental research, much of which belies any such increase in physical or other maladies as those described (e.g., Joseph, 1997), has been criticized as representing less than legitimate scientific inquiry simply by virtue of its purpose and inherent bias, some scholars also attribute the problem of substantiation of the aftereffects to a lack of objective information (Joellenbeck, Landrigan, & Larson, 1998). Due to the challenges of randomization and scientific controls inherent in such post-situational designs, much of the resulting research is based on self-reports by participants, and thus, reflects varying degrees of personal bias.

Nevertheless, some of the most prominent researchers and research studies (e.g., Haley & Kurt, 1997; Iowa Persian Gulf War Study Group, 1997) cite an elevated prevalence of both medical and psychological

ailments (e.g., Barrett, Doebbeling, Schwartz, Voelker, Falter, Woolson, & Doebbeling, 2002; Jamil, Hakim-Larson, Farrag, Kafaji, Duqum, & Jamil, L., 2002; Jamil, Nassar-McMillan, & Lambert, 2004; Jamil, Hakim-Larson, Farrag, Kafaji, Jamil, L., & Hammad, 2005) among GW veterans. Furthermore, associations between post-traumatic stress disorder (PTSD) symptoms and physical health reports have been noted. In fact, those GW veterans who suffer from PTSD also report significantly higher levels of health and medical issues, including fair-to-poor health status and lower health-related quality of life than those who do not (Barrett et al., 2002). As yet, similar patterns have not yet been examined among Iraqi veteran refugee populations.

Because of the uniqueness of symptoms of the GW as opposed to those experienced from previous wars, the Gulf War Syndrome (GWS) has been a term identified to describe the group of maladies of United States veterans. GWS encompasses numerous physical ailments (Joseph, 1997), such as fatigue, headache, joint pains, skin rash, as well as some that, although also described as somatic, can arguably be grouped into the psychosomatic or emotional realms, as well, such as shortness of breath, sleep disturbances, concentration difficulties, and forgetfulness.

Deployment has been cited as a critical factor in identifying resultant symptomology of war veterans (Joellenbeck et al., 1997). The Veterans Administration has recognized the importance of making such distinctions in developing effective treatment and prevention strategies, and has cited occurrences among deployed versus non-deployed veterans, for example, as 14 percent versus 1.6 percent reporting Chronic Fatigue Syndrome (CFS) and 10.1 percent versus 3.2 percent reporting PTSD (Feussner, 2002).

Because Iraqi GW veterans are more likely to have been deployed to active combat situations, researching the aftereffects of the GW on that population would potentially help to add to the knowledge of the full aftermath scenario. In addition, it is possible that, because refugees also share in the trauma of the immigration, particularly a relatively non-voluntary one versus voluntary one, their experiences might also be influenced by some of the issues faced by their counterparts from other nations, such as Southeast Asian (Blair, 2000, 2001; Chung, Bemak, & Wong, 2000), Senegalese (Tang & Fox, 2001), and Bosnian immigrant refugees. Finally, the overall symptomology reported by Iraqi immigrant refugees are likely to be affected by the discrimination suffered by that group (Nassar-McMillan, 2003a,b; Nassar-McMillan & Hakim-Larson, 2003).

Because veterans are more likely to seek help for medical services than for mental health services, study of the relationships between medical and mental health maladies are important to identify. Thus, we will examine, in our study, the outcome measures related to PTSD, chronic fatigue, fibromyalgia, functional status and quality of life, and health care utilization issues. We hypothesize that more Iraqi GW veteran refugees with PTSD will report experiencing chronic fatigue and fibromyalgia, and will report lower functional status, quality of life, and health care utilization, than their non-PTSD counterparts. Secondly, we hypothesize that the relative frequencies of the health care outcome measures will be associated with participants' PTSD or non-PTSD classification.

PROCEDURE

A large-scale survey instrument was verbally administered to a group of participants in their native language of Arabic by two local Iraqi American physicians. The instrument, developed initially by a research collaborative including the University of Iowa, the Iowa Department of Health, and the Center for Disease Control, has been used in several studies involving samples of thousands of U.S. veterans. Designed to address participants' experiences during the war and their self-assessments of a variety of health and mental health issues, the questions are framed in terms of pre-, during, and post-war health status perceptions.

We considered informed consent in our research process as critical to the success of the study. Iraqi GW veteran refugees exhibit extreme levels of distrust and paranoia, related to the trauma of their war experiences (Jamil, Nassar-McMillan, & Lambert, 2004; Nassar-McMillan & Hakim-Larson, 2003). Thus, the field researchers took extra measures to assure the participants of the confidentiality of their responses. The interviewers were trained to emphasize to the respondents that neither specific responses nor aggregated data would, in any way, be used for governmental or political purposes, and that the purpose of the study was to assess the health status and in turn, determine health needs of Iraqi GW veteran refugees.

Sample

Our data were collected as a part of a larger-scale effort to obtain extensive information on both physical and mental health symptoms from a population relatively absent in the scholarly literature, some of which

are reported elsewhere (see Jamil, Nassar-McMillan, & Lambert, 2004). Participation from Iraqi male veterans who served in the GW was solicited from a social gathering place for Iraqis and other Arab Americans in a large midwestern city. Thirty-two male Iraqi GW veteran refugee participants comprised our convenience sample. Of those, 25 (78.1%) had served in Iraq, while 7 (21.9%) had served in Kuwait. While 19 (60.0%) had served in southern Iraq, 13 (40.0%) had served elsewhere. Fourteen (44.0%) had joined the Army during or after 1990, whereas 18 (56.0%) had joined prior to 1990. Twenty-seven (84.6%) had served as soldiers, and the other five (15.4%) had served in other support positions. Although the sample was small, the results may suggest some major areas for further investigation among this unique group of individuals.

Measures

The large-scale survey instrument utilized in this study incorporates partial and entire components of dozens of widely used and validated instruments in the medical profession. For more information about the survey instrument and its development, please see Doebbeling, Jones, Hall, Clarke, Woolson, Torner, Burmeister, Snyders-Crumley, Barrett, Falter, Merchant, Nusser, Anderson, and Schwartz (2002).

PTSD. PTSD was measured by 17 items comprising the PTSD Checklist-Military Version (PCL-M). Respondents were asked to rate the level of their experiences on the ordinal scale (No = 1; A little bit = 2; Moderately = 3; Quite a bit = 4; Extremely = 5). Within a possible total of 85 points, scores of 50 and above are considered to indicate the presence of PTSD, while scores below 50 do not (Weathers, Litz, Heran, Huska, & Keane, 1993).

Chronic Fatigue. CF was measured utilizing items from instruments such as the National Health Interview Survey, Chronic Fatigue Syndrome Questionnaire, and the National Health Survey-Persian Gulf War. Questions regarding specific symptoms (e.g., sore throat, multi-joint pain) were asked, along with history of these symptoms and prior diagnoses of the condition. In order to meet the criteria for CF, participants had to respond affirmatively to the following issues: have a current diagnosis of fibromyalgia (FM), take medication, or being otherwise treated for fibromyalgia or fibrositis; have daily overall body pain for a duration of at least 3 months over the past year and rate level of pain during past 24 hours at 1-10 (on 0-10 scale); or report overall body pain that day at moderate to extreme levels.

Fibromyalgia. FM was measured by items extracted from the National Health Survey of Persian Gulf War Era Veterans Questionnaire developed by the Department of Veterans Affairs along with several others. Again, questions regarding prior diagnosis and treatment, and levels and history of pain were asked. In order to meet the criteria for FM, respondents either had to have been previously diagnosed with FM or had to report suffering from daily overall body pain for at least the past three months and report a pain level of 1-10 (on a 0-10 scale) in the past 24 hours; or report having had specific pain that day (pain level of 1-10 on 0-10 scale).

Functional Status/Quality of Life. Functional status/quality of life items came from instruments such as the National Health Interview Survey and the National Health Survey-Persian Gulf War. A series of questions regarding self-perceptions of health, along with self-perceptions of health-imposed limitations on numerous activities are included. This area of assessment also includes questions about medical disability status, days missed from work or school, and employment history.

Health Care Utilization. Health care utilization measures included four items about outpatient utilization, emergency room utilization, and hospitalizations. Items from instruments such as the National Medical Expenditure Survey, among others, were utilized in this area.

Social Desirability. A brief social desirability scale was incorporated into the instrument with the intention of identifying respondents' bias toward giving social desirable answers (Paulhus, 1991). Ten items, representing a short, homogenous version of the Marlowe-Crowne Social Desirability Scale (Strahan & Gerbasi, 1971) were utilized.

RESULTS

Initially, scale scores for the PTSD Checklist-Military Version (PCL-M) were computed, and each subject was classified into PTSD or non-PTSD groups based on the cut-score designated by the PCL-M protocol (e.g., Weathers, Litz, Herman, Huska, & Keane, 1993). Nineteen (59%) of the 32 participants met the criterion cut-score for PTSD, while 13 (41%) did not (Jamil, Nassar-McMillan, & Lambert, 2004). Responses to several of the 17 items differed substantively between the two groups. For example, substantial experience with "repeated, disturbing memories of your military experiences" was reported by 57.9 percent of the PTSD group members, compared with only 7.7 percent of the non-PTSD group members. Similarly, "repeated, disturbing dreams

of your military experiences" were reported by 68.4 percent of the PTSD group, as compared with 7.7 percent of the non-PTSD group. "Had physical reactions when something reminded you of your military experiences" yielded reports of substantial experiences by 0.0 percent of the non-PTSD group, as compared with 26.3 percent of the PTSD group. Substantial experience on the item, "Avoided thinking about your military experiences, or avoided having feelings about them" was reported by 73 percent of those in the PTSD group, as compared with only 7.7 percent in the non-PTSD group. "Avoided activities or situations because they reminded you of your military experiences," was reported by 68.4 percent of the PTSD group, as against only 7.7 percent of the non-PTSD group.

Because of the small sample size and expected frequencies in small cells throughout these analyses, we used the Fisher's Exact Test for the two-by-two contingency table analysis (Siegel & Castellan, 1990) to examine the associations between PTSD and non-PTSD groups based on responses to items related to chronic fatigue, fibromyalgia, functional status/quality of life, and health care utilization. These results are reported in Table 1. Statistically significant differences between the two groups emerged on items regarding specific pain distress (before GW), and comparison of health to one year earlier. In response to specific pain distress (before GW), zero of the PTSD group respondents (0%) as compared with three (30.0%) non-PTSD group respondents rated the item affirmatively. Statistically nonsignificant but noteworthy responses to other items include taken medication for pain (past week), 17 (89.5%) of PTSD group respondents said yes, while only 6 (54.5%) of the non-PTSD group said yes; among the PTSD group respondents, 11 (61.1%) of respondents assessed their health as being poor, while 7 (38.9%) rated their health as poor; and 16 (88.9%) of the PTSD group respondents described their health as worse than in the previous year, with 5 (38.5%) of non-PTSD respondents rating their health as worse than in the previous year.

For items yielding actual numerical ratings (e.g., pain ratings, outpatient visits, hospitalizations, and emergency room visits), means and standard deviations were calculated, and t-tests were performed to identify statistically significant differences between the PTSD and non-PTSD groups. None of the t-tests yielded statistical significance. On the other hand, some trends were noteworthy. The group rating the highest levels of pain was the PTSD group ($M = 2.36$, $SD = 3.46$) as compared to the non-PTSD group ($M = 2.15$, $SD = 3.58$). Among outpatient visit responses, the non-PTSD group yielded the highest number of visits ($M =$

TABLE 1. Percentage of Respondents Reporting Specific Experiences by Group

Symptom Category	Non-PTSD (n=13)		PTSD (n=19)		Total (n=32)		p value
	%	N	%	n	%	n	
Extreme fatigue (for a month within past year)							
Yes	50.0	6	64.7	11	58.6	17	0.627
No	50.0	6	35.3	6	41.4	12	0.428
Reported fibromyalgia or fibrositis							
During or after PGW	15.4	2	21.1	4	18.8	6	0.163
No or before PGW	84.6	11	78.9	15	81.3	26	0.687
Met Criteria for fibromyalgia							
Yes	61.5	8	73.7	14	68.8	22	0.530
No	38.5	5	26.3	5	31.3	10	0.467
Overall body pain (past year)							
Yes	30.8	4	23.5	4	26.7	8	0.197
No	69.2	9	76.5	13	73.3	22	0.657
Specific pain distress (today)							
Yes	75.0	6	100.0	16	91.7	22	4.364
No	25.0	2	0.0	0	8.3	2	0.037
Specific pain distress before PGW							
Yes	30.0	3	0.0	0	11.1	3	5.738
No	70.0	7	100.0	17	88.9	24	0.017
Taken medication for pain (past week)							
Yes	54.5	6	89.5	17	76.7	23	4.751
No	45.4	5	10.5	2	23.3	7	0.029
Would you say your health is							
At least fair	76.9	10	38.9	7	54.8	17	4.409
Poor	23.1	3	61.1	11	45.2	14	0.036
Compared with previous year, rate your health							
Same or better	61.5	8	11.1	2	32.3	10	8.784
Worse	38.5	5	88.9	16	67.7	21	0.003
Cut down on work because of health (past 4 weeks)							
Yes	36.4	4	69.2	9	54.2	13	2.593
No	63.6	7	30.8	4	45.8	11	0.107
Accomplished less because of health (past 4 weeks)							
Yes	37.5	3	73.3	11	60.9	14	2.813
No	62.5	5	26.7	4	39.1	9	0.094

23.09, SD = 29.24) as compared to the PTSD group ($M = 20$, $SD = 12.86$). For reported number of hospitalizations, the PTSD group yielded the highest numbers ($M = 1.00$, $SD = 2.04$) as compared to the non-PTSD group ($M = 0.50$, $SD = 1.22$). The skewness of these results may be due to the fact that some respondents had not reported hospitalizations. Reported number of emergency room visits for the non-PTSD group ($M = 2.80$, $SD = 3.29$) was higher than that of the PTSD group ($M = 1.62$, $SD = 2.50$).

In an attempt to determine whether the respondents were influenced by social desirability in their ratings of both psychological and physiological symptoms, the PTSD and non-PTSD groups were compared with respect to their responses on the Marlowe-Crowne scale. There was not a statistically significant difference between the groups. In addition, the Marlowe-Crowne scale score was not found to be correlated with any of the measures of psychological and physiological symptoms collected as part of the interview.

DISCUSSION

The relationship between PTSD and physical health reports discussed elsewhere in the literature on U.S. GW veterans (Barret et al., 2002) also has been partially supported by our study on Iraqi GW veteran refugees. Our hypothesis that a significantly higher percentage of participants with PTSD than their non-PTSD counterparts would report symptoms and experiences associated with outcome measures of chronic fatigue, fibromyalgia, functional status, quality of life, and health care utilization was supported by differences among participant groups on specific pain distress before the Gulf War, and in their comparison of current health to that of one year prior. Thus, a significant number of participants, even despite the small sample size, reported experiencing distress from specific pain that they did not encounter prior to the Gulf War. Additionally, significant numbers perceive their health status as having decreased over the past year.

Our second hypothesis was that those with PTSD would report higher mean scores on health outcome measures. Although there was no statistical significance in differences between PTSD and non-PTSD groups on these measures, trends indicate higher outpatient visit responses. It is possible that lack of statistical significance is due, in large part, to small sample size. On the other hand, an alternative interpretation is that those with PTSD do not access adequate health care services, despite their actual or perceived medical conditions. In addition, those classified as having PTSD reported more health and medical issues in

general, especially symptoms of specific pain often associated with FM, and lower levels of health status and quality of life. We do believe, in this case, that had the sample size been larger, some of the relative differences in health care issues between the PTSD and the non-PTSD participant groups would have yielded more statistical significance.

Issues not investigated in our study involve, in part, the migration stress faced by our refugee immigrant participants. The involuntary nature of the migratory experience (Brody, 1994) may somehow have impacted the health outcomes measured. The pre-migratory experience, including traumas suffered as a result of the political regime in Iraq, may have also played a part in the outcomes studies. The combat experience, as well as the pre-combat experience, may have involved torture, adding potentially yet another layer of trauma.

The lack of objective information that has been cited in problems of substantiation with other GW veteran groups (Joellenbeck et al., 1997) also plays a role in our research. All of the data collected were based on participants' self-report. On the other hand, the higher levels of fear and paranoia experienced by our population (Nassar-McMillan & Hakim-Larson, 2003) may have mediated the exaggeration of symptoms. In fact, such paranoia might suggest that if participants felt comfortable enough in participating in the study at all, they would have additional incentives to be truthful in their self-report.

A second issue is in the relationship between the measures. It may seem intuitive that numerous health symptoms are related to PTSD. Our study, in some ways, may serve as a source of validity evidence for the PTSD measure. Our population in question, not having been studied in this regard, needed to first have such relationships established.

A final issue of consideration is the ethnic enclave from which all participants were drawn. Residence of ethnic immigrant groups in ethnic enclaves, while potentially adding a comfort and familiarity factor into the immigrant experience, may, for Iraqi refugees, add to the paranoia and fear characteristic of this group (Nassar-McMillan & Hakim-Larson, 2003).

In reexamining studies of U.S. GW veteran populations, percentages of those suffering from PTSD have ranged from 1.9 percent (Barrett et al., 2002) to 10.1 percent (Feussner, 2002), and CF reports have ranged from 1.6 to 14 percent (Feussner, 2002). It is clear that, although our sample is extremely limited in size and other factors, the Iraqi GW veteran refugees surveyed in our study report some of the corresponding symptomologies at much higher levels. One of the major differences between other samples and ours is the deployment factor. While not specifically

questioned about deployment, it can be assumed that, if they served as soldiers or even as non-soldiers in the GW, they were deployed. Given the notion that deployment has been found to serve as a key factor in symptomology (Joellenbeck et al., 1997), these results are not surprising. A further likelihood is that they served in active combat situations, particularly because the region of Iraq and Kuwait combined is relatively small (and all participants served in one of those two countries).

IMPLICATIONS FOR PRACTICE AND FURTHER RESEARCH

In light of emerging research on GW populations as well as the likelihood of additional research emerging on the more recent war in that same region, it is critical to develop effective policies and programs for treatment of post-war ailments of veterans (von Buchenwald, 1994). Because veterans are more likely to seek medical versus mental health services (Barret et al., 2002), treatment providers must become sensitized to the relationships between health and mental health concerns, and must receive training in accurate and ethical PTSD and other mental health assessments. Some clinicians advocate that health and mental health services should be actually combined (Dhooper & Tran, 1998) in order to become most effective.

Because no epidemiological or biological evidence appears to support a single etiology to explain GW symptoms of veterans (Haley & Kurt, 1997), and because of the problems cited earlier in substantiation of veterans' self-reports (Joellenbeck et al., 1997), it will be critical to establish longitudinal research agendas to examine the full picture of the GW veteran experience. In this regard, PTSD among refugee populations has been reported as having a delayed onset and increasing in intensity over time (Southwick et al., 1995), adding perhaps yet another element to the equation of effective diagnosis and treatment. The war syndrome (Hyams et al., 1996) ultimately developed to characterize U.S. veterans of the GW may, in fact, ultimately be different from that characterizing Iraqi veterans of the same war.

ISSUES UNIQUE TO ARAB AMERICANS

While assessments conducted on most, if not all, multicultural populations require cultural sensitivity in order to minimize cultural biases, work with Arab American clients may indicate some specific knowl-

edge. At numerous points in U.S. history, groups of Arab Americans have been afraid to speak up on issues pertaining to U.S.-Middle East relationships (Shain, 1996). At times, they have found it necessary to self-monitor in order to ensure their survival (Sarroub, 2002). The discrimination facing Arab Americans in contemporary U.S. society has been noted by many scholars (Arab American Institute, 2002; Nassar-McMillan, 2003a, b). Because of a lack of knowledge on the part of mainstream Americans regarding the GW (Bennett, 1994), discrimination against Iraqi Americans, particularly newer immigrants and often refugees, may be even higher.

It has been established that education on PTSD assessment should be provided to service providers (Weine et al., 2001) to ensure more awareness of the need for effective and comprehensive treatment for refugees. In addition, we recommend that cultural sensitivity training be provided to veterans' service providers who may encounter Iraqi GW veteran refugees in their respective clinical practices.

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