

Medical Complaints Among Iraqi American Refugees With Mental Disorders

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The Gulf War in 1991 resulted in an influx of refugees from Iraq to the United States and to other regions of the world. The purpose of this study was to describe the self-reported medical complaints of Iraqi American refugees who were seeking mental health services in southeastern Michigan. We anticipated that the frequency and pattern of medical symptoms would differ from that reported in the literature on United States Gulf War veterans or other Arab Americans who immigrated to the U.S. in the 1990s. Potential reasons for such differences include indirect effects, such as neglect of general health prior to and during the war, or direct effects, such as the impact of environmental changes from the war itself. As part of a larger study on the health of refugees from Iraq, self-reported medical conditions and symptoms were analyzed in a sample of 116 adult Iraqi immigrants (46 male, 70 female) who were seeking or already receiving outpatient mental health services ($n = 87$) or treatment in a partial hospitalization program ($n = 29$). Measures were translated into Arabic and administered in an interview format by one of two bilingual mental health workers. The results were consistent with other studies on refugees in which the number of medical complaints reported was relatively high. Discussion centers on the importance of addressing the specific medical needs of refugees in general, and of the Iraqi refugees in particular, and on how they may be better served within our primary health care systems.

KEY WORDS: Iraqi refugees; medical complaints; refugees; Gulf War; mental disorders.

INTRODUCTION

Following the Gulf War of 1991, the United States and other countries around the world experienced several waves of Iraqi refugees who had temporarily resided in other countries, mainly those surrounding Iraq. According to U.S. Federal statistics,

the number of Iraqi American refugees who resettled in Michigan during the period 1991–1999 totaled 5302 individuals (1). This resettlement was often due to secondary migration since many Iraqi American refugees moved from their original state of resettlement to the Metropolitan Detroit area, which has the largest Arab American concentration in the United States and relevant opportunities for community support and resources (2). Since many refugees from Iraq have participated in, or lived through, wartime, first the Iraq–Iran war of 1980–1988, and then the Gulf War of 1991 (3), it is not surprising that post-traumatic stress disorder (PTSD) and other psychological disorders, are highly prevalent in this group of refugees to the United States (4–6).

There are more than 250 articles, books and technical reports on the effects of the Gulf War on allied veterans (7). A large number of these

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articles involved studies of war-related stress using self-reported symptom checklists. They found a relationship between stress exposure and PTSD symptoms. However, only a few studies looked at the relationship between stress and bodily symptoms, and their findings varied. In general, veterans who participated in the Gulf War reported a broad range of symptoms from all organ systems in comparison to veterans who did not participate in the Gulf War (8-16).

Furthermore, the rate of substance abuse, which is typically uncommon in individuals of Arab descent, has at times been found to be relatively high in some immigrants following the Gulf War (17). Historical reports have shown that any war results in specific war syndromes suffered by its combatants (18). Taking that into consideration, Gulf War veterans have reported some ailments that are common to those of previous war veterans, and others that are unique. The broad range of symptoms reported by U.S. veterans of the Gulf War are similar to those reported by British and Canadian Gulf War veterans, such as chronic fatigue, musculo-skeletal disorders, gastrointestinal disorders, and other medical conditions.

Nevertheless, some of the most prominent researchers and research studies cite an elevated prevalence of both medical and psychological ailments among Gulf War veterans (19-21). In fact, those Gulf War 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 (22). Gulf War Syndrome encompasses numerous physical ailments (23), 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. The Veterans Administration has cited different occurrences between deployed and non-deployed veterans. For example, 14% versus 1.6% report Chronic Fatigue Syndrome (CFS), and 10.1% versus 3.2% report PTSD among deployed and non-deployed, respectively (24).

Recent studies from Europe, Africa, the Middle East, South America, and Asia, have shown that refugees in general often suffer from more mental health and medical symptoms than those who immigrate for other reasons (25-29). Iraqi refugees, in particular, have been found to self-report more

PTSD and health problems than other Arab American subgroups (26).

This study examined the medical symptoms of Iraqi American immigrants who were seeking mental health services. We anticipated that the pattern of medical symptoms reported by the Iraqi American immigrants would differ from the pattern of medical complaints reported in the literature on U.S. Gulf War veterans or other Arab American immigrants. Potential reasons for such differences include indirect effects, such as neglect of their general health during and after the Gulf War because they have been underserved, past and current unemployment, and barriers such as language, transportation, and cultural barriers. Direct effects of the war on their health include possible exposure to airborne particulate matter such as dust and smoke from oil well fires, petroleum fuels and their combustion products, pyridostigmine bromide, anthrax and botulinum toxoid vaccine, depleted uranium, infectious disease agents, chemical warfare agents, pesticides, psychological and physiological stress, and extremes of temperature (30).

The main objective of this study is to explore and describe the medical symptoms and the general health of Iraqi American refugees, so that their medical needs can be better addressed and they may be better served within the community's primary health system.

METHODOLOGY

Participants

Ethics clearance was obtained from the Behavioral Institutional Review Board at Wayne State University and the Ethics committee at the University of Windsor. Funding for the project was provided by the Center for Victims of Torture, Minneapolis, Minnesota. All participants signed an informed consent form and were given a \$15.00 gift certificate. Given the available funding, 116 adult Iraqi refugees (46 males, 70 females) who were seeking or already receiving outpatient services or treatment from a community health clinic were recruited.

Measures

This study is part of a larger project examining both the mental health symptoms and the medical complaints of refugees who were seeking mental

health services. Only the questionnaire addressing the medical complaints is addressed in this paper. However, the questionnaire of medical complaints was part of a larger questionnaire developed initially by an outside research team. The research team included the University of Iowa, the Iowa Department of Health, and the Center for Disease Control (20), and it has been used in several studies involving samples of thousands of U.S. veterans. The whole Iowa questionnaire was translated into the Arabic language by three Iraqi physicians and tested for reliability and validity. In past studies, the translated Iowa medical conditions questionnaire was used on a separate, small sample of Iraqi veterans (31, 32).

Procedure

In this study many new refugees were not yet fluent in English. Thus, interviews were conducted in the Arabic language using the Iowa medical conditions questionnaire that had been translated into Arabic. Two bilingual (Arabic and English) interviewers were assigned for this study. A licensed professional counselor (male) and a psychologist (female), both with a Masters degree conducted all interviews separately. Questionnaires were administered verbally in an interview format.

RESULTS

Demographics

Most participants (Table I) were female (60.3%), had a diagnosed mental disorder of either PTSD (28.4%) or depression (22.4%), were in the age group of 30 to 49 years of age (69%) and were married (71.6%). Sixty-eight percent of those who are married have 1-4 children and have an education level less than a high school degree (70.3%). In addition, 87.7% of the participants have no job and 7.0% reported a disability. The mean number of years since immigration at the time of testing was 5.2 (SD = 3.17) and did not differ by participants' gender, $t(97) = 1.69$, ns. 89.7% of the participants have medical insurance.

Medical Complaints by Gender and Mental Health Diagnosis

The medical complaints were classified into medical conditions and symptoms. For the purpose

Table I. Demographics of the 116 Participants

Variable	N [%]	Mean	SD
Diagnosis			
PTSD only	33 [28.4]	10.36	4.75
Depressive	26 [22.4]	9.35	4.31
Other disorders	18 [15.6]	8.72	3.94
Unknown	39 [33.6]	10.64	4.88
Gender			
Male	46 [39.7]	9.87	5.00
Female	70 [60.3]	10.04	4.33
Age group			
< 29 Years	21 [18.1]	8.48	4.40
30-39 Years	45 [38.8]	10.64	4.75
40-49 Years	35 [30.2]	9.49	4.49
50 + Years	15 [12.9]	11.2	4.21
Marital status			
Married	83 [71.6]	10.33	4.66
Single	14 [12.1]	9.14	5.23
Other	19 [16.4]	9.05	3.66
Educational level			
No education	25 [21.6]	10.0	4.2
Less than high school	56 [48.3]	9.9	4.6
High school & above	35 [30.2]	10.1	4.9
Disability [SSI]			
Receiving SSI	27 [23.3]	10.5	4.6
Not receiving SSI	89 [76.7]	9.9	4.6
Employment status ^a			
Currently employed	6 [5.3]	6.5	5.2
Disabled	8 [7.0]	12.6	5.4
Not employed	100 [87.7]	10.0	4.4
Year residents in USA ^a			
1-3 Years	34 [29.3]	10.29	4.42
4-6 Years	23 [19.8]	8.52	4.17
7 + Years	42 [36.2]	10.05	5.20
Unknown	17 [14.7]	11.12	3.57

^aMissing data in two participants.

of the analyses, one symptom was recorded per body system regardless of the number of complaints for the same body system (e.g. respiratory, gastrointestinal, skin, etc.), and medical conditions and symptoms were added together to form one medical complaints score for each participant. The mean number of medical complaints reported by the entire sample was 9.97 (SD = 4.58, range of 0-22 complaints) and there was no significant association between the number of medical complaints and gender (Table II).

Tables III and IV show the frequency and percentage of symptoms and medical conditions by gender (Table III) and mental health diagnosis (Table IV) reported by 116 participants. Tables III and IV show the most common to least common symptoms and medical conditions. The irregular sleep symptom was found to be the most common (86.2%) within each gender (Table III), and within the three mental disorders categories (Table IV).

Table II. Frequency and Percentage of the Number of Medical Complaints by Gender

No. of medical complaints	Male	Female	Total
0-7	14 [30.4]	20 [28.6]	34 [29.3]
8-10	16 [34.8]	20 [28.6]	36 [31.0]
11 +	16 [34.8]	30 [42.9]	46 [39.7]
Total	46 [100]	70 [100]	116 [100]

Note. Mean = 9.97, SD = 4.58, Range 0-22, $\chi^2 = 0.837$, df = 2, $P = 0.66$.

The next most frequent symptom was loss of interest in usual activities (i.e., anhedonia), and then difficulty in remembering.

Differences were found in the frequency and percentage of symptoms between sexes as well as among the three mental disorders. On examination of the 14 symptoms for sex differences (Table III), females were found to have higher percentages for 10 symptoms as compared to males. Males had only four symptoms higher than females (low back pain,

loss of sexual desire, shortness of breathe, and leg cramps). On the other hand, when we examined the 14 symptoms among the three mental disorders categories (Table IV), participants with PTSD showed a higher percentage in nine different symptoms compared to other diagnoses, while participants with depressive disorders had three symptoms with a higher percentage (irregular sleep, constant headache, and numbness) in comparison to the other two mental disorder categories. Participants with other mental disorders had only two symptoms (loss of memory and loss of sexual desire) with higher percentages when compared with others mental disorders.

Tables III and IV show arthritis as the most common medical condition reported, followed by high blood pressure, then gastrointestinal conditions. Examining the medical conditions by gender (Table III) showed that females had eight medical conditions more common in comparison to males (seven medical conditions more common). However, participants

Table III. Frequency and Percentage of Medical Complaints Reported by Gender

	Male <i>N</i> = 46 [% = 100]	Female <i>N</i> = 70 [% = 100]	Total <i>N</i> = 116 [% = 100]
Symptoms reported			
Irregular sleep	36 [78.3]	64 [91.4]	100 [86.2]
Loss of interest	36 [78.3]	57 [81.4]	93 [80.2]
Difficulty remembering	34 [73.9]	57 [81.4]	91 [78.4]
Low back pain	32 [69.6]	47 [67.1]	79 [68.1]
Constant headaches	28 [60.9]	43 [61.4]	71 [61.2]
Loss of memory	22 [47.8]	39 [55.7]	61 [52.6]
Constant stomachache	21 [45.7]	36 [51.4]	57 [49.1]
Musculoskeletal pain	20 [43.5]	32 [45.7]	52 [44.8]
Loss of sexual desire	23 [50.0]	27 [38.6]	50 [43.1]
Shortness of breath	19 [41.3]	24 [34.3]	43 [37.1]
Fatigue	14 [30.4]	23 [32.9]	37 [31.9]
Leg cramps	14 [30.4]	18 [25.7]	32 [27.6]
Dizziness	10 [21.7]	16 [22.9]	26 [22.4]
Numbness	7 [15.2]	12 [17.1]	19 [16.4]
Medical Conditions			
Arthritis	21 [45.7]	40 [57.1]	61 [52.6]
High blood pressure	23 [50.0]	28 [40.0]	51 [44.0]
G.I. symptoms	19 [41.3]	26 [37.1]	45 [38.8]
U.T. symptoms	14 [30.4]	19 [27.1]	33 [28.4]
Asthma	08 [17.4]	18 [25.7]	26 [22.4]
C.V.D.	11 [23.9]	12 [17.1]	23 [19.8]
Peptic ulcer	12 [26.1]	9 [12.9]	21 [18.1]
Allergy	6 [13.0]	14 [20.0]	20 [17.2]
Diabetes	7 [15.2]	7 [10.0]	14 [12.1]
Seizures	5 [10.9]	8 [11.4]	13 [11.2]
Respiratory symptoms	3 [6.5]	9 [12.9]	12 [10.3]
War disability	5 [10.9]	5 [7.1]	10 [8.6]
Skin conditions	3 [6.5]	6 [8.6]	9 [7.8]
Thyroid problems	1 [2.2]	6 [8.6]	7 [6.0]
Cancer	0	1 [1.4]	1 [0.9]

Table IV. Frequency and Percentage of Medical Complaints Reported by Diagnosis

	PTSD	Depression	Other disorders	Unknown	Total
	<i>N</i> = 33 [% = 100]	<i>N</i> = 26 [% = 100]	<i>N</i> = 18 [% = 100]	<i>N</i> = 39 [% = 100]	<i>N</i> = 116 [% = 100]
Symptoms reported					
Irregular sleep	28 [84.8]	25 [96.2]	16 [88.9]	31 [79.5]	100 [86.2]
Loss of interest	31 [93.9]	20 [76.9]	15 [83.3]	27 [69.2]	93 [80.2]
Difficulty remembering	27 [81.8]	21 [80.8]	14 [77.8]	29 [74.4]	91 [78.4]
Low back pain	22 [66.7]	18 [69.2]	9 [50.0]	30 [76.9]	79 [68.1]
Constant headaches	20 [60.6]	17 [65.4]	11 [61.1]	23 [59.0]	71 [61.2]
Loss of memory	17 [51.5]	15 [57.7]	13 [72.2]	16 [41.0]	61 [52.6]
Constant stomachache	19 [57.6]	11 [42.3]	6 [33.3]	21 [53.8]	57 [49.1]
Musculoskeletal pain	17 [51.5]	11 [42.3]	6 [33.3]	18 [46.2]	52 [44.8]
Loss of sexual desire	16 [48.5]	10 [38.5]	9 [50.0]	15 [38.5]	50 [43.1]
Shortness of breath	14 [42.4]	6 [23.1]	4 [22.2]	19 [48.7]	43 [37.1]
Fatigue	11 [33.3]	8 [30.8]	5 [27.8]	13 [33.3]	37 [31.9]
Leg cramps	10 [30.3]	6 [23.1]	4 [22.2]	12 [30.8]	32 [27.6]
Dizziness	6 [18.2]	3 [11.5]	3 [16.7]	14 [35.9]	26 [22.4]
Numbness	3 [9.1]	3 [11.5]	0	13 [33.3]	19 [16.4]
Medical conditions					
Arthritis	16 [48.5]	14 [53.8]	7 [38.9]	24 [61.5]	61 [52.6]
High blood pressure	14 [42.4]	11 [42.3]	8 [44.4]	18 [46.2]	51 [44.0]
G.I. symptoms	13 [39.4]	7 [26.9]	4 [22.2]	21 [53.8]	45 [38.8]
U.T. symptoms	8 [24.2]	5 [19.2]	4 [22.2]	16 [41.0]	33 [28.4]
Asthma	6 [18.2]	5 [19.2]	6 [33.3]	9 [23.1]	26 [22.4]
C.V.D.	8 [24.2]	4 [15.4]	0	11 [28.2]	23 [19.8]
Peptic ulcer	9 [27.3]	4 [15.4]	6 [33.3]	2 [5.1]	21 [18.1]
Allergy	5 [15.2]	5 [19.2]	3 [16.7]	7 [17.9]	20 [17.2]
Diabetes	7 [21.2]	3 [11.5]	0	4 [10.3]	14 [12.1]
Seizures	2 [6.1]	2 [7.7]	1 [5.6]	8 [20.5]	13 [11.2]
Respiratory symptoms	2 [6.1]	4 [15.4]	2 [11.1]	4 [10.3]	12 [10.3]
War disability	5 [15.2]	2 [7.7]	0	3 [7.7]	10 [8.6]
Skin conditions	4 [12.1]	1 [3.8]	1 [5.6]	3 [7.7]	9 [7.8]
Thyroid problems	2 [6.1]	1 [3.8]	0	4 [10.3]	7 [6.0]
Cancer	0	1 [3.8]	0	0	1 [0.9]

(Table IV) with PTSD have seven medical conditions more common in comparison to participants with depressive disorder (five medical conditions) or other disorders (three medical conditions: high blood pressure, asthma and peptic ulcer).

Although the pattern of medical complaints in males and females appeared different (Table III), the overall number of medical complaints did not vary by gender ($t(114) = -0.19, p = 0.84$). The mean number of medical complaints were 9.87 (SD = 4.99) for men and 10.04 (SD = 4.32) for women. Similarly, although the frequency patterns of medical complaints in the four diagnostic groups appeared to differ (Table IV), an ANOVA test was not found to be significant when the number of medical complaints was compared across the four diagnostic groups ($F(3) = 0.96, p = 0.41$) or when the PTSD group was compared to the Depression group ($t(57) = 0.85, p = 0.39$). The mean numbers of medical complaints were 10.36 (SD = 4.74) for the PTSD group, 9.35 (SD =

4.30) for the Depression group, 8.72 (SD = 3.93) for the Other disorders, and 10.64 (SD = 4.88) for the Unknown group.

Although, alcohol and drug abuse/dependence were rarely reported, smoking was more widely reported. About 5.1% of the sample had a problem with drugs and 2.3% had a problem with alcohol, whereas approximately 28% of the sample reported being a smoker.

DISCUSSION

The results of this study are consistent with previous research that has found that Iraqi refugees with mental disorders report more medical complaints (medical conditions and symptoms) as compared to other Arab Americans who have been diagnosed with a co-morbid mental disorder (26). Though the number of complaints showed no group differences

as measured in this study, the complaints endorsed were consistent with research on PTSD and depression in refugees (4, 6, 26). Although few participants in the present sample were noted as having a substance abuse problem, many reported being smokers, a finding that has been corroborated in other literature on the Arab and Arab American population (37). However, the rate of substance abuse in our sample was relatively higher (Smoking 28%, Alcohol 2.3%, Drug 5.1%) in comparison to the rate of substance abuse that was found in an earlier retrospective study among Iraqi American mental health clients (Smoking 15.4%, Alcohol 1.9%, Drug 0.6%), and in Arab American mental health clients of non-Iraqi ethnicity (Smoking 19.5%, Alcohol 3.5%, Drug 0.9%) (26). It is important to note that the data collected in this study were collected prospectively, and resulted in a higher proportion of substance abuse self-reported by the participants than these earlier retrospective reports in which the data were collected from medical records.

Overall, a relatively high rate of a variety of complaints was endorsed by this sample of refugees from Iraq who immigrated after the Gulf War of 1991. A high rate of physical symptoms and medical conditions has also been found among veterans from various parts of the world who participated in the Gulf War (8, 9, 20, 23, 34, 35). For example, a similar trend was found in Canadian Gulf War veterans (36). A number of small surveys have been conducted in Iraq comparing health data from before and after the Gulf War. The results of these surveys indicated that people had more health problems after the Gulf War. For example, in one of these surveys the people reported more health complaints (37). Another study showed that the birth defect rate was higher (38). In another study, a statistically significant deterioration in sperm morphology, concentration, and motility was found in men (39). The percentage of cancer registered in the pathology laboratory of Baghdad Medical City was found to start increasing year after year from 1998 onward (40). Because Iraqi American refugees who immigrated after 1991 were more likely to have been deployed to active combat situations or to be living near active combat areas, researching the aftereffects of the Gulf War on that population could potentially help in understanding their current health situation.

Although the data collected for this study are based on a much smaller sample than the data collected from a sample of Gulf War American veterans (41), the current sample of Iraqi Americans shows a higher self-report of many of the same medical com-

plaints. The following descriptive comparison examines the results (Table III and IV) from the current sample of Iraqi Americans as compared to that reported on American veterans, respectively: sleep disturbance 86.2% versus 5.9%; headache 61.2% versus 18.0%; shortness of breath 37.1% versus 7.9%. This comparative difference may be explained in part by the possible increased exposure of the Iraqi American participants to more environmental pollution as compared to American veterans in the Gulf War (42-49). Another possibility is that American veterans received better medical care in general before and during the Gulf War as compared to the participants of this study.

Other explanations for the high rate of complaints involve issues of acculturation. Similar to the experience of refugees from other parts of the world, the high level of self-reported complaints in the Iraqi Americans could also be partially due to the stresses associated with the numerous displacements of the refugees until they finally settled in Michigan. The persistence of such a high number of medical complaints in Iraqi refugees needs more research to better understand and explain the phenomenon, especially since 14 years have passed since their experiences during the Gulf War. The complexity of factors potentially involved thus include pre-migration environmental conditions as well as the conditions of flight and the post-migration stressors experienced after settling in their new home in the United States (50). For example, the symptomatology reported by Iraqi American refugees may be affected by the prejudice and discrimination suffered by that group as they attempt to acculturate and adapt to American life during a historical period of ongoing instability, strife, and uncertainty that has continued for more than a decade in their country of origin (51-53). Although it is not possible with the current data to tease out the relative contribution of these potential factors, future studies with Iraqi immigrants and refugees may benefit from addressing the limitations of this study.

Limitations of the Current Study

One limitation of this study is that the symptoms were self-reported and may have been subject to reporting or recall bias. Other methods of data collection such as in-depth semi-structured interviews and medical laboratory tests will be helpful in future studies by providing further clarification of the potential causes for the medical complaints

suffered by the study participants. Another limitation involves the summary score of the medical conditions and symptoms. The lack of gender differences and differences in complaints by mental health diagnoses is likely due to how the data were summarized, since the severity of medical complaints and symptoms endorsed was not assessed. Thus, relatively mild and relatively severe complaints and symptoms were given equal weighting in order to obtain a gross summary measure of overall health. Future studies will need to directly address the severity of medical conditions and complaints in their methodology. Another limitation is that Iraqi refugees were studied in only one geographic location. It would be helpful to conduct a comparative study on Iraqi refugees in various parts of the United States and perhaps in other countries as well in order to provide a broader sample and to facilitate generalization of the results. Additional research is needed to study the refugees from Iraq who settled outside of the United States after the Gulf War and compare them to Iraqi Americans and other Arab Americans, taking into consideration age, cohort, and gender effects.

CONCLUSION

This study is the first prospective interview study among Iraqi American refugees suffering from a mental disorder looking at their medical wellbeing. However, the study has several limitations that will need to be addressed in future research. Such research is currently ongoing at the ACCESS Community Health and Research Center. It will be particularly interesting in the future to compare the life span obtained by Iraqi Americans and the etiology of their morbidity in comparison to that of other Arab Americans and to that of the general population. In conclusion, further research is needed on the health status of Iraqi Americans to assist in building an effective health education program, and to plan for high quality health service delivery in this large and growing community.

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