Somatic and Psychiatric Disorders and Health Care Utilization among Iraqi Refugees and Yemeni Immigrant

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Abstract

Background: Prior studies have reported increased prevalence of mental and somatic health disorders among refugees. However, many of these studies fail to include appropriate comparison groups. Moreover, there is a lack of studies focusing on health care utilization among refugee populations.
Patients and Methods: We examined the distribution of somatic and mental health disorders as well as patterns of health care utilization among 116 Iraqi refugees as compared to 232 non-refugee Arab immigrants.
Results: Refugees as compared to non-refugee immigrants exhibit different distributional patterns with regards to several somatic and psychiatric disorders. In addition, specific somatic disorders (e.g., dermatologic and cardiovascular disorders) were found to be associated with greater health care consumption in refugees as compared to regular immigrants with identical diagnoses.
Keywords: Health care utilization, trauma, stress, depression, anxiety, somatization, culture.

Introduction

Prior studies have reported that depression, anxiety, and posttraumatic stress disorder (PTSD) are, in general, highly prevalent in war exposed refugee populations. [1-4]. Such poor mental health outcomes are often associated with war exposure and traumatic events that occurred before, during, and after migration. Past traumatic experiences are often exacerbated by post migration stressors such as unemployment and acculturation difficulties [5, 6]. In addition to mental health disorders, several somatic symptoms such as respiratory, skin disorders, musculoskeletal problems, and headaches have been reported as common among war exposed individuals [7, 8]. It has also been reported that joint pain and fatigue in addition to headache, concentration difficulties, sleep disturbances, and skin rash were common symptoms shared among over 18,000 American Gulf War veterans. Further, Jamil et al. [3] examined the prevalence of many of the same medical conditions found in American Gulf War veterans in an Iraqi refugee sample in the U.S. Findings showed that Iraqi refugees had a high self report of many of the

same symptoms (e.g., sleep disturbances, headache etc.) experienced by American Gulf War veterans. While it is known that such symptoms are common in Gulf War veterans, there are few studies [3] which investigate this type of symptomology in refugees as compared to non war exposed immigrants. Moreover, it is well recognized that pre and post migration stressors increase risk for poor mental health. Of increasing interest is the impact that pre and post migration stressors and poor mental health outcomes have on the development of somatic disorders and symptoms and ultimately health care consumption. Mental illness is known to be stigmatized in many refugee groups, thus individuals from various cultures may express symptoms of emotional distress in the form of somatic complaints, ultimately increasing health care utilization [9-11]. Such high rates of health care utilization can have detrimental financial implications for host nations, especially when psychopathology is not recognized and resources are spent to mistakenly treat supposed medical conditions.

As mentioned above, there are few studies [3, 12] which examine and/or compare the somatic and mental health of refugees and proper comparison groups (i.e. non war exposed immigrants). Moreover, there are no known studies which investigate and compare the pattern of health care utilization and its relationship to specific somatic and mental health disorders among Iraqi refugees and non-refugees. The current study compares Iraqi refugees and Yemeni immigrants in examination of the proportional distribution of mental health and somatic disorders as well as health care utilization as function of having specific mental health disorders. We carried out a pilot study, which investigated data from a general health care population of Iraqi refugees and Yemeni immigrants. The study addresses the following hypotheses: First, we hypothesize that Iraqi refugees, who are often at heightened risk for severe trauma exposure compared to regular immigrants, will exhibit a higher prevalence of somatic and mental health complaints and diagnoses. In particular, we expect that Iraqi refugees will show a proportionally higher prevalence of trauma-related mental health complaints and diagnoses such as depression, PTSD, and other anxiety related disorders than non-war exposed Yemeni immigrants. Further, mental health disturbances are often considered ignominious in Arabic cultures and are consequently experienced and/or reported psychosomatically [9]. We, therefore, expect that Iraqi refugees will demonstrate greater overall somatic complaints and diagnosed disorders and thus greater health care utilization in comparison to non-war exposed Yemeni immigrants. In addition, we expect to find that particular disorders common among Gulf War veterans (e.g., headaches as well as dermatologic, respiratory, musculoskeletal, digestive, and eye complaints/disorders) will be related to the highest rates of health care consumption for Iraqi refugees

Patients and Methods

Medical chart reviews were conducted at an outpatient health clinic in southeast metropolitan Detroit. Available chart information included age and gender, number of clinic visits for each client, and medical history including mental health (e.g., depression, generalized

anxiety) and somatic complaints and diagnoses.

Participants

The current study focuses on two groups (Iraqi refugees and Yemeni immigrants). The study population was gathered from a list of clients receiving Medicaid and primarily included clients of Iraqi and Yemeni descent. In fact, approximately 95% of the clinic's clientele consisted of Iraqi refugees and Yemeni immigrants. Both groups are considered culturally similar in that both share Arabic ethnicity and language, similar religious views, and comparable beliefs towards health care utilization. In addition, the Iraqi and Yemeni clients in this study have, for the most part, been exposed to the same environment as they are all residents of the southeast metropolitan Detroit area. On the contrary, all of the Yemeni immigrants voluntarily immigrated to the United States throughout the 20th century in order to seek work while the majority of the Iraqi clients were forced to leave Iraq and eventually immigrate to the United States following the 1991 Gulf War.

Client nationality was not included in the original subject files. Nationality was differentiated by the clinic physician and secretary, both of whom were familiar with most, if not all, of the clinic's clientele. Additionally, the clinic secretary called and directly verified nationality with many of the clients.

Because several of the clinic's Iraqi clients served in the Iraqi military, which excludes females and requires service from all 18 year old males, the current study exclusively targeted males who at the time of the study were of age (born between 1945 and 1972) to have served in the Iraqi military before resettling in the United States. 916 of the clinic's 2,430 Medicaid clients (659 Yemeni and 282 Iraqi) met the study's criteria (male and born between 1972 and 1945). From the list of eligible Iraqi clients, only clients who had odd case file numbers were selected (e.g., 1, 3, 5, 7 etc.). Because there were more eligible Yemeni clients than Iraqi clients, every third Yemeni client, beginning with case file number 1, was selected (e.g., 1, 4, 7, 10 etc.). Overall, 116 Iraqi clients and 232 Yemeni clients were selected for chart review.

Measures

Mental and somatic health data (i.e., complaints and diagnoses) were based on the professional judgment of the board certified physician who was in charge of the outpatient clinic. Thus, one person consistently assessed mental and somatic complaints and assigned all diagnoses to the patients. All information was voluntarily transferred by the research team to a study form. The study form categorized disorders based on the Internal Classification of Diseases (ICD-10) and included such categories as "Diseases of the Respiratory system" and "Diseases of the Digestive System". In addition, the study form included specific complaints that have been commonly reported by American Gulf War veterans [e.g., joint pain, headache, skin rash etc; 8].

Analysis

The outcomes for this study are clinically diagnosed mental and somatic disorders, mental and somatic complaints, and health care utilization (i.e., number of clinic visits) by nationality (Iraqi vs. Yemeni). The independent variable was nationality. Since the entire sample was male and receiving Medicaid, age was the only included covariate. To determine nationality differences between categorical variables, such as

diagnosis/complaint (e.g., depression, PTSD, peptic ulcer, skin rash) X^2 was used. Mental health and somatic disorders/complaints were dichotomized between "yes=1" and "no=2" based on the clinic physician's diagnostic impression and the particular complaints endorsed by the clients. Data were collected for diagnoses of depression, generalized anxiety disorder, PTSD, and personality disorders. Because there were no or very few diagnoses of PTSD and personality disorders, the current study focused on depression and generalized anxiety disorder.

X^2 was used to compare groups for number of clinic visits. Because the distribution for the "clinic visits" variable was skewed with a long tail to the right indicating very few patients with a high number of visits, we modified the variable. Originally, number of clinic visits was categorized between one and 69 clinic visits. The variable was re-categorized based on a median number of 6 clinic visits. Thus, we modified the variable to consist of one to five clinic visits and six or more clinic visits. Moreover, X^2 was used to compare groups for number of clinic visits by specific disorders/complaints; that is, we compared the degree to which specific somatic and mental health complaints (e.g., depression, respiratory problems) were related to health care consumption (i.e., number of clinic visits) between refugees and immigrants. Statistical significance was set at a two-sided p value of <.05. All analyses were carried out using SPSS.

Results

Table 1 shows that the current study's sample was comprised of approximately 33% Iraqi refugees and 66% Yemeni immigrants. Table 1 also displays that there was a statistically significant difference in age between the two groups with Iraqis being younger.

Characteristic	Iraqi Refugees	Yemeni immigrants	P-value
	(N=116)	(N=232)	
Age (years)			0.05
28-34	50	33.2	
35-44	31	32.3	
45-56	19	34.5	
Clinic Visits			n.s.
≤ 5	37.9	48.7	
6 +	62.1	51.3	

Table (1): Demographic characteristics of medical clinic outpatient clients by country of origin in percentages (n.s. = not significant)

Table 2 shows that Iraqi refugees and Yemeni immigrants differed significantly with respect to the number of individuals who were diagnosed with several different somatic and mental health disorders.

The largest statistically significant differences between groups were found for the following diagnoses: ear, nose, and throat (ENT) disorders (Iraqi 52.6% vs. Yemeni 27.2%), peptic ulcer (Iraqi 44% vs. Yemeni 11.2%), and backache (Iraqi 44% vs. Yemeni 28.9) Iraqi refugees and Yemeni immigrants exhibited a significantly different distribution for a number of somatic and mental health complaints (Table 3). Some of the greatest disparities were found for abdominal pain, (Iraqi 54.3% vs. Yemeni 40.9%), skin rash (Iraqi 34.5% vs. Yemeni 14.7 %,) musculoskeletal complaints (Iraqi 41.4% vs. Yemeni 13.4%), chronic headache (Iraqi 30.2% vs. Yemeni 18.1%), depression (Iraqi 31.9% vs. Yemeni 3.0%), and sleep disturbances (Iraqi 15.5% vs. Yemeni 2.2%).

Diagnosis (significant)	Iraqi refugee (n=116)	Yemeni immigrant (n=232)	P-value
ENT disorders	52.6	27.2	<.001
Musculoskeletal and CT	49.1	27.2	<.001
Peptic ulcer	44.0	11.2	<.001
Backache	44.0	28.9	<.01
Genitourinary disorders	27.6	15.1	<.01
chronic headache	27.6	15.5	<.05
Depression	22.4	9.1	≤.001
Infectious/parasitic disorders	19.1	6.1	<.001
Skin disorders	18.9	9.9	<.05
Injury and poisoning	15.5	4.7	<.01
Overall mental disorders	11.2	3.4	<.01
Digestive disorder	63.8	36.2	n.s.
Respiratory disorder	59.5	54.7	n.s.
Genito-urinary disorder	36.2	30.6	n.s.
Dermatitis	33.6	26.7	n.s.
Bronchitis	32.8	28.4	n.s.
Eye disorders	14.7	9.5	n.s.
GERD	12.9	11.2	n.s.
Urinary tract infection	12.1	13.4	n.s.

Table (2): Somatic and mental health diagnoses by country of origin

Complaint (significant)	Iraqi refugee (n=116)	Yemeni immigrant (n=232)	P value
Abdominal pain	54.3	40.9	<.05
Musculoskeletal	41.4	13.4	<.001
Backache	40.5	29.3	<.05
Skin rash	34.5	14.7	<.001
G.I. related	32.8	18.1	<.01
Depression	31.9	3.1	.001
Fever/chills	22.4	35.3	≤.05
Anxiety	19.8	3.9	≤.001
Heartburn	17.2	8.2	≤.05
Nervous system related	16.4	5.2	≤.001
Injury or wound	16.4	9.1	≤.05
Neck pain	16.4	8.6	≤.05
Loss of appetite	16.4	4.7	≤.001
Sleep difficulties	15.5	2.2	≤.001
Nausea	14.7	7.3	≤.05
Complaint (n.s.)			
Joint pain	28.4	19.8	n.s.
G.I. related	23.3	22.8	n.s.
Urinary disorder	19.0	18.1	n.s.
Sinus problems	19.0	11.6	n.s.
Diarrhea	14.7	10.8	n.s.
Constipation	10.3	4.7	n.s.

Table 3 Somatic and mental health complaints by country of origin in percentages

Medical Condition	Iraqi refugees		Yemeni immigrants		p-value
Diagnosis	**≤ 5 visits**	**6 + visits**	**≤ 5 visits**	**6 + visits**	
Skin disorders	0	100	52.2	47.8	<.001
Circulatory disorder	0	100	42.4	57.6	<.01
Bronchitis	15.8	84.2	34.8	65.2	≤.05
Respiratory disorders	18.9	81.1	38.3	61.7	≤.05
Digestive disorder	23.0	77.0	37.4	62.6	≤.05
Diagnosis (n.s.)					
Musculoskeletal	12.3	87.7	23.8	76.2	n.s.
Peptic ulcer	19.6	80.4	15.4	84.6	n.s.
Backache	17.6	82.4	22.4	77.6	n.s.
Genitourinary disorders	15.6	84.4	34.3	65.7	n.s.
chronic headache	15.6	84.4	22.2	77.8	n.s.
Injury and poisoning	11.1	88.9	36.4	63.6	n.s.
Nervous system/sensory disorders	16.7	83.3	30.0	70.0	n.s.
Infectious/parasitic disorders	18.2	81.8	42.9	57.1	n.s.
Overall mental disorders	15.4	84.6	12.5	87.5	n.s.
Depression	19.2	80.8	9.5	90.5	n.s.
Chest pain	24.0	76.0	44.7	55.3	n.s.
Abdominal pain	20.0	80	28.4	71.6	n.s.
GERD	13.3	86.7	30.8	69.2	n.s.
Fatigue	25.0	75.0	39.1	60.9	n.s.
Eye disorders	11.8	88.2	27.3	72.7	n.s.

Table 4 Group differences in health care utilization by number of clinic visits and diagnosis

Table 4 depicts health care utilization for specific somatic and psychiatric diagnoses and complaints by groups. Once a participant had a given disease or complaint, Iraqi refugees were higher consumers of health care (i.e. 6 or more clinic visits during the study period) than Yemeni immigrants with respect to the following diagnoses: circulatory disease (Iraqi 100% vs. Yemeni 57.6%), digestive disorders (Iraqi 84.4% vs. Yemeni 66.7%), respiratory (Iraqi 81.1% vs. Yemeni 61.7%), and bronchitis (Iraqi 84.2% vs. Yemeni 65.2%), skin disorders (Iraqi 100% vs. Yemeni 47.8%).

Discussion

Results of the study show that Iraqi refugees and Yemeni immigrants exhibit different distributional patterns with regards to several somatic and psychiatric diagnoses and complaints. In addition, specific somatic disorders were found to be associated with greater health care consumption in Iraqi refugees as compared to Yemeni immigrants with identical diagnoses. Diagnoses of (ENT) disorders, overall musculoskeletal disorders, peptic ulcer, backache, genitourinary disorders, chronic headache, depression, overall skin disorders, injury and poisoning,

overall mental disorders, nervous systems/sensory organ disorders, infectious and parasitic disorders, injury and poisoning were significantly more prevalent among Iraqi refugees in comparison to Yemeni immigrants. Although there are few studies which compare patterns of somatic and mental health disorders in Iraqi refugees and appropriate non-refugee controls, such findings are consistent with the results reported by Jamil et al. [13, 14] who found a higher prevalence of medical disorders among war exposed Iraqi immigrants in comparison to non war exposed Iraqis, who immigrated to the U.S. prior to the Gulf War, and other non war exposed Arab American subgroups. Other studies have also reported that refugee populations in general frequently suffer from more medical conditions than other immigrants [2, 4]. In addition, these findings are also consistent with a study of American Gulf War veterans who exhibited a high prevalence of musculoskeletal, psychological, and skin diagnoses [8]. Many of the studied disorders and complaints have been linked to increased stress levels, somatization of psychological stressors, and/or exposure to war-related chemical agents [7].

Moreover, there were several somatic complaints, in addition to diagnoses, found to be significantly more prevalent among Iraqi refugees vs. Yemeni immigrants. In particular, abdominal pain, skin rash, gastrointestinal complaints, nervous system complaints, chronic headache, injury or wound, anxiety, depression, and sleep disturbances were all significantly more prevalent among Iraqi refugees. Kroenke et al. [8] also found skin rash, headache, and sleep disturbances to be common complaints among Gulf War veterans, possibly suggesting that these symptoms are common among war exposed individuals. Consistent with the current study's findings, Jamil et al [12] also found headache, fatigue, depression, and anxiety to be common and significantly more prevalent among war exposed Iraqi refugees as compared to non war exposed immigrants.

Furthermore, despite our prediction, there were no statistically significant differences found for health care utilization (i.e. clinic visits) between Iraqi refugees and Yemeni immigrants. A higher percentage, however, of Iraqi refugees (62.1%) than Yemeni immigrants (51.3%) were found to be high-frequency (6 or more clinic visits) consumers of health care. Moreover, statistically significant differences between groups were found with respect to health care utilization for specific diagnoses. Interestingly, the higher health care consumption among refugees was not found in the area of psychiatric disorders or complaints, but for somatic disorders. In particular, the following diagnoses were associated with high health care consumption (i.e. six or more clinic visits) among Iraqi refugees vs. Yemeni immigrants: circulatory disease, digestive disorders, respiratory disorders, bronchitis, and skin disorders. More than one study [7, 8] has found chronic headaches as well as skin, respiratory, and digestive symptoms to be common among individuals exposed to war in the Middle East; however, there are few studies which compare the prevalence of such symptoms and how they relate to health care utilization. The current study confirms other research which suggests that trauma and post migration stressors not only impact mental health outcomes but also increase number of medical diagnoses and complaints, and ultimately

health care utilization [3, 15]. Such findings may suggest that refugees, many of whom experience post migration stressors, have great difficulty with post migration adjustment. Past trauma likely contributes to adjustment difficulties, which then are exacerbated by more immediate post migration life stressors (e.g., acculturation difficulties, worries about loved ones in their country of origin). Many immigrant and refugee populations, including those from the Middle East, are reluctant to seek help for mental health difficulties and consequently express psychological distress somatically [9]. Limited English speaking abilities in addition to social stigma further complicates access to mental health services [16]. Such cultural prohibitions may lead many Arab immigrants and refugees to seek medical attention for psychosomatically expressed emotional distress. To ensure refugee well-being and to improve use of resources, it is critical for clinicians to be aware of such somatization so that refugees are not continuously treated for physical ailments that are in reality expressions of psychological distress.

The current study is one of the only known studies to investigate the pattern of somatic and mental health diagnoses and complaints as well as health care utilization among Iraqi refugees in contrast to an appropriate comparison group of non refugee immigrants from the same region. The study, while an important step into the further investigation of refugee somatic and mental health, has several limitations. All data consisted of information from medical files containing client information collected prior to the current study. For example, mediating and moderating variables such as trauma exposure, level of education, employment status, and marital status were not known. Such variables are important for further understanding and clarification of risk factors that affect refugee somatic and mental health. In addition, it would have been beneficial to have known information regarding treatment outcome and treatment choices.

There is a need for future research to investigate determinants of somatic and mental health among refugee populations. In addition, it is imperative for future studies to investigate the relationship between trauma exposure and resettlement and how together they impact somatic and mental health, health care consumption, resource allocation, and ultimately individual well-being.

Acknowledgments: The research team would like to recognize and thank Dr. Wissam Salman and Dr. Nada Hanna for volunteering their time in collecting the data used in this study.

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