C. Medical Complaints of Iraqi American People Before and After the 1991 Gulf War

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Ethn Dis. 2007;17[Suppl 3]:S3-77–S3-78

Key Words: Iraq, Gulf War, Immigrant Health

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Introduction

Thousands of Iraqis immigrated to the United States before the 1991 Gulf War for a variety of reasons that were predominately economic. Post-1991 Gulf War immigration among this group represents a new wave of immigration from Iraq.[1] Most post-Gulf War Iraqi immigrants, many of them refugees, suffered a sequence of serious traumas in Iraq, either before, during or after the Gulf War. These individuals appear to suffer from a host of physical and mental health maladies, some similar to those affecting other groups such as US Gulf War veterans.[2,3]

To date, there is no published scientific research about the 1991 Gulf War explaining the etiological agents possibly responsible for such complaints.[4] Studies of Iraqi Americans are very scarce, although a few recently published studies conducted with the Iraqi veteran refugee population indicated high levels of medical and mental disorders.[2,5,6,7] However, Iraqis who immigrated after the 1991 Gulf War represent a population with the highest potential exposure to toxic materials during this war. It is imperative to examine closely their physical and mental disorders. Therefore, the objective of the study was to compare the prevalence of medical conditions between Iraqis who immigrated after the 1991 Gulf War (Group A) and Iraqis who immigrated before the 1991 Gulf War (Group B).

Methods

Ethical clearance was obtained from Wayne State University. The study is a cross-sectional study among Iraqi residents in the metropolitan Detroit area. The participants were selected randomly from a list of 5,490 residents. The random sample consisted of 350 participants because of limited funding. Analysis of participants' residences showed that they represent various cities that differ on demographic characteristics, such as socioeconomic status. Also the analysis showed that the participants came from 55 zip code areas within 24 cities in the metropolitan Detroit area. Participants were verbally asked to fill out a series of questionnaires administered in their native language. If the participant was unable to read, the questions were given verbally in an interview format. The questionnaires were designed to obtain information regarding the subject's medical conditions (diseases or symptoms) at the time of the survey and whether that condition was present before or after the 1991 Gulf War. Demographic information was also obtained.

The study was conducted during 2004 and 2005. Group A consisted of 206 participants who immigrated to America after 1991, and Group B consisted of 144 participants who immigrated to America before 1991. The interview questionnaire was based on an instrument from the Iowa Persian Gulf War Study Group, 1997.[8]

Results

Group A had fewer male participants (51.5%) than Group B (62.5%). More participants were below the age of 40 years in Group A (38.5%) than in Group B (18.6%). There were more married participants in Group A (85.9%) than in Group B (71.5%). More participants had less than high

school education in Group A (44.7%) than in Group B (32.6%). Most of the participants were Iraqi Americans of Arabic-speaking descent (Group A: 70.4%, Group B: 72.9%), while the remainder were Iraqi Americans of Chaldean descent (Group A: 29.6%; Group B: 27.1%). The occupational category with the highest percentage of people in Group A was professional work (24.4%) when they were in Iraq, but this percentage declined to 9.3% when they came to the United States. The percentage of unskilled workers in Group A was 5.4% when they were in Iraq and 22.4% when individuals immigrated to the United States. Group B showed more or less the reverse trend in these two occupations.

Among the 29 medical conditions (symptoms and illnesses) that could be reported, only one (thyroid problem) was more prevalent in Group B and one (eczema) was equal in both groups. Among the 29 medical conditions more prevalent in Group A, 13 were statistically more prevalent (eg, sleep apnea, memory loss, chronic headache, fatigue). The medical conditions related to mental disorders (PTSD, panic disorder, anxiety and depression) were statistically more prevalent among participants in Group A as compared to Group B.

DISCUSSION

Significant differences were found for most demographic variables between Iraqis who immigrated after the 1991 Gulf War (Group A) and those who immigrated before the 1991 Gulf War (Group B) ($P<.05$). Also the results of the study indicate that the prevalence of 13 out of 29 medical conditions (diseases and symptoms) were significantly higher (range between $P<.05$ and $P<.001$) among Iraqis who immigrated to the United States after the 1991 Gulf War (Group A) in comparison to Iraqis who immigrated to the United States before the 1991 Gulf War (Group B). In particular, the medical conditions related to mental disorders were significantly more prevalent in Group A ($P<.001$). The greater prevalence of the medical conditions among Group A was consistent with previous research.[5] Also the results were consistent with a number of small surveys, which were conducted in Iraq comparing health data from before and after the Gulf War.[9,10]

CONCLUSIONS

- There were significant differences in more than half of the medical conditions (including mental disorders) between the Iraqis who immigrated before and after the 1991 Gulf War.
- More clinical and epidemiological research among Iraqis who participated in the 1991 Gulf War is needed.

ACKNOWLEDGMENTS

This research could not have been undertaken without the support of Pfizer Corporation. The research team would like to thank all of the outreach health advocates who worked hard to collect the data. We would also like to thank all who participated in this research. This research does not influence Pfizer's vision.

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