



Wellness, Health Promotion, and Injury Prevention Program

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Dear Honor's College Thesis Committee:

I was honored when Nashia Choudhury asked me to be her mentor for her Honors College Thesis. It was a pleasure for me to see how excited Nashia was to work in the Arab American community, a group that is largely underserved and invisible in health research. The goal of her project was to examine the health and disease status of refugees from the Middle East. She has done a fantastic job with every aspect of the project, from creating the database, entering data to analyzing the data, and writing-up her results.

Nashia and I met countless times to discuss ideas for the project, update one another on the project and ensure she would have an optimal project for her honor's college thesis. We also communicated regularly via e-mail to share ideas. I reviewed numerous drafts of the proposal and the thesis. Nashia kept me informed of her progress and made suggested corrections in a timely manner.

The work she has started is very important to health research among the Arab American community. Her experience will expand her perspectives when she becomes a health professional and is caring for refugees and others in the community. I commend Nashia for a job well done and I am confident she will succeed in her future endeavors.

Do not hesitate to contact me if you need further information or have additional questions.

Sincerely,

A handwritten signature in cursive script that reads 'Florence Dallo'.

Florence J. Dallo
Assistant Professor

A Health Profile of Refugees in the Middle East

Submitted by

Nashia Choudhury

Health Sciences

To

The Honors College

Oakland University

In partial fulfillment of the
requirement to graduate from

The Honors College

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Abstract

There has been an increase in refugees coming into the US from the Middle East in the past decade. Michigan accepts a considerable proportion of these refugees. One of the reasons is that Michigan has a significant number of residents of Arab descent. The refugees coming into this state are fleeing from war, persecution, or natural disasters, and due to this, their health and wellness becomes a major concern, especially as literature related to the health of these refugees is sparse. The goal of this study is to profile the health and disease status of refugees 18 years of age or older who attend a community-based clinic in Dearborn, Michigan. The clinic contains approximately 3,000 charts, of which 1,000 will be abstracted systematically. Demographic, health status, and health behavior information will be collected and entered into a Microsoft Access database. Percent, frequencies, and associations will be examined. The findings will help inform prevention and intervention programs to reduce disease and promote health in this population. In addition, the data collected will facilitate the provision of health care services.

A Health Profile of Refugees in the Middle East

Introduction

The US is home to individuals of various racial, ethnic, religious, and cultural backgrounds from all over the world. The way by which these individuals entered the US also differs. Examples include family-based immigrants, study visas, work visas, refugees and asylees, and diversity visa programs. Of these five groups, refugees and asylees fall into a separate category. Refugees are people forced to leave their countries in order to escape from war, persecution, or natural disaster. This greatly contrasts from immigrants and those simply acquiring visas. Immigrants are individuals who travel to a new place with the intention of settling there. Distinct from refugees, who have no choice but to flee from oppression, immigrants leave willingly. Since refugees are obligated to leave their homelands, there are often mental and physical burdens on their wellbeing attributed with this undertaking. Even after being situated in their new homes, refugees often continue to deal with health problems associated with stress and other related factors. Evidence suggests that “traumatized individuals have elevated prevalence of medical disease” (Kinzie 2008). This gives rise to a new area of importance when taking into account the healthcare of the residents of that country.

The United States accepts a substantial amount of refugees yearly. In 2007, there were 16 million refugees with 2.5 million resettling in the US (Murray 2010). The wellbeing of refugees integrating into US society is relevant to the welfare of the entire population of the US as a whole. Due to the increase of refugees arriving in America, the government, private sector, and non-profit organizations need to consider the health of this vulnerable population. However, the

lack of knowledge in this field frequently hinders the opportunities to do so, and, thus, many refugees rely on their own limited resources to help them settle into this country. Unfortunately, these resources are not sufficient and may continue to cause numerous refugees to suffer from various health and emotional issues.

In the past decade, there has been a noticeable increase in the number of refugees arriving to the US. A significant percent of the refugees coming to the US are from the Middle East, which is largely due to the political disorder occurring in the countries in this region. According to the Office of Refugee Resettlement there were 60,193 refugees admitted into the US in 2008, and 16,789 of them were from the Middle East (Office of Refugee Resettlement 2011). That is roughly 28% of the total refugees. Michigan accepted 2,620 or 15.6% of these refugees (ACCESS 2010) because Dearborn, one of the major cities, already houses a major fraction of the Arab Americans. It is typically convenient for the Arab refugees to travel into and settle in with people of a common heritage. The American Community Center for Economic & Social Services (ACCESS) is a nonprofit organization that started in Dearborn to provide various services such as health care, employment services, youth programs, educational, and cultural programs, along with civic engagement, advocacy, and social entrepreneurship services (ACCESS 2010). These services are there to facilitate necessities in the community and assist new immigrants and refugees to better integrate into the American society. In recent years, the organization has developed and expanded its locations into other cities in Michigan as well as other states.

ACCESS has a Community Health & Research branch that provides services to promote health and prevent diseases. Not only does this branch provide the community with services, it also works meticulously to focus on the needs of the Arab population in particular. According to

ACCESS's 2010 annual report, 38% of clients were 20-39 years of age, a majority were female (53%), and 62% were unemployed. In the 2009-2010 fiscal year ACCESS offered more than 90 programs in Wayne, Oakland and Macomb counties. The total number of contacts increased 9% at 1,400,619 with these being broken down into core services: youth and education services (ACCESS 2010). While ACCESS provides such services, little research is conducted in the area of Arab American health, and more specifically refugee health. Due to the increase in Middle Eastern refugees to the US, particularly in Michigan, this situation is of concern to the healthcare providers in this state. This lack of investigation has led to inconclusive solutions to form a basis of diagnosis and proper treatment (Feldman 2006). According to the articles that have been mentioned thus far, it can be assumed that there is a correlation between stressors related to the reason of migration in refugees and their overall long-term health. One survey that examined various factors that might possibly impact self-rated health in Iraqis in Southeast Michigan led to the conclusion that "pre- as well as post-migration factors, and period of migration, affect health" (Jamil 2010). A better look into the health problems and burdens of refugees would allow for better collaboration and intervention on the parts of the government and other organizations in providing refugees with proper care and treatment and aiding in the transition of refugees into the US.

Literature is scarce with regards to the health of refugees in the US, and even the few articles that exist also state that there is not enough data to draw general conclusions to provide healthcare providers and others with better information to help treat this population. There have been a few studies done on the Arab American health but they "provided little conclusive evidence about the risks of cardiovascular disease, diabetes, cancer, or common mental disorders in this group" (Inhorn 2011). The health of Arab Americans, in general, is thought to diverge

from those of other Americans due to the fact that they “share a set of cultural norms, heavily influenced by Islamic behavioral restrictions, that may substantially influence health behaviors” (El-Sayed). However, refugee health is a field that needs more immediate attention. One research study carried out in San Diego County, California, by the CDC looked at the medical assessment of Iraqi refugees. The data collected showed some trends towards health issues that can “lead to serious morbidity” (CDC 2010). The research was carried out and the article stated that the CDC “recommends that refugees receive a more comprehensive medical assessment after arrival, which typically occurs within the first 90 days of arrival” (CDC 2010). This will allow for better data and statistics in dealing with the health of refugees. Another study performed was specific to Iraqi refugees (Jamil 2010). The methods included gathering data from Iraqis with variances in backgrounds and situations to allow for the sample to be random. The survey examined various factors that could possibly impact self-rated health in Iraqis in Southeast Michigan and led to the conclusion that “pre- as well as post-migration factors, and period of migration, affect health” (Jamil 2010). Although this research yielded information about the individual groups and allowed for comparison, the majority of the refugees entering the US, and Michigan in particular, do have similar circumstances and backgrounds. Information needs to be collected that is geared towards a particular population that has long been underserved.

Methods

This proposal is an independent research in collaboration with Professor Florence Dallo, PhD (Oakland University), Dr. Kendra Schwartz, MD (Wayne State University School of Medicine), and Julie Ruterbusch, MPH (Wayne State University) working with Dr. Adnan Hammad, PhD, the Senior Director for the Community Health & Research Center branch of

ACCESS. The methods are as follows. A literature review was first performed on refugees in the US and Michigan in particular was conducted to gain background information on the subject.

Creation of Database for Data Entry

A database was created for data entry and storage. The paper medical charts were used as templates for the forms on Microsoft Access. Limits were set in various fields to ensure proper data entry. The process of saving the data was also determined. An algorithm was used to determine how to save the various charts, and this also allowed for various tabs and forms to be linked to each individual medical chart that was entered. Each research assistant was instructed to use a password-protected laptop to ensure privacy and security. The database was uploaded into each of the laptops for use by the research assistants.

Pilot Testing and Abstractor Training

All research assistants were shown how to enter data into the database. Several charts were reviewed together, and errors in database and problems with data entry were resolved. This was the pilot test, and all abstractors gathered at the Dearborn clinic to practice and ensure proper data collection in a timely manner.

Data collection

ACCESS has approximately 3,000 paper medical charts for the year of 2010. There are two locations where the charts are located. The main branch of the clinic is in Dearborn, and there is another branch in Sterling Heights. The research looks at the patient records for the year of 2010. Only charts of refugees 18 years of age and older were reviewed. The first half is stored in Dearborn, and the other half is in Sterling Heights. Research assistants were involved

in collecting data at both locations. To ensure a random sample, every other chart is being systematically pulled and the data from the various charts are being entered into the database. At the Dearborn clinic, the charts are systematically pulled by an employee. The clinic in Sterling Heights allows for the research assistants to stay in the room with the charts and pull the charts themselves. Once a chart is pulled, an ID number is entered and saved in the records. All of the forms are filled out using the charts, and the database automatically saves the information. The data include demographics as well as specific health information for each individual. The laptops being used for this research are password protected to ensure that accessibility is only for those involved in the project. The information is also stripped of identifiers to protect the privacy of the patients. Some of the documents entered into the database include such information as progress notes from initial visit, immigrant/ refugee application, medical history and physical examination records from previous country of residence, x-rays and laboratory results, immunization records, refugee health assessment, and current city of residence along with healthcare and insurance information.

Process of Analyzing Data

Once the charts are abstracted, the information is exported, and SPSS is used to analyze the data. At this point, 138 charts have been abstracted, and the data was analyzed. The program allows for comparison of different variables. Several variables such as age, sex, chronic diseases, and social behaviors were compared, and initial conclusions were drawn. Once all the data from the 1,000 medical records have been abstracted, the data will be exported and the analyzing program will be used to determine trends in physical and mental health of refugees coming to Michigan. These conclusions will allow for further extension in research that relates to refugee health, and, more specifically, the health of Arab refugees in Michigan.

Data Analysis

Several variables were assessed to get a better understanding of health and gauge the wellbeing of refugees coming into Michigan in 2010. Some variables that were recorded include gender, ethnicity, age, weight, height, history of various diseases, country of origin, and country of residence prior to coming to the US.

| Gender | | | | |
|--------|-----------|---------|----------------------|--------------------|
| Gender | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| Male | 68 | 49.64 | 68 | 49.64 |
| Female | 69 | 50.36 | 137 | 100.00 |

Frequency Missing = 1

Of the charts reviewed, there was an almost equal frequency of male and female refugees entering Michigan. There was one chart out of the 138 reviewed in which the information was either missing or not entered.

| Arab | | | | |
|------|-----------|---------|----------------------|--------------------|
| Arab | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 19 | 13.77 | 19 | 13.77 |
| Yes | 119 | 86.23 | 138 | 100.00 |

| White | | | | |
|-------|-----------|---------|----------------------|--------------------|
| White | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 39 | 28.26 | 39 | 28.26 |
| Yes | 99 | 71.74 | 138 | 100.00 |

Out of the 138 charts reviewed, 119 of the charts were of people who associated with the Arab ethnicity. Of the same 138 people, 99 of them also associated with the white ethnicity. This shows that many of the refugees checked both Arab and White when asked about their ethnicity.

| Age | | | | |
|-------------|-----------|---------|----------------------|--------------------|
| Age (years) | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| 18 | 2 | 2.60 | 2 | 2.60 |
| 19 | 5 | 6.49 | 7 | 9.09 |
| 20 | 4 | 5.19 | 11 | 14.29 |
| 21 | 3 | 3.90 | 14 | 18.18 |
| 23 | 4 | 5.19 | 18 | 23.38 |
| 24 | 3 | 3.90 | 21 | 27.27 |
| 26 | 4 | 5.19 | 25 | 32.47 |
| 27 | 5 | 6.49 | 30 | 38.96 |
| 29 | 1 | 1.30 | 31 | 40.26 |
| 30 | 3 | 3.90 | 34 | 44.16 |
| 31 | 2 | 2.60 | 36 | 46.75 |
| 32 | 1 | 1.30 | 37 | 48.05 |
| 33 | 1 | 1.30 | 38 | 49.35 |
| 34 | 2 | 2.60 | 40 | 51.95 |
| 35 | 2 | 2.60 | 42 | 54.55 |
| 36 | 1 | 1.30 | 43 | 55.84 |
| 38 | 3 | 3.90 | 46 | 59.74 |
| 39 | 1 | 1.30 | 47 | 61.04 |
| 41 | 1 | 1.30 | 48 | 62.34 |
| 42 | 2 | 2.60 | 50 | 64.94 |
| 43 | 1 | 1.30 | 51 | 66.23 |
| 44 | 1 | 1.30 | 52 | 67.53 |
| 45 | 1 | 1.30 | 53 | 68.83 |
| 46 | 3 | 3.90 | 56 | 72.73 |
| 47 | 2 | 2.60 | 58 | 75.32 |
| 48 | 2 | 2.60 | 60 | 77.92 |
| 49 | 1 | 1.30 | 61 | 79.22 |
| 50 | 3 | 3.90 | 64 | 83.12 |
| 51 | 1 | 1.30 | 65 | 84.42 |
| 52 | 1 | 1.30 | 66 | 85.71 |
| 53 | 2 | 2.60 | 68 | 88.31 |
| 57 | 1 | 1.30 | 69 | 89.61 |
| 60 | 1 | 1.30 | 70 | 90.91 |
| 61 | 1 | 1.30 | 71 | 92.21 |
| 63 | 2 | 2.60 | 73 | 94.81 |
| 67 | 1 | 1.30 | 74 | 96.10 |
| 68 | 1 | 1.30 | 75 | 97.40 |
| 70 | 1 | 1.30 | 76 | 98.70 |
| 76 | 1 | 1.30 | 77 | 100.00 |

Frequency Missing = 61

Only charts of those 18 years of age and older were reviewed. The ages were calculated using the date of birth and the date of visit. The average age was 36.73 years old.

| Weight | | | | |
|-------------|-----------|---------|----------------------|--------------------|
| Weight (kg) | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| 40-49 | 4 | 2.96 | 4 | 2.96 |
| 50-59 | 15 | 11.11 | 19 | 14.07 |
| 60-69 | 41 | 30.37 | 60 | 44.44 |
| 70-79 | 28 | 20.74 | 88 | 65.19 |
| 80-89 | 21 | 15.56 | 109 | 80.74 |
| 90-99 | 18 | 13.33 | 127 | 94.07 |
| 100-109 | 5 | 3.70 | 132 | 97.78 |
| 110-119 | 1 | 0.74 | 133 | 98.52 |
| 120-129 | 1 | 0.74 | 134 | 99.26 |
| 130-139 | 0 | 0.00 | 134 | 99.26 |
| 140-149 | 0 | 0.00 | 134 | 99.26 |
| 150-159 | 1 | 0.74 | 135 | 100.00 |

Frequency Missing = 3

The average weight was 68 kg. This value and the average height of 2.95 m were used to calculate the average BMI of 27.01. This rating falls into the overweight category.

| Blood Pressure Readings | | | | | |
|----------------------------|-----------------------------|-----------|---------|----------------------|--------------------|
| Blood Pressure (mm Hg) | Range of Systolic/Diastolic | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| Hypotension | 50-90/35-60 | 0 | 0.00 | 0 | 0.00 |
| Low Normal Blood Pressure | 90-100/60-65 | 9 | 67.16 | 9 | 66.67 |
| Normal Blood Pressure | 100-130/65-85 | 73 | 54.48 | 82 | 61.19 |
| High Normal Blood Pressure | 130-140/85-90 | 32 | 23.88 | 114 | 85.07 |
| Hypertension | >140/>90 | 20 | 14.81 | 134 | 100.00 |

Frequency Missing = 4

These are the ranges for the blood pressure readings recorded at the time of visit.

| History of Hypertension | | | | |
|-------------------------|-----------|---------|----------------------|--------------------|
| Hypertension | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 121 | 88.32 | 121 | 88.32 |
| Yes | 16 | 11.68 | 137 | 100.00 |

Frequency Missing = 4

Hypertensive blood pressure readings: 20 refugees out of 134 or 14.81%

History of hypertension: 16 refugees out of 137 or 11.68%

| Pulse | | | | |
|-------------|-----------|---------|----------------------|--------------------|
| Pulse (bpm) | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| 40-49 | 2 | 1.67 | 2 | 0.83 |
| 50-59 | 3 | 2.50 | 5 | 4.17 |
| 60-69 | 32 | 26.67 | 37 | 30.83 |
| 70-79 | 42 | 35.00 | 79 | 65.83 |
| 80-89 | 29 | 24.17 | 108 | 90.00 |
| 90-99 | 8 | 6.67 | 116 | 96.67 |
| 100-109 | 3 | 2.50 | 119 | 99.17 |
| 710-719 | 1 | 0.83 | 120 | 100.00 |

Frequency Missing = 18

The average pulse range is 60-100 bpm. 5 refugees out of 120 or 4.17% have low pulse rates. 4 refugees out of 120 or 3.33% have high pulse rates.

| Cardiac Related Illnesses | | | | |
|---------------------------|-----------|---------|----------------------|--------------------|
| Cardiac | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 136 | 98.55 | 136 | 98.55 |
| Yes | 2 | 1.45 | 138 | 100.00 |

| Cardiac Arrhythmia | | | | |
|--------------------|-----------|---------|----------------------|--------------------|
| Cardiac Arrhythmia | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 134 | 97.81 | 134 | 97.81 |
| Yes | 3 | 2.19 | 137 | 100.00 |

Frequency Missing = 1

| Angina Pectoris | | | | |
|-----------------|-----------|---------|----------------------|--------------------|
| Angina Pectoris | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 133 | 97.08 | 133 | 97.08 |
| Yes | 4 | 2.92 | 137 | 100.00 |

Frequency Missing = 1

Cardiac related illnesses: 2 out of 138 or 1.45%

Cardiac arrhythmias: 3 out of 137 or 2.19%

Angina pectoris: 4 out of 137 or 2.92%

| History of Stroke with Current Impairment | | | | |
|---|-----------|---------|----------------------|--------------------|
| History of Stroke with current impairment | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 137 | 100.00 | 137 | 100.00 |

Frequency Missing = 1

There were no refugees with stroke that caused impairments.

| Chronic Obstructive Pulmonary Disease | | | | |
|---------------------------------------|-----------|---------|----------------------|--------------------|
| Chronic Obstructive Pulmonary Disease | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 137 | 100.00 | 137 | 100.00 |

Frequency Missing = 1

| Asthma | | | | |
|--------|-----------|---------|----------------------|--------------------|
| Asthma | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 136 | 99.27 | 136 | 99.27 |
| Yes | 1 | 0.73 | 137 | 100.00 |

Frequency Missing = 1

| History of Tuberculosis | | | | |
|-------------------------|-----------|---------|----------------------|--------------------|
| History of Tuberculosis | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 137 | 99.28 | 137 | 99.28 |
| Yes | 1 | 0.72 | 138 | 100.00 |

Chronic obstructive pulmonary disease: none or 0.00%

Asthma: 0.73% of the 137 charts reviewed.

Tuberculosis History: 1 out of 138 refugee charts, 0.72%, reviewed show history of tuberculosis

| Diabetes Mellitus | | | | |
|-------------------|-----------|---------|----------------------|--------------------|
| Diabetes Mellitus | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 129 | 94.16 | 129 | 94.16 |
| Yes | 8 | 5.84 | 137 | 100.00 |

Frequency Missing = 1

| Chronic Renal Disease | | | | |
|-----------------------|-----------|---------|----------------------|--------------------|
| Chronic Renal Disease | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 136 | 99.27 | 136 | 99.27 |
| Yes | 1 | 0.73 | 137 | 100.00 |

Frequency Missing = 1

Diabetes Mellitus: 5.84% of the 137 charts reviewed.

Chronic Renal Failure: 0.73% of the 137 charts reviewed.

| Cigarette Smoking | | | | |
|-------------------|-----------|---------|----------------------|--------------------|
| Cigarette | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 123 | 89.13 | 123 | 89.13 |
| Yes | 15 | 10.87 | 138 | 100.00 |

| Arghileh Use | | | | |
|--------------|-----------|---------|----------------------|--------------------|
| Arghileh | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 136 | 98.55 | 136 | 98.55 |
| Yes | 2 | 1.45 | 138 | 100.00 |

Cigarette use equals 10.87% and arghileh use is 1.45%.

| Syphilis Testing Results | | | | |
|--------------------------|-----------|---------|----------------------|--------------------|
| Arghileh | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 133 | 99.25 | 133 | 99.25 |
| Missing | 1 | 0.75 | 134 | 100.00 |

Frequency Missing = 4

133 out of 134 tested negative for syphilis, and one chart has missing information of the results.

| Major Mental Disorder | | | | |
|-----------------------|-----------|---------|----------------------|--------------------|
| Major Mental Disorder | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| No | 135 | 98.54 | 135 | 98.54 |
| Yes | 2 | 1.46 | 137 | 100.00 |

Frequency Missing = 1

| Country of Origin | | | | |
|-------------------|-----------|---------|----------------------|--------------------|
| Country of Origin | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| Iraq | 130 | 100.00 | 130 | 100.00 |

Frequency Missing = 8

| Present Country of Residence (Prior to Entrance into the US) | | | | |
|--|-----------|---------|----------------------|--------------------|
| Present Country of Residence | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
| Syria | 62 | 45.93 | 62 | 45.93 |
| Austria | 1 | 0.74 | 63 | 46.67 |
| Egypt | 3 | 2.22 | 66 | 48.89 |
| Iraq | 17 | 12.59 | 83 | 61.48 |
| Jordan | 15 | 11.11 | 98 | 72.59 |
| Lebanon | 7 | 5.19 | 105 | 77.78 |
| Turkey | 30 | 22.22 | 135 | 100.00 |

Frequency Missing = 3

All the refugees recorded in these charts are from Iraq. Many of them come to the US from neighboring countries. A large fraction, approximately 62 out of the 135 refugees or 45.93% of them come to the US through Syria.

Discussion

There are many variables that can be analyzed in this research. The medical forms have numerous points of data that will allow a glimpse of refugee health and give a broader picture of the different health care issues and events that surround the event of coming to the US for these Middle Eastern refugees. Some variables of importance included basic information such as gender, ethnicity, and age. Of the charts reviewed, there were almost an equal numbers of males and females. Of the 138 charts, 119 of them or 86.23% stated they were of Arab descent. The other 13.77% either did not state they were Arab or the charts had missing information. This shows that the greatest numbers of refugees coming into the Michigan are, indeed, from the

Middle East. Out of the 138 charts, 99 people or 71.74% of the patients also put White as their ethnicity. This shows that many Arabs also associate with the White ethnicity. This is something that needs to be addressed. Census information can get skewed if all Arabs are checking other categories when there should be a separate category for them altogether. This causes confusion when relaying information, and this population's concerns and illnesses are not dealt with properly. They fall into a different population that does not have similar needs as their own, and it causes discrepancies in providing health care and meeting other necessary needs by the state and federal government.

Age and weight were also assessed. Average height and body mass index were calculated. The ages of the refugees ranged anywhere from 18-76 years. The average was 36.73 years old. This shows that many of the refugees were younger. Due to this, most of them had good health statuses. One needs to take into account that those who were not well enough to travel were probably not allowed medical clearance to migrate to the US. Weight was also recorded. The average weight was 68 kg. The average height was 2.95 m. These two values were used to calculate the average BMI of 27.01. This falls into the overweight range. In another study, 781 people out of a sample of 3,047 or 24.6% were obese (CDC 2010). Many lead a more sedentary lifestyle, and this can explain the reason for a higher BMI.

Vital signs such as blood pressure and pulse were also reviewed. Blood pressure recordings were compared to history of hypertension. There seems to be a higher frequency of recordings for blood pressure that fall in the hypertensive range, 14.81%, then history of hypertension which is 11.69% as compared to 13-20% in another study (El-Sayed 2009) and 15.2% according to a third study (CDC 2010). The recorded hypertensive range seems to be more accurate when comparing the values. The average pulse range is from 60-100 with an

outlier of 710 bpm. This is probably due to incorrect recording and was disregarded when this variable was assessed. 9 out of the 120 refugees or 7.50% did not fall into this range. 4.17% had pulse rates lower than the range, and 3.33% had higher pulse rates. This leads to rates of other cardiac-related illnesses as well as arrhythmias and angina pectoris. Only 1.45% recorded any cardiac-related illnesses, 2.19% had cardiac arrhythmias, and 2.92% had a history of angina pectoris. These rates are low, and this can be attributed to the fact that many of the refugees were part of a younger generation, and they were healthier physically.

Other factors that were evaluated include stroke history, chronic obstructive pulmonary disease (COPD) history, asthma, and tuberculosis history. None of the refugee charts abstracted had patients with stroke or COPD history. One refugee, 0.73%, was asthmatic, and one refugee had a history of tuberculosis. This shows that there is no real negative correlation with lung-related illnesses in these refugees. Diabetes and renal illnesses were also reviewed. 5.84% reported a history of Diabetes Mellitus (DM), and 0.73% reported chronic renal failure. The 5% rate of DM correlates closely with these results (El-Sayed 2009).

One of the variables included in social history includes smoking. This encompassed everything from cigarettes, arghileh (traditional Arab water-pipe used for tobacco smoking), chewing tobacco, and anything else that is related. A previous study showed that cigarette smoking was at 39% as compared to the nation's 29% (El-Sayed 2009). This research determined that cigarette smoking was at 10.87%, and arghileh use was at 1.45%. These percentages seem very low from the percentages that were expected to be produced due to understanding of the Arab traditions and culture. The low percentages may be caused by failure of some refugees to identify themselves as cigarette or arghileh users because of their

engagement in such activities during recreation. It would help to explain the discrepancies in the numbers obtained.

Sexually transmitted diseases such as syphilis and HIV were also tested, and both were overwhelmingly negative when conclusions were drawn from the charts. One data point was missing for syphilis with the rest of the tests being negative. In the study performed by the CDC, only 0.1% tested positive for syphilis, and <0.1% were HIV-infected. It also stated that many of them were given the test overseas prior to coming to the US (CDC 2010). The same holds true for this research. According to records, sexually transmitted diseases have a very low prevalence in Middle Eastern refugees.

One of the most important factors of this study is psychological health. According to this research, only 1.46% of the refugees (2 out of 137) reported any major mental disorders. This number seems to be quite low when taking into account the situation behind their arrival into the US. Of all the charts reviewed, all 100.00% of the refugees were from Iraq. Most of them left Iraq and gained refugee status to enter the US from other countries. Syria had the largest fraction of Iraqi refugees coming to the US at 45.93% followed by Turkey at 22.22%. This showed that there was a correlation between the political situation in Iraq and the influx of Iraqi refugees into the US, particularly Michigan. This makes psychological wellbeing of this population an important element in regards to health care and services. In a self-rated health survey used for another research, several indicators were gauged to get a better understanding of stress due to “the significantly higher level of environmental stressor exposure” (Jamil 2010). It was determined that those who came to the US post-Gulf War were at a greater risk of post-traumatic stress disorder. They were exposed to the “highest cumulative environmental stress and trauma load” (Jamil 2010). These refugees “were more likely to be diagnosed with post-traumatic stress

disorder, more likely to have physical complaints, and more likely to have full remission after care” (El-Sayed). The percentages from this research could be low due to such subjects being taboo. Such illnesses are also frowned upon, and those who are troubled with these illnesses are often afraid to speak up or express themselves. Due to these circumstances, psychological health needs to be monitored closely, and refugees should be provided with care as soon as they are diagnosed to ensure proper treatment.

The limitations of this research include having different research assistants abstracting the medical charts. There are various ways in which data can be entered, and this causes there to be data that needs to be reorganized or cleaned after analysis. There are also charts where information is missing. These variables have to be disregarded in the end results. Some other problems include illegible handwritings in the charts, medical terminology that is hard to decipher, and inconsistent data from form to form. These limitations caused some discrepancies in data analysis, but some were disregarded. Others needed to be explained to allow for a better understanding of overall health and wellbeing of the Middle Eastern population.

For future recommendation, the data from each chart can be cross-examined and entered into a database so there can be maximum abstraction and information available for analysis. There should be boxes of charts and spaces to input some information that were entered into remarks boxes for more convenient and easy analysis. Some examples of these variables include blood sugar readings, hemoglobin levels, and human chorionic gonadotropin (HCG) results for women. These variables will now have to be separated manually before further analysis. This research allowed for an extensive overview of the health of refugees coming to Michigan in 2010. Further research can be carried out with a focus on a certain area to allow for more data

and wider sample size. This will allow for more accurate data collection. This research will be a guide for medical chart reviews highlighting certain populations.

Conclusion

The purpose of this study is to gain additional information to better help refugees receive the proper care needed due to better understanding of the health and mental aspects specifically prominent in the Middle Eastern society. Working with this community-based clinic allows access to all refugees who came to the US in 2010 because of the contract that the state has with this clinic. This organization is a big part of the Middle Eastern community, and the center helps all those who are underprivileged in the community as well as those who are new to the country. The immediate goal is to obtain a better understanding of the healthcare burdens that these refugees face and to provide a better structure of health intercession that is more favorable for them. Due to the fact that literature in this area is scarce, this study will provide a better understanding of how to aid the refugees arriving to Michigan, and the US in general, and enable expansion of Michigan's resources to provide them with better care and services.

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