



Prevalence of Anti-Hepatitis C Antibody among Arab/Chaldean Americans in SE MI

Jamil, Laith H.^{1, 2}; Duffy, Michael C.¹; Fakhouri, Monty²; Barkho, Evone²; Danial, Batool²; Fakhouri, Haifa²; Khoury, Radwan²; Jamil, Hikmet^{2,3}



INSTITUTIONS

- (1) Gastroenterology/Hepatology, William Beaumont Hospital, Royal Oak, MI, USA.
- (2) Arab American & Chaldean Council, Southfield, MI, USA.
- (3) Dept. of Family Medicine & Public Health Sciences, Wayne State University, Detroit, MI, USA.

Abstract

Background:

The prevalence of Anti-Hepatitis C antibodies (Anti-HCV) in the U.S. is estimated to be 1.6%. Middle Eastern Countries may have some additional risk factors for Hepatitis C Virus (HCV) transmission, such as reusing needles for medical therapy, circumcision by an informal health care provider, folk & traditional medical procedures, etc. There are no published studies on the prevalence of anti-HCV among the Arab/Chaldean population in the U.S.A..

Methods:

A retrospective review of data collected during a Hepatitis C (HCV) Public Health Awareness & Education project. This was conducted by the Public Health Division of the Arab American & Chaldean Council (ACC), in the Arab/Chaldean population residing in SE MI. Inclusion criteria were that subjects had to be of Arab/Chaldean descent, born in an Arab country & test either positive or negative for anti-HCV using the "Home Access Hepatitis C Test".

Results:

Final analysis was performed on 484 subjects. Mean age was 44 years (range 18-77 years), 50.4% were male, & 31.5% did not speak English. The overall prevalence of Anti-HCV was 5.4% (26 subjects, 12 males, 14 females). The prevalence among Chaldeans was 2.0%, & among Arab Americans 5.8%. The highest prevalence was among Eritreans at 50%, (only 2 subjects tested); followed by Jordanians 18.2% (2 out of 11); followed by Tunisians 16.7% (1 out of 6); and by Egyptians 10% (12 out of 121). Among those testing positive, 61.5% (16 subjects) were between ages 40-59, 54% were females, 42% did not speak English, 42% were employed, 65% did not have medical insurance, 69% had ≤12 years of education, 27% reported having an episode of "hepatitis", & 4 subjects (15%) reported jaundice. Risk factors included intravenous drug injection (IVDI) (69%), shared personal hygiene (50%), tattoos and body piercing (42%), blood transfusion before 1992 (15%), and medical therapy by non-sterile instruments (12%).

Conclusion:

This is the first study looking at the prevalence of Anti-HCV & risk factors among the Arab/Chaldean population in the U.S., with a prevalence of HCV antibody of 5.4%. This is more than triple the national average. There is an estimated 430,000 Arab/Chaldean in SE MI, the largest Arab/Chaldean community outside of the Middle East, with an estimated 3-5 million nationwide. Minorities in general have less access to health care and frequently do not participate in health promotion or preventive medicine. Further epidemiological studies and pilot projects are needed to better address these community's needs & additional public health awareness about HCV is needed in this high risk / vulnerable community..

Introduction

Background:

The prevalence of antibodies to Hepatitis C (Anti-HCV) in the United States is approximately 1.6 % (equating to about 4.1 million anti-HCV positive persons). The strongest risk factor for infection is a history of intravenous injection drug use. The peak prevalence was observed among persons 40 to 49 years of age. Anti-HCV are more common in males, in non-Hispanic black, those with low family income, & in those with a lifetime history of 20 or more sexual partners¹. In 1999, the World Health Organization (WHO) estimated that 170 million individuals were chronically infected with HCV worldwide, with at least 21.3 million HCV carriers in the Eastern Mediterranean countries. This is close to the number of carriers estimated in the Americas (13.1 million) & Europe (8.9 million) combined². Data suggest that parenteral anti-schistosomal therapy may have played a major role in the spread of HCV throughout Egypt³. Other risk factors in Egypt include prior blood transfusion circumcision, by an informal rather than formal health care provider, frequent parenteral injections, never attending college, invasive medical procedures, & complicated deliveries⁴. The estimated prevalence of HCV in Egypt is 18.1%, in Iraq 0.5%, in Jordan 2.1%, while it is unknown for Syria & Lebanon². There are no published studies on the prevalence of anti-HCV among the Arab/Chaldean population. There is a large Arab/Chaldean American community residing in SE MI, estimated at about 430,000, the largest concentration of the Middle Eastern community outside of the Middle East.

Methodology

A retrospective review of the data collected during an HCV public awareness & education project conducted by ACC, a non-profit health and human services organization. This was performed on the Arab/Chaldean American population residing in SE MI. Chaldeans are Catholic Christians of Assyrian/Aramaic descent. All the Chaldeans included in the study were originally from Iraq. Subjects invited to participate in the study were provided with a pin-prick testing kit for anti-HCV free of charge & were given a gift certificate of \$10.00 as an inducement to participate. IRB approval was obtained from Wayne State University. Inclusion criteria were subjects of Arabic or Chaldean descent, born in an Arab country, residing in SE Michigan, who agreed to be tested for anti-HCV. All subjects were tested for anti-HCV using the "Home Access Hepatitis C Test", which is FDA approved. It is greater than 99% accurate compared to a blood sample drawn by a medical professional and tested using current test methods. Subjects with an "Indeterminate result" were re-tested. Three subjects tested "indeterminate". On repeat testing, two subjects tested negative. One subject was tested by his PCP and found to be positive and was included. All Anti-HCV positive patients were advised of test results and referred for further evaluation and testing.

Results

A total of 492 subjects, from 62 different zip code areas were tested for Anti-HCV. Eight subjects born in the U.S. were excluded from further analysis. Of 484 subjects, 26 patients (5.4%) tested positive. Demographic characteristics of the 484 subjects with prevalence of Anti-HCV among different demographic variables are shown in Table 1.

The majority of positive subjects were Arabic (96%) and only one Chaldean subject (from 50 Chaldeans tested). The prevalence of anti-HCV according to country of origin is shown in Table 2.

Among those testing positive, 46% were male, the majority were 40-59 years of age (62%), 88% were married, 69% had a high school education or less, 42% were employed at the time of the study, 4% were retired, 39% had a household income < \$15,000/year and 65% had no health insurance.

In regards to risk factors in those testing positive for Anti-HCV, 69% had a history of intravenous drug injection (IVDI), whether performed by a medical or non-medical personal, one person admitted to risky sexual behavior, 50% have shared personal hygiene products, 15% had received a blood transfusion prior to 1992, 12% have received an injection by a non-sterile needle, and 14% have had some from of an operation.

Six patients (27%) recall having "hepatitis", and 3 subjects were previously told they had hepatitis C. Four subjects recall having been jaundiced.

Table 1: Demographic of Subjects Studied with Prevalence of Anti-HCV among Different Demographic Variables

Characteristics	# of Participants who answered the question	Prevalence of Anti-HCV
All	484	5.4
Gender: Male	244	4.9
Gender: Female	240	5.8
Age: <40 years of age	168	4.2
40-59 years of age	266	6.0
60+ years of age	50	6.0
Education: ≤ 12 grade	306	5.8
> 12 grade	168	4.8
Language: English Speaking	324	4.6
Non English Speaking	149	7.4
Medical Insurance: Insured	243	3.7
Uninsured	235	7.2
Years in the U.S.A. <7 years	192	7.3
≥7 years	268	4.5
Annual income: < 15K	148	6.1
> 15K	293	4.8
H/O Blood transfusion	41 Reported Yes	14.6
"hepatitis"	23 Reported Yes	30.4
Jaundice	19 Reported Yes	2.1
Intravenous Drug Injections	267 Reported Yes	6.7
Treatment by Non Sterile Injections:	22 Reported Yes	13.6
Tattoos or Body Piercing	110 Reported Yes	10.0
Risky Sexual Behavior	1 Reported Yes	100

Table 2: Prevalence of Anti-HCV in the Arab/Chaldean Community Residing in SE Michigan According to Country of Origin

Country of Origin	Anti-HCV Negative # (Prevalence)	Anti-HCV Positive # (Prevalence)
Eritrea	1 [50.0 %]	1 [50.0 %]
Jordan	9 [81.0 %]	2 [18.2 %]
Tunis	5 [83.3 %]	1 [16.7 %]
Egypt	109 [90.0 %]	12 [10.0 %]
Yemen	84 [93.3 %]	6 [6.7 %]
Lebanon	96 [97.0 %]	3 [3.0 %]
Iraq	135 [98.5 %]	1 [0.7 %]
Syria	4 [100 %]	0 [0 %]
Other	15 [100 %]	0 [0 %]

Discussion

This is the first study to examine the prevalence of Anti-HCV among the Arab and Chaldean Americans in the U.S. These individuals have a much higher prevalence of anti-HCV (5.4%) than the general American population. The 1990 U.S. Census found 870,000 Americans who listed "Arab" as one of their top two ancestries. This number is likely higher, given the overall growth of the U.S. and the fact many may not list their ancestry for various reasons. It is estimated that there are 3 to 5 million Arab-Americans residing in the U.S. today^{5,6}. It is not known how many of those where born abroad or in the U.S. Based on our prevalence of Anti-HCV antibody of 5.4%, we estimate that between 156,000 to 260,000 Arab/Chaldean Americans are Anti-HCV positive. With the estimated persons ever infected nationwide being 4,060,000¹, up to 6% or more of positive Anti-HCV maybe in this relatively small ethnic community that has not been studied. Today, Arab/Chaldean Americans, like many minority groups, are geographically concentrated. Over two-thirds live in ten states; one-third in California, New York, and Michigan. They are also more likely than other Americans to live in large metropolitan areas. Thirty-six percent of Arab-Americans are found in ten cities, primarily Detroit, New York, or Los Angeles⁷. Minorities in general are less likely to receive preventive medicine and may therefore be less like to be diagnosed with Hepatitis C and to receive treatment once identified. In addition, primary care physicians may less likely test for anti-HCV in these individuals because of a general lack of awareness of the increased prevalence of Anti-HCV in this population. Further studies are needed to better address these communities' needs and further public health about HCV is needed in this population.

Conclusion

- 1- Prevalence of Anti-HCV is 5.4% in the Arab/Chaldean American community residing in SE MI, triple the national average.
- 2- Among those testing positive, 46% were male, 69% were between 40-59 years of age, 69% had ≤12 years of education, & 65% had no health insurance.
- 3- Risk factors: IVDI (69%); shared personal hygiene products (50%); blood transfusion prior to 1992 (15%); injection by a non-sterile needle (12%); and risky sexual behavior (4%).

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