

Prevalence of Sexually Transmitted Infections (STI's) among Incoming Refugees in Maricopa County, Arizona

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Introduction

Refugees settling in America arrive mostly from conflict areas in Sub Saharan African, Middle east, Central and South Asia where incidence of STI's are high.

The Arizona Refugee settlement has resettled over 60,000 refugees with Arizona being the 6th largest recipient of refugees in the US.

The prevalence and magnitude of STI's in refugee populations is unknown due to limited reliable data and likely varies among refugee populations.

Research Question

The aim for this study is to determine the prevalence of STI's among incoming refugees in Maricopa county and determine the utility of the CDC refugee post-arrival screening and evaluation recommendations.

Materials and Methods

A retrospective study was performed to evaluate the medical records of 11,471 refugees from the Maricopa County Public Health Department who completed a screening medical examination between 2013–2017.

Data elements included in this study were: date of birth, age, sex, date of immigration to the US, country of origin, year of visit, lab specimen collection date, HIV status, pregnancy status, Syphilis test result (RPR& TPPA), Chlamydia and Gonorrhea urine test results.

Refugees were categorized by sex, age ranges and region of origin.

Demographics and disease outcomes were reported as frequencies and percentages.

Fisher's Exact Test was used to assess differences in the percentages of disease outcomes relative to demographic covariates. All data analyses were conducted using STATA version 15.

Results

The overall prevalence rates among those tested were 1.12% (90 of 8,055) for Chlamydia, 0.19% (15 of 8,055) for Gonorrhea, 0.73% (80 of 11,018) for HIV, and 55.5% (71 of 138) for Syphilis (+TPPA+RPR).

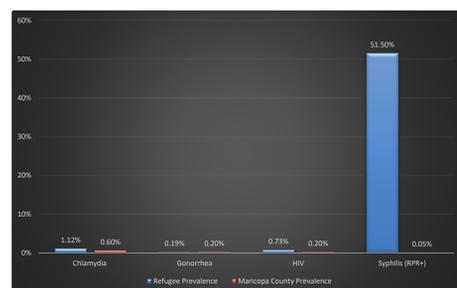


Figure 1: Overall prevalence of selected STI's among incoming refugee vs Maricopa county prevalence.

The prevalence rates of Chlamydia ($p < 0.001$), HIV ($p < 0.001$) and Syphilis ($p < 0.001$) were statistically significant when compared to the Maricopa County rates while the rate of Gonorrhea ($p < 0.84$) did not show statistical difference.

There was no statistically significant difference noted in the all the STI's tested among males and females. Between the various age groups, Chlamydia was statistically higher among the age group of 15-25 $p < 0.04$ while HIV was statistically significant among the age group of 36-45 $p < 0.04$.

	Chlamydia N=8055	Gonorrhea N=8055	HIV N=11018	Syphilis (RPR+) N=138
Result	1.12%	0.19%	0.73%	51.5%
Maricopa county prevalence	0.6%	0.2%	0.2%	0.05%
P-value (<0.05)	<0.001	0.84	<0.001	<0.001
Sex				
M	1.05%	0.14%	0.74%	49.3%
F	1.19%	0.23%	0.71%	53.6%
P-value	0.53	0.34	0.81	0.60
Age group				
<15	0.82%	0.21%	0.64%	36.7%
15-25	1.68%	0.17%	0.47%	55.2%
26-35	1.06%	0.30%	0.80%	30.9%
36-45	1.30%	0.0%	1.28%	58.3%
>45	0.58%	0.19%	0.56%	35.7%
P-value (<0.05)	0.04	0.36	0.04	0.19
Region				
Caribbean	0.60%	0.27%	1.00%	73.7%
South/Southeast Asia	1.05%	0.18%	0.47%	50.0%
Sub Saharan Africa	1.03%	0.08%	0.90%	42.5%
Middle East/North Africa	2.00%	0.32%	0.82%	41.7%
P-value (<0.05)	0.002	0.28	0.32	0.02

Table 1: Prevalence of selected STI's by sex, age range and region of origin group among newly arrived.

Among the different regions, syphilis rate was highest among those from the Caribbean (73.7%) $p < 0.02$ than persons from the other three region (South/southeast Asia, Sub-Saharan Africa, Middle East and North Africa).

Chlamydia had the highest prevalence among those from the Middle East/ North Africa (2.0%) $p < 0.04$.

	Chlamydia N=8055	Gonorrhea N=8055	HIV N=11018	Syphilis N=138
Result	1.12%	0.19%	0.73%	51.5%
Year of Arrival				
2013	1.71%	0.07%	0.88%	55.0%
2014	1.17%	0.21%	0.73%	48.3%
2015	1.03%	0.20%	0.71%	51.4%
2016	0.84%	0.25%	0.67%	52.0%
2017	0.39%	0.0%	0.54%	50.0%
P-value (<0.05)	0.13	0.75	0.93%	0.99%

Table 2: Prevalence of selected STI's from 2013-2017 among new arrived refugees.

There was no statistically significant difference among the prevalence of Chlamydia, Gonorrhea, HIV and Syphilis and HIV over the years from 2013-2017.

Conclusion

The prevalence of Chlamydia was statistically higher in incoming refugees and among the age group of 15-25 and those among person from the Middle East.

The prevalence of Gonorrhea among incoming refugees was noted to be lower with no significance difference between various age groups and regions.

The prevalence of seropositive syphilis and HIV was higher among incoming refugees.

The seropositive rate for syphilis is likely due to testing bias as a minority of the refugees were tested ($138/11471 = 1.2\%$)

The results of this study concludes that the current domestic medical screening recommendations developed by the CDC are appropriate for all newly arriving refugee populations.

Summary

The aim of this study was to determine the prevalence of STI's among incoming refugees in Maricopa county

Overall, this study found statistically higher prevalence rates of Chlamydia, HIV and Syphilis among incoming refugees when compared to the prevalence in Maricopa county.

The results of this study indicates the importance of routine screening of incoming refugees and utility of CDC refugee post-arrival screening and evaluation recommendations.

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