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Mental Disorders and Substance Use among Iraqis (Chaldean and Arab-Muslim) in Michigan, USA

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Introduction: The management of medical complications of drug and alcohol use represents a significant expense to the healthcare system, with an estimated annual cost of as much as \$400 billion (NIH, 2012). Drug and alcohol use contributes to increased morbidity, mortality, crime, and other adverse and costly social consequences (Horgan, 2001). Alcohol and drug use and mental disorders are commonly co-morbid conditions challenging societies at a global level. Effective prevention requires a better understanding of the prevalence of and risk factor for drug and alcohol misuse, especially in understudied populations. Michigan has the largest number of Arab and Chaldean in the whole country (Migration Policy Institute, 2003). Even though Arabs constitute 0.52% of all citizens in the US (Migration Policy Institute, 2009), some 300,000 Arab residents in Michigan make up around 10% of population with recognized alcohol and drug use problems (Arab American website, 2017). Alcohol is consumed by 60% of Michigan's residents (Substance Abuse and Mental Health Survey Administration 2011) while in a state survey, Michigan's Arab population report 45.6% alcohol consumption. A study in Europe reported that Iraqi immigrants (Arfken, Arnetz, Fakhouri et al., 2011) were three times more likely to be diagnosed with depression and anxiety, as

compared to their native counterparts (Khantzian, 1997). Substance use (illicit drug and alcohol) by people with severe and persistent mental disorder is one of the most significant problems facing public mental health (Bellack, Bennett, Gearon et al., 2006). Since most prior work on mental disorder and illicit drug use in Arab and Chaldean was cross-sectional, the goal of this study was to determine the prevalence of mental disorders and substance use among Chaldean and Arab Muslim in Metro Detroit, Michigan, and to determine risk factors for various constellations of mental health disorders and illicit drug use.

Methods: A structured questionnaire was used in interviews, which previously had been validated in a large-scale study of physical and mental health in Arab and Chaldean populations (Jamil, Nassar-McMillan, Lambert et al., 2010). A random sample of 337 participants was selected from a list of 5,490 Iraqi residents in Southeast Michigan representing 24 cities and 55 zip codes. The participants were classified into Arab-Muslims ($n=184$) and Chaldeans ($n=153$). Self-rated health (SRH) status was attained by asking participants to rate their current health. The SRH question was based on a Likert-type scale. The study classified substance use by the type: alcohol, street drugs, sedatives, and amphetamines. In addition, mental health disorders (depression, anxiety disorder, and PTSD) were diagnosed based on a standardized scale (Jamil, Nassar-McMillan, & Lambert, 2007). In terms of mental disorders, 33 Chaldeans and 105 Arab-Muslims were diagnosed with one or more mental health disorders. Chi-square and linear regression analyses were used to examine differences in prevalence and risk factors between the two groups in relation to substance use, mental disorders, and SRH.

Results: There were significant differences ($p < 0.05$ - < 0.001) between the two groups in the following: years residing in the US, age, marital status, employment, health insurance, annual income, and smoking status, but not in gender and education. Exposure to chemical and non-chemical (stressors) environmental factors was significantly higher among Arab-Muslims (65.2% for both exposures) versus Chaldeans (35.3% for chemical and 36.6% non-chemical). The prevalence of mental disorders was significantly higher among Arab-Muslims versus Chaldeans (depression 41.8% vs. 10.5%; anxiety disorder 39.1% vs. 4.6%; and PTSD 7.6% vs. 0.7%). There were no significant differences between Chaldeans (45.0%) and Arab-Muslims (35.6%) who suffered from mental disorder and who also used substances (combination of alcohol and illicit drugs). Regression analysis identified Chaldean and female to be predictive of substance use, while chemical exposure, substance use, low income, and female were predictive of an aggregated measure of all mental disorders. However, 13.7% of Chaldeans reported excellent health compared to a rate of 4.9% for Arab-Muslims; similarly, 2.0% of Chaldeans reported poor health compared to an Arab-Muslim reporting rate of 20.1%. Both groups had 30% of their participants report good health. Chaldeans had higher rates for longer

stay in US, younger age, employment, fewer chronic disorders, and lack of depression, predicting good self-rated health.

Discussion: The results show that the prevalence of substance use among total study population is significantly higher in Chaldeans (53.6%) compared to Arab-Muslims (28.8%) mostly as a result of more frequent use of alcohol among the Chaldeans (51.0%) versus 18.5% in Arab-Muslims. The reverse was true for use of illicit drugs. The reason for this discrepancy needs further attention. Alcohol use was reported to be more common in Chaldeans in another study as well (Arfken, 2014).

Conclusion: The results show no significant difference between Chaldeans and Arab-Muslims in using drug and alcohol if they suffer from mental disorders, which could indicate a need for educational preventive programs. Chaldeans used more alcohol, while Arab-Muslims used more drugs. There were differential risk factors for substance use in the two groups which could be used by primary healthcare to educate their clients.

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