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Marijuana and non-medical prescription drug use among immigrant Arab Americans

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Abstract

Background: Immigrant Arab Americans are less likely to drink and abuse alcohol than U.S. born non-Hispanic White Americans (reference group), but little is known about their drug use. If they are shown to have lower drug use, it may be due to immigration effects, presence of fewer risk factors, or cultural protective factors.

Aims: Describe marijuana and non-medical prescription drug use among immigrant Arab Americans and explore causal hypotheses.

Methods: The combined years of the 2002-2010 National Survey of Drug Use and Health were analyzed. Immigrant Canadian Americans served as a control group for immigration effects and immigrant Other Middle Eastern Americans served as a control group for cultural effects.

Results: Arab Americans were less likely to have used marijuana and prescription drugs for non-medical reasons than the reference group or immigrant Canadian Americans. There was no difference in their use pattern compared to immigrant Other Middle Eastern Americans. These relative patterns of use were consistent across gender, age, education and religiosity. There was no detected difference in marijuana abuse/dependence or prescription drug abuse/dependence between immigrant Arab Americans and the comparison groups.

Conclusion: These findings suggest that drug abuse/dependence among immigrant Arab Americans is a problem. The lower prevalence of marijuana and non-medical prescription drug use appears to be more influenced by cultural as opposed to general immigration factors. These data can be used to develop targeted prevention and treatment services.

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Introduction

Drug use is costly to society through its impact on mortality, morbidity, criminal activity and social consequences [1]. The two classes of drugs most commonly used in the U.S. are marijuana (41.9% lifetime) and non-medical use of prescription drugs (20.4% lifetime) [2]. Efforts to prevent and treat drug use include broad population efforts and targeted efforts tailored to specific demographic groups [3,4]. Planning these tailored efforts requires cultural knowledge of the demographic groups coupled with data on group-specific drug use pattern.

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For immigrants or 12.5% of the U.S. population [5], we would expect the prevalence of drug abuse and dependence to be lower than that of the U.S. born population based on analysis comparing all immigrants to those born in the U.S. [6]. Their analysis was conducted using data from the U.S. National Survey on Drug Use and Health (NSDUH), an annual probability survey designed to measure the magnitude of drug use and consequences in the U.S. [6]. The analysis, however, showed differences between countries of origin in the prevalence of current and lifetime drug use. The National Latino and Asian American Study, a national probability sample of Latinos and Asian Americans [7] found immigrants had lower prevalence of substance abuse/dependence than native born Latinos or Asian Americans [8,9]. Together, the results suggest that immigrants may be less likely to use drugs

("healthy immigrant") or that immigrants may have a different risk profile. If the latter explanation is true, the lower prevalence may not necessary generalize to all immigrants, especially those from countries torn by violence as trauma is a risk factor for drug abuse and dependence [10,11].

One immigrant group with little information on drug use and from countries torn by violence is Arab Americans. According to the latest three year findings of the American Community Survey, Arab Americans comprise 0.52% of the U.S. population [12]. Arab Americans have a higher proportion of males and a younger age structure than the general U.S. population [13], both of which are risk factors for experimenting with drugs. However, Arab Americans also have higher education achievement [13] and higher religiosity [14] than the general U.S. population, characteristics which are protective factors for drug use. Additionally, immigrant Arab Americans were born in countries with lower levels of marijuana and opioid use than the U.S. [15] which should be protective. The use pattern of immigrant Arab Americans may reflect other protective cultural factors besides these identified.

Previously, we examined alcohol use patterns for immigrant Arab Americans and compared them to that of U.S. born non-Hispanic White Americans, the reference group [16]. We found immigrant Arab Americans had lower lifetime, past year and current abuse/dependence than the reference group overall and by gender. That analysis, while providing data for targeted services, could not address the relative protective role of culture versus immigration. It did, however, argue that the lower prevalence was not due to distribution of one risk factor, namely male gender.

To obtain information for planning tailored drug prevention and treatment services for Arab Americans, we need to build upon the previous alcohol use analyses and compare the drug use patterns among immigrant Arab American to that of the reference group. To extend the analysis and address the relative role of immigration, we need to compare the drug use patterns for immigrant Arab Americans to that of other immigrant groups. One candidate comparison group would be Canadian Americans, who comprise 0.23% of the U.S. population [12]. The U.S. and Canada, while having differences, have similarities in culture and marijuana use [15]. Based upon these similarities, we would hypothesize that immigrant Arab Americans would have lower drug use pattern than immigrant Canadian American if drug use patterns reflect cultural factors as opposed to immigration factors. Thus the immigrant Canadian American group would act as a control for immigration factors.

Another candidate group for comparison would be people born in Iran, Afghanistan and Pakistan (in this study termed *other Middle Eastern*). We hypothesize that the drug use pattern for immigrant Arab Americans would not differ from that of immigrant Other Middle Eastern Americans due to shared cultural factors. Thus the immigrant Other Middle Eastern Americans would act as a control for cultural factors. Some immigrants from this area are also coping with exposure to traumatic events [16.17], and in theses countries of orgin there is high use of opioids but not of marijuana [15]. People who report heritage from these latter countries comprise 0.15% of the U.S. population [12].

Worldwide, the specific drugs consumed differ across countries [15]. Prevention and treatment efforts of different drugs have commonalities but they can also differ [18,21]. To control for which drug was used/abused, we will restrict analysis to marijuana and non-medical prescription drug use. Furthermore, the two drug classes do not have marked regional variation within the U.S. which might confound analyses of drug use patterns as many Arab Americans are heavily clustered in relatively few metropolitan areas [13].

The specific aims of this analysis are to describe the use pattern among immigrant Arab Americans for marijuana and non-medical prescription drug use; compare their use pattern to those of the reference group (U.S. born non-Hispanic White Americans) across risk/protective factors; and contrast the use pattern among immigrant Arab Americans to two other immigrant groups with the hypothesis that there would be significant differences with the use pattern of immigrant Canadian Americans (i.e., to test for immigration effects) but little/no difference with the use pattern of immigrant Other Middle Eastern Americans (i.e., to test for cultural effects).

Methods

Data source: The National Survey on Drug Use and Health (NSDUH) was used to estimate marijuana and the non-medical prescription drug use patterns. This is survey is conducted yearly, which allows the combination of multiple years needed to increase the precision of prevalence estimates for small demographic groups. To our knowledge, no other ongoing national survey has the potential to estimate drugs use patterns for Arab Americans.

The NSDUH, funded by the Substance Abuse and Mental Health Services Administration, is the primary source of information on prevalence of alcohol, tobacco, and drug use and abuse in the U.S. civilian non institutionalized population (age 12 and older). The NSDUH has been administered yearly since 1991 but secondary data use is only allowed for surveys conducted since 2002. Due to the stigma

and legal issues surrounding drug use, confidentiality is highlighted in the survey. There are lead-ins stressing confidentiality and audio computer-assisted interviewing methods in English or Spanish. A public access database is available for analysis online. Unfortunately, this online database does not include country of birth or even region of birth. The Substance Abuse and Mental Health Services Administration has a policy of approving limited special tabulated reports by the contractor charged with data collection and management of the survey. For this analysis, the program officer was provided with the list of 20 Arabic-speaking countries to define immigrant Arab Americans, three countries for immigrant Other Middle Eastern Americans (Iran, Afghanistan, and Pakistan) , and Canada (no race specified) for immigrant Canadian Americans. The reference group was defined as U.S.-born, White race, and not of Hispanic ethnicity. Due to confidentiality issues, the number of respondents from individual countries, such as from Iraq, cannot be disclosed.

In the NSDUH, the marijuana questions are introduced by: The next questions are about marijuana and hashish. Marijuana is also called pot or grass. Marijuana is usually smoked, either in cigarettes, called joints, or in a pipe. It is sometimes cooked in food. Hashish is a form of marijuana that is also called "hash." It is usually smoked in a pipe. Another form of hashish is hash oil. Following this lead-in, there are separate questions about ever use (Have you ever, even once, used marijuana or hashish), use in past year and month (How long has it been since you last used marijuana or hashish?) and symptoms consistent with DSM-IV diagnosis of abuse and dependence. These questions did not change over the time frame of this analysis.

For non-medical prescription drug use, the questions were introduced by: Now we have some questions about drugs that people are supposed to take only if they have a prescription from a doctor. We are only interested in your use of a drug if the drug was not prescribed for you, or you took the drug only for the experience or feeling it caused. The survey then goes on to ask about ever use, past use and symptoms consistent DSM-IV diagnosis of abuse or dependence by class of prescription drugs: pain relievers, tranquilizers, stimulants, and sedatives. Within each class, specific brands (along with an option of other) are asked while the participant is shown cards with the medications on them. Consistent with the increase in number of prescription medications available, the number of specific brands asked in the survey has increased over time. Questions also address symptoms consistent with DSM-IV diagnosis of abuse and dependence from prescription drugs.

The risk and protective factors of sex, age at time of interview, highest educational level completed (for those 18 or older), and religiosity (Your religious beliefs influence how you make decisions in your life - Strongly agree, agree, disagree, or strongly disagree.) were included in the analysis. High religiosity was defined as strongly agreeing with the religiosity statement.

Analysis

The 2002-10 surveys (n=613,553) were analyzed with SUDAAN using the appropriate sample weights and accounting for the complex sampling strategy. All analyses were conducted by the contractor with output restricted to bivariate tables emailed to the program officer and then forwarded. The contractor indicated in the output if the significance test was less than .01 or .05 for comparisons of the immigrant Arab American group with each of the other three groups.

Results

Of the 613,553 participants in the 2002-2010 NSDUH surveys, approximately 1,200 (0.2%) were immigrant Arab Americans, 700 (0.1%) immigrant Other Middle Eastern Americans, and 1,600 (0.3%) were immigrant Canadian Americans. The prevalence rates of individual risk and protective factors from NSDUH (Table 1) differed significantly between immigrant Arab Americans and the reference group. The immigrant Arab Americans also differed significantly from immigrant Canadian Americans on risk/protective factors. However, immigrant Arab Americans only differed significantly with immigrant Other Middle Eastern Americans on education and religiosity. Point estimates show immigrant Arab Americans had a higher proportion of males and younger age distribution than the reference group and immigrant Canadian Americans. Immigrant Arab Americans also had the highest prevalence of high religiosity across the four demographic groups.

Table 2 shows the prevalence of lifetime, past year and past month marijuana and non-medical prescription drug use.

Immigrant Arab Americans had statistically lower prevalence of marijuana use regardless of time period than the reference group or the immigrant Canadian Americans. For non-medical prescription drug use, immigrant Arab Americans had significantly lower lifetime prevalence than the reference group or the immigrant Canadian Americans. However, there were no significant differences in prevalence of marijuana or non-medical prescription drug use for any time period between immigrant Arab Americans and immigrant Other Middle Eastern Americans. As these

differences in prevalence may reflect the distribution of risk and resiliency factors, a stratified analysis was conducted. Table 3 shows the statistically lower prevalence of gender and religiosity-specific lifetime use for both marijuana and non-medical prescription and non-medical prescription drug use for immigrant Arab Americans compared to the reference group and to the immigrant Canadian Americans. Only one difference was detected at $p<.05$ for comparisons with risk or protective factors between immigrant Arab Americans and immigrant Other Middle Eastern Americans. These patterns of lower prevalence for immigrant Arab Americans compared to the reference group and to immigrant Canadian Americans but not compared to immigrant there Middle Eastern Americans were also generally replicated for age groups and educational achievement (not shown).

Table 1: Prevalence of individual risk and protective factors across demographic groups

	Immigrant Arab Americans	Immigrant Other Middle Eastern Americans	Immigrant Canadian Immigrants	U.S.-born White Non-Hispanic Americans
Gender				
Male	60.5%	55.9%	46.0%**	48.6%**
Female	39.5%	44.1%	54.0%**	51.4%**
Age				
12-17	6.8%	6.8%	4.6%**	9.1%**
18-25	11.7%	13.2%	8.0%**	12.0%
26-35	25.4%	19.0%*	12.7%**	14.1%**
36 +	56.1%	61.0%	74.7%**	64.8%**
Education, for those 18 or older				
High school graduation or less	31.7%	21.3%**	32.1%	44.4%**
Some college	23.1%	21.1%	29.2%*	26.1%
College graduate	45.3%	57.6%**	38.7%	29.5%**
Religiosity				
High (strongly agree)	47.5%	30.8%**	26.5%**	32.4%**
Lower (all other responses)	52.5%	69.2%**	73.5%**	67.6%**

*p<.05 for comparison between Immigrant Arab Americans and comparison group.
**p<.01 for comparison between Immigrant Arab Americans and comparison group.
Religiosity is based on responses to the statement: *Your religious beliefs influence how you make decisions in your life.*

Table 2: Prevalence of lifetime, past year and past month of marijuana and non-medical prescription drug use across demographic groups.

	Immigrant Arab Americans	Immigrant Middle Eastern Americans	Immigrant Canadian Immigrants	U.S.-born White Non-Hispanic Americans
Marijuana				
Lifetime	18.3%	16.1%	45.4%**	45.2%**
Past year	5.4%	4.2%	10.1%**	11.1%**
Past month	3.6%	2.7%	4.9%	6.5%**
Prescription drug				
Lifetime	10.3%	9.4%	19.1%**	23.6%**
Past year	4.6%	3.3%	4.8%	7.0%*
Past month	2.4%	2.0%	1.4%	3.0%

*p<.05 for comparison between Immigrant Arab Americans and comparison group.
**p<.01 for comparison between Immigrant Arab Americans and comparison group.

Table 3: Lifetime prevalence of marijuana or non-medical prescription drug use by gender and religiosity across demographic groups.

	Immigrant Arab Americans	Immigrant Other Middle Eastern Americs	Immigrant Canadian Immigrants	U.S.-born White Non-Hispanic Americans
Marijuana	18.3%	16.1%	45.4%**	45.2%**
Gender				
Male	24.9%	22.0%	50.2%**	49.3%**
Female	8.1%	8.7%	41.3%**	41.2%**
Religiosity				
High (strongly agree)	12.9%	5.1%*	28.6%**	31.6%**
Lower (all other responses)	23.4%	21.2%	51.7%**	51.7%**
Prescription drug	10.3%	9.4%	19.1%**	23.6%**
Gender				
Male	10.6%	11.5%	19.6%**	25.5%**
Female	9.8%	6.7%	18.8%**	21.8%**
Religiosity				
High (strongly agree)	10.3%	6.8%	15.8%	16.7%**
Lower (all other responses)	9.9%	10.5%	20.5%**	27.0%**

*p<.05 for comparison between Immigrant Arab Americans and comparison group.
**p<.01 for comparison between Immigrant Arab Americans and comparison group.
Religiosity is based on responses to the statement: Your religious beliefs influence how you make decisions in your life.

Although the prevalence of lifetime marijuana use by immigrant Arab Americans was less than half (40.5%) of that for the reference group, there was no statistical difference in the prevalence of current marijuana abuse/dependence between immigrant Arab Americans and the three comparison groups (Table 4). Likewise, there was no difference in the prevalence of current prescription drug abuse/dependence between immigrant Arab Americans and the three comparison groups. Controlling for the lower lifetime exposure, 8.2% of immigrant Arab Americans who reported ever trying marijuana currently have symptoms consistent with a diagnosis of abuse or dependence and 5.8% exposed to non-medical prescription drug use currently have symptoms consistent with diagnosis of abuse or dependence. For the reference group, the percentages are 3.5% and 4.2% for marijuana and prescription drug misuse respectively.

Conclusion

In the current study of immigrant Arab Americans, there was lower marijuana and non-medical prescription drug use both over their lifetimes and during time periods (past year or past month) than the reference group of U.S. born White non-Hispanic Americans. Although the lifetime prevalence for immigrants may include time residing in countries with low prevalence of drug use, presumably recent use would capture use in environments with higher drug use [22]. Consistent with our hypothesis that cultural factors influence drug use, the drug use pattern among immigrant Arab Americans was lower than that of immigrant Canadian Americans but not lower than that of immigrant Other Middle Eastern Americans. The differences detected both with the reference group and immigrant Canadian Americans were not due to distribution of measured risk and protective factors. These findings support

Table 4: Current prevalence of abuse or dependence by drugs and by demographic groups

	Immigrant Arab Americans	Immigrant Other Middle Eastern Americans	Immigrant Canadian Immigrants	U.S.-born White Non-Hispanic Americans
Marijuana	1.5%	0.8%	0.6%	1.6%
Prescription drug	0.6%	0.1%	0.2%	1.0%

the hypothesis that it is the presence of protective cultural factors as opposed to "healthy immigrant" effect explains the lower drug use pattern among immigrant Arab Americans. One implication of this finding is that tailored drug prevention efforts should leverage protective cultural factors among Arab Americans.

A different picture emerges for abuse/dependence of both marijuana and prescription drugs. For these drugs, there was no difference between any of the estimates for immigrant Arab Americans and those of the comparison groups. The lack of difference detected is most likely due to small sample sizes with abuse/dependence for individual drugs being a rare event. The existence of a real difference that our sample could not detect would be consistent with the finding that U.S. born Latinos and Asian Americans have higher prevalence of substance abuse/dependence than immigrants [9,32] Nonetheless, the findings suggest that tailored treatment efforts should be prepared for addressing marijuana and prescription drug abuse/dependence among Arab Americans.

We focused on two specific drugs as opposed to all illegal substances to provide drug-specific information for prevention and treatment efforts. In community-based surveys, other illegal drugs are rarely reported and examination of other specific drugs would aggravate the small sample problem. From analysis of treatment admissions, we found similar profiles for drugs of abuse among Arab Americans and other urban ethnicities [24] but increased likelihood of polysubstance abuse among Arab Americans who were born in the U.S./reside here longer and speak English [25]. However, Arab Americans seeking substance abuse treatment reported greater criminal justice involvement than White Americans, consistent with national data on other immigrant minorities [26].One limitation is that the surveys were conducted in English and Spanish. The exclusion of individuals who are not proficient in English may bias the estimates [27].The sample also only includes immigrants and thus excludes later generations of Arab Americans further limiting generalizability. All information was based upon self-report and the tendency to deny/exaggerate drug use may differ across demographic groups [28]. The NSDUH takes great care to encourage accurate reporting but there still may remain barriers. The number of immigrants in the sample was small but we combined years to provide greater stability. The inability to conduct multivariate analyses, especially by length of time in the U.S., limits the conclusions. However, this is the only data source of which we know that can provide these drug patterns. Knowledge from this national database can assist in planning more in-depth regional data collection to supplement these findings.

In conclusion, immigrant Arab Americans use marijuana, but they have lower lifetime and recent use of marijuana than the reference group. Similarly, immigrant Arab Americans reported non-medical use of prescription drugs but less so than the reference group. These patterns appeared to be due to cultural factors as opposed to risk factor distribution or immigration-related factors. In contrast, the prevalence of current abuse/dependence for either marijuana or prescription drugs did not differ between immigrant Arab Americans and the reference group. Use of these data should help tailored prevention and treatment efforts reduce the burden of drug abuse to Arab Americans and society.

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References:

1- Horgan C. The Robert Wood Johnson Foundation. Substance abuse: the nation's number one health problem: key indicators for policy update: The Robert Wood Johnson Foundation; 2001.

2- Substance Abuse and Mental Health Services Administration. National Survey on Drug Use and Health (NSDUH). Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings. Available at http://oas.samhsa.gov/NSDUH/2k10NSDUH /2k10Results.htm Accessed April 17, 2012

3- Catalano RF, Hawkins JD, Krenz C, Gillmore M, Morrison D, Wells E, et al. (1993). Using research to guide culturally appropriate drug abuse prevention. Journal of Consulting and Clinical Psychology. 1993; 61(5): 804-811.

4- Santisteban DA, Coatsworth JD, Perez-Vidal A, Kurtines WM, Schwartz SJ, LaPerriere A, et al. Efficacy of brief strategic family therapy in modifying Hispanic adolescent behavior problems and substance use. Journal of Family Psychology. 2003; 17(1): 121-133.

5- U.S. Census. Available at http://factfinder2.census.gov/faces/nav/jsf/ pages/index.xhtml . Retrieved April 17, 2012.

6- Brown JM, Council CL, Penne MA, Gfroerer JC. Immigrants and Substance Use: Findings from the 1999–2001 National Surveys on Drug Use and Health. No :(SMA) 04-3909. 2005.

7- Alegria M, Doryliz V, Meghan W, Glorisa C, David T, Mildred, V, et al. (2004). Cultural relevance and equivalence in the NLAAS instrument: integrating etic and emic in the development of cross-cultural measures for a psychiatric epidemiology and services study of Latinos. International Journal of Methods in Psychiatric Research. 2004; 13(4): 270-288.
8- Alegria M, Canino G, Shrout P, Woo M, Duan N, Vila D, et al. Prevalence of mental illness in immigrant and non-immigrant US Latino groups. American Journal of Psychiatry. 2008; 165(3): 359-369.
9- Takeuchi D, Zane N, Hong S, Chae D, Gong F, Gee G, et al. Immigration-related factors and mental disorders among Asian Americans. American Journal of Public Health. 2007; 97(1): 84-90.
10- Molnar BE, Buka SL, Kessler RC. Child sexual abuse and subsequent psychopathology: Results from the National Comorbidity Survey. American Journal of Public Health. 2001; 91(5): 753-760.
11- Rounsaville BJ, Weissman MM, Wilber CH, Kleber, HD. (1982). Pathways to opiate addiction: an evaluation of differing antecedents. The British Journal of Psychiatry. 1982; 141: 437-446.
12- American Community Survey, U.S. Census. Available at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml (3 year average). Retrieved April 17, 2012.
13- de la Cruz GP, Brittingham A. The Arab Population: 2000 Census Brief. Retrieved from http://www.census.gov/prod/2003pubs/c2kbr-23.pdf.
14- Hakim-Larson J, Kamoo R, Nassar-McMillan S C, Porcerelli JH. Counseling Arab and Chaldean American Families. Journal of Mental Health Counseling. 2007; 29(4): 301-321.
15- United Nations Office on Drugs and Crime. World Drug Report 2011. New York: United Nations.
16- Arfken CL, Arnetz BB, Fakhouri M, Ventimiglia MJ, Jamil H. Alcohol Use Among Arab Americans: What is the Prevalence? Journal of Immigrant and Minority Health. 2011; 13 713-718.
17- Welsh EA, Brodsky AE. (2010). After every darkness is light: Resilient Afghan women coping with violence and immigration. Asian American Journal of Psychology. 2010; 1(3): 163.
18- Botvin GJ, Baker E, Dusenbury L, Botvin EM, Diaz T. Long-term follow-up results of a randomized drug abuse prevention trial in a white middle-class population. Journal of the American Medical Association. 1995; 273(14): 1106-1112.
19- Inciardi JA, Surratt HL, Kurtz SP, Cicero TJ. Mechanisms of prescription drug diversion among drug-involved club-and street-based populations. Pain Medicine. 2007; 8(2): 171-183.
20- McRae AL, Budney AJ, Brady KT. Treatment of marijuana dependence: a review of the literature. Journal of Substance Abuse Treatment. 2003; 24(4): 369-376.
21- Woody GE, Poole SA, Subramaniam G, Dugosh K, Bogenschutz M, Abbott P, et al. Extended vs. short-term buprenorphine-naloxone for treatment of opioid-addicted youth. Journal of the American Medical Association. 2008; 300(17): 2003-2011.
22- Arfken CL, Anthony YE. Drug Abuse in Detroit, Wayne County, and Michigan: Volume II: Proceeding of the Community Epidemiology Work Group on Drug Abuse, June 2008. Rockville MD: National Institute on Drug Abuse, 2009: 116-121.
23- Abe-Kim J, Takeuchi D, Hong S, Zane N, Sue S, Spencer M, et al. Use of mental health-related services among immigrant and US-born Asian Americans: results from the National Latino and Asian American Study. American Journal of Public Health. 2007; 97(1): 91-98.
24- Arfken CL, Kubiak, Farrag MF. Arab Americans in publicly financed alcohol/other drug abuse treatment. Alcoholism Treatment Quarterly. 2008; 26(3): 229-240.
25- 25. Arfken CL, Kubiak SP, Farrag MF. Acculturation and Polysubstance Abuse in Arab-American Treatment Clients. Transcultural Psychiatry. 2009; 46(4): 608-622.
26- Arfken CL, Said M, Owens D. Racial and ethnic differences in reported criminal justice referral at treatment admission. Journal of Psychoactive Drugs. In press.
27- Amaro H, Whitaker R, Coffman G, Heeren T. Acculturation and marijuana and cocaine use: findings from HHANES, 1982-84. American Journal of Public Health. 1990; 80: 54-60.
28- Wild TC, Newton-Taylor B. Alletto R. Perceived coercion among clients entering substance abuse treatment: Structural and psychological determinants. Addictive Behaviors. 1998; 23(1): 81-95.