

Ten years of substance use research in Muslim populations: Where do we go from here?

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Abstract

Alcohol and drug abuse is a serious global public health and medical problem affecting every demographic group. It is also highly stigmatizing, especially among Muslim populations, which limits self-report and research. This brief review will broadly summarize global alcohol and drug abuse research on the magnitude of the problem. It will then examine recent research published in English on alcohol and drug use and abuse among Muslim populations. The studies included are those limited to research on prevalence, risk factors, treatment, and prevention. Finally, the paper will conclude with recommendations for future research on alcohol and drug use and abuse among Muslim populations.

Keywords: substance abuse, Muslim

Definition and extent of problem globally

To begin, terms and extent of the problem must be defined. “Substance abuse” in research frequently refers to the misuse or excessive use of alcohol or “drugs” (i.e., diverted medications, new psychoactive substances, or illegal drugs) to the point of causing personal or social problems. As such, it implies problematic use but does not necessarily indicate a clinical diagnosis. In this review, will

use the term “substance abuse” to refer to problematic use as well as the use of illegal or forbidden substances, including alcohol for Muslims.

The extent of the global problem is summarized by the World Health Organization report on alcohol (2014) and the United Nations Office on Drugs and Crime annual report on drugs (2015). The WHO in 2014 reported that globally almost half of men and two thirds of women did not drink in the past year. The overall consumption per capita for people aged 15 years or older was 6.13 liters of pure alcohol, of which 28.6% was “unrecorded” (i.e., homemade alcohol, smuggled alcohol, alcohol intended for industrial or medical uses, and alcohol obtained through cross-border shopping). The UNODC (2015) reported that globally approximately 246 million people used a drug in 2013; 27 million people were problem drug users; and 13 million people injected drugs. The report called attention to drug use being stable globally but warned of the potential for future increases in opium and heroin use due to an increase in the opium supply.

General trends in the substance abuse literature

During the past 10 years, research addressing substance abuse has been broad in scope, ranging from basic science of molecular mechanisms (e.g., Nestler, 2014), to vaccines for prevention in high-risk groups (e.g., Kinsey et al., 2014), medication development (e.g., Brensilver et al., 2013; Lee et al., 2012; Levin et al., 2015), psychotherapy (e.g., Grow et al., 2015), innovative ways to deliver treatment (e.g., Carroll, 2014; Gryczynski et al., 2015), and integration of substance abuse treatment with the general medical system (e.g., Ducharme et al., 2015). In addition to these traditional research fields, policy research has investigated community approaches to drug overdoses (e.g., Albert et al., 2011).

All of these broad research agenda have taken place during changes in the legal status of marijuana in the U.S., and global emergence of new drugs of abuse sometimes termed novel psychoactive substances. In addition to these substances, the last 10 years have seen the reemergence of heroin crises globally and growth in opioid prescription medication abuse. The current heroin/opioid epidemic in the U.S. disproportionately affects European Americans, especially those living in smaller cities and towns (Quinones, 2015). This is in contrast to earlier heroin epidemics which disproportionately affected African Americans in urban areas (Musto, 2002). As some observers note, this change may explain the different policies being advocated in the U.S. currently (Davidson, 2016). Prior policies focused on incarceration and reducing the supply of drugs. Current policies being discussed in the U.S. include: expansion of medication-assisted treatment, prescription drug monitoring systems, guidelines for physician prescribing, reformulations of medications to lower abuse

potential, rescheduling medications to more accurately reflect their abuse potential, and risk evaluation and mitigation strategies for medications with abuse potential. These policies are being actively researched for their challenges and effectiveness.

Changes during the past 10 years have renewed attention on potential policy implications of substance abuse research. At the population level, it has meant greater consideration of possible policies, including harm reductions. Research on harm reduction obviously existed previously; its acceptance has expanded.

General trends in the substance abuse literature among Muslim populations

Seven years ago, the *Journal of Muslim Mental Health* published a special issue on alcohol and drug abuse among Arabs and Muslims in which the editor called attention to the scarce research in this area (Amer, 2009). Others have also called attention to this scarcity and pointed out that much of the existing research has relied on clinical samples (AlMarri & Oei, 2009). The special issue contributed to the field by including original research on both clinical and community-based samples. From clinical samples, there was a report on both male and female hospitalized patients (Hasan et al., 2009), a report exploring pathways to outpatient treatment among Arab Americans (Arfken, Berry, & Owens, 2009), and a case report detailing cultural-specific treatment in Abu Dhabi (Tahboub-Schulte, Ali, & Khafaji, 2009). From community-based samples, Mohamad (2009) documented the association between negative coping strategies and self-reported use of alcohol and drugs among community-dwelling Egyptian male workers, and Michalak and colleagues (2009) explored advice on alcohol disseminated over the Internet. Collectively, these studies demonstrated the burden of substance abuse on Muslim communities as well as barriers to services. Since that time, more research on substance abuse among Muslim populations has been published including information on prevalence and risk factors. This review will examine some of that research as well as nascent research on treatment and policies.

Extent of problem among Muslim population

Countries with Muslim majorities have the lowest (<2.5 pure alcohol liters) or near lowest (2.50 - 4.99 liters) consumption per capita in the world. However, they have a higher proportion of alcohol consumed being unrecorded (alcohol outside the official regulatory system; WHO, 2015). Although alcohol

consumption has been reported to be stable in most Muslim-majority countries, in a few countries (such as Turkey) it appeared to be increasing (WHO, 2015). This global overview confirms that alcohol use is low in locations where Muslims form the majority, but it cannot say if Muslims are the ones who drink or address risk factors of alcohol use in countries with Muslim majorities. Likewise, the global overview does not address prevalence or risk factors of alcohol use among Muslims living elsewhere. The overview also raises the intriguing question of who drinks the unrecorded alcohol and why.

On drug use (UNODC, 2015), the global supply of opium is currently produced and trafficked through an extensive network of countries that span southeast and central Asia, especially Afghanistan, Iran, and Pakistan. The result is that these countries have a high prevalence of opiate use and injection drug use with increasing prevalence of HIV infection (UNODC, 2015). According to the UNODC, other drugs produced or used in countries with Muslim majorities are marijuana and its resin, amphetamine-type stimulants, and novel psychoactive substance (along with the recent spread of cocaine to high-income countries). Another drug, khat, was seized by law enforcement in 51 countries, suggesting wider dissemination. This global overview highlights the importance of researching drug abuse among countries with Muslim majorities, and the need to address prevention and treatment. Similar to the overview of alcohol use, it does not address drug use among Muslims elsewhere in the world.

Prevalence and risk factors of substance abuse among Muslim populations

Prevalence and risk factors for substance abuse are determined by surveying a defined sample, such as a country, using rigorous sampling and collecting information on substance use, potential risk factors, and religious affiliation. This approach is based on the assumption that people will participate and report alcohol and drug use truthfully. However, this assumption may not be valid with stigmatized behaviors. In the past 10 years, surveys have been reported from two Muslim majority countries (Burazeri & Kark, 2011; Karam et al., 2006). In Tirana, Albania, there was no difference in alcohol use by religious affiliation among men or women, but religious observance was associated with less drinking (Burazeri & Kark, 2011). In a national survey of Lebanon, Karam and colleagues (2006) reported very low prevalence of self-reported abuse consistent with clinical diagnosis. Unfortunately, information on substance use or religious affiliation were either not collected or not analyzed in this survey.

Another strategy for measuring substance abuse prevalence and risk factors is to survey smaller defined groups who may be more likely to report use. Ghandour and colleagues (2009) analyzed surveys at two universities

in Lebanon and found 44% of Muslim students reported alcohol use. Alcohol abstinence was higher among those reporting that they believed in God and practiced their faith regularly. They found alcohol use was not related to the number of other Muslims enrolled at the university. Studies of European school children also report that children of immigrants from Muslim majority countries are less likely to drink (Amundsen, Rossow, & Skurtveit, 2005; Bradby & Williams, 2006; Pedersen & Kolstad, 2000; van Tubergen & Poortman, 2010) and that their low levels of drinking influenced drinking overall at the schools (Amundsen et al., 2005; van Tubergen & Poortman, 2010). It is possible that university students' drinking behavior may be more influenced by beliefs and actions of their family and friends rather than that of other students. Supporting this argument, Gebrehanna and colleagues (2014) found khat use higher among Ethiopian university students who had khat-chewing family and friends. Unfortunately, they did not report religious affiliation (Muslims make up approximately one third of the general population of Ethiopia). This emphasis on social environment can also be analyzed as social networks (Christakis & Fowler, 2008).

Other prevalence studies have examined smaller defined populations, for example within urban Indian slums (Kim, Rifkin, John, & Jacob, 2013) or five neighborhoods in Burkina Faso (Rossier, Soura, Duthe, & Findely, 2014). Although not a focus, both studies did examine religious affiliation and found Muslims were less likely to report alcohol use than other religious affiliated groups. In one city in the Netherlands, immigrants from Turkey and Morocco (both predominately Muslim countries) reported low level of lifetime alcohol use (Dotinga et al., 2006).

Limited research has been conducted on prevalence and risk factors on substance use among Muslims living where they are a small minority and less likely to be included in cross-section studies. In the U.S., alcohol use in the past year was reported by 46.6% of American Muslim college students (Abu-Ras, Ahmed, & Arfken, 2010) but was lower among students with higher religiosity (Abu-Ras, Ahmed, & Arfken, 2010; Arfken, Ahmed, & Abu-Ras, 2013). Other protective factors included parental disapproval (Abu-Ras, et al., 2010), living in a community with more Muslims, and having few people who drink in their social network (Arfken et al., 2013).

Other studies have also suggested acculturation and religiosity are associated with alcohol use. Acculturation was identified as a risk factor for alcohol use among immigrants and their children from countries with Muslim majorities in European studies (Sarasa-Renedo et al., 2005; Delforterie, Creemers, & Huizink, 2014). From a German report on Afghani immigrants who scored high on a screening tool for problem drinking, it appeared that the immigrants did not consider themselves "very religious" (Haasen et al., 2008).

Less work has been reported on illicit drug use, but Ahmed and colleagues

(2014) found no gender difference in drug use among American Muslim university students. Importantly, they did not find a difference in drug use prevalence between Muslims and non-Muslim students. In contrast, a study of school children in East London found lower levels of cannabis use and higher use of inhalants among children of Pakistani and Bangladeshi parents (Jayakody et al., 2006).

Due to stigma surrounding substance use among Muslims, qualitative studies may be needed to suggest risk factors. In a qualitative study of drinking patterns among Arab American emerging adults, Arfken and colleagues (2012) found Muslim participants viewed episodic excessive drinking normative for their age group. However, they also believed that drinking should stop when people were married and had children. Although the young Arab Americans viewed heavy drinking as normative, they believed their families would be shamed if the behavior was known. To hide this behavior from their families, they said their friends who had cars would drive far away from their neighborhoods to drink. For those friends who did not have cars, they would drink in secluded areas so family and neighbors would not see their behavior. Also using a qualitative approach, Baron-Epel and colleagues (2015) found a similar pattern – heavy drinking in secluded place – among young Muslim men in Israel. Likewise, focus groups among Somali Canadians reported that Somali who drink try to hide it from others in the community (Agić, Mann, & Kobus-Matthews, 2011).

Substance abuse treatment among Muslim populations: Characteristics of patients, barriers to treatment, and treatment process

Providers need to know the characteristics of patients seeking substance abuse treatment. For example, polysubstance abuse is more difficult to treat effectively than abuse of a single substance. AbuMadini and colleagues (2008) showed that patients currently admitted for substance abuse to one hospital in Saudi Arabia were more likely to have polysubstance abuse than those admitted 20 years ago. Polysubstance abuse was also associated with greater acculturation in a clinical sample of Arab Americans (Arfken, Kubiak, & Farrag, 2009). Other challenges include riskier behaviors; among patients admitted to treatment in Iran, riskier behaviors were associated with younger age and greater financial resources (Keshtkar et al., 2012).

Providers also need to know the barriers to seeking treatment. Despite drug use by Muslims in Malaysia, Khampang and colleagues (2015) reported that Muslims and younger adults were not engaged in treatment, perhaps due to stigma or denial that a problem existed. In the Netherlands, heroin users of

Turkish or Moroccan descent were less likely to enter methadone programs, and those that did, stayed for fewer days than other Dutch heroin users (Verdurmen et al., 2004). According to some counselors, American Muslim substance abuse patients, especially women, may seek care where they will not be seen by others in the community. For socioeconomically privileged individuals, it means private counseling or care in remote residential facilities. For those disadvantaged, it means preferring treatment at publicly funded facilities away from their neighborhoods.

It is also important to examine the treatment process itself. In Malaysia, Rashid and colleagues (2014) reported that a mosque implemented methadone maintenance treatment with peer and religious counseling. The male-only program reported high retention but the evaluation was preliminary. In *Counseling Muslims*, Ali-Northcott (2012) reviewed Islamic concepts and rituals as well as cultural considerations for different treatment settings. She presented a case study of a patient in the U. K. and a discussion of Millati Islami, a 12-step program designed explicitly for Muslims. In *Handbook of Arab American Psychology*, Arfken and Grekin (2015) presented a case-report of an Arab American Muslim patient as well as a description of a 12-step program tailored for Muslims. Instead of changing the steps, as was done in Millati Islami, the local program had a Muslim facilitator in recovery serve as a model and help guide the participants toward healing. However, both of these latter programs lacked independent evaluation. Unfortunately, we could not find publications on tailored psychotherapy, in person or online, for substance abuse among Muslims. There are reports on tailored interventions for mental health issues (e.g., Priester & Jana-Masri, 2009)

Substance abuse prevention among Muslim populations

Globally, youth-based programs are critical to prevent substance use and abuse. Recent publications describe prevention programs in Iran (Momtazi & Rawson, 2010) and in a U.S. school with a majority Muslim student enrollment (Hammad, Arfken, Rice, & Said, 2014). The Iranian program emphasized drug education and coping skills. The U.S. program emphasized family cohesion and communication about alcohol and drugs. Highlighting communication is important as some Muslim parents may feel uncomfortable talking to their children about the subject (Arfken, Owens, & Said, 2012). Unfortunately, neither of these programs included outcomes or challenges they faced in implementation. Clearly, the evaluation reports of these programs are needed as well as the success/failure of other prevention programs, including those part of larger efforts to address other risky behaviors (Ahmed, Abu-Ras, & Arfken, 2014).

Substance abuse policy research among Muslim populations

National substance abuse policy impacts the funding of prevention and treatment system; it also impacts the type of treatment that is available. Substance abuse policy research is just beginning but holds great promise as countries change their policies. Talpur and George (2014) described the current drug policy and need for expanded treatment options in the Golden Crescent (i.e., Afghanistan, Pakistan, and Iran). Alam-Mehrjerdi and colleagues (2015) expanded on this theme and highlighted the revised drug treatment system and introduction of harm reduction strategy in Iran, which includes medication-assisted treatment and women-specific centers. As reviewed by Kamarulzaman and Saifuddeen (2010), expanded treatment options and harm reduction strategies (such as medication-assisted treatment) in Malaysia were prompted by policymakers confronting the growing public health crisis. The public officials based the revised treatment options and strategies upon Islamic principles of preservation and protection of dignity, and steering away from harm and destruction (Kamarulzaman & Saifuddeen, 2010). The policy research published to date has examined the process of change; it has not yet reported on the effectiveness of it.

Recommendations for future research

From the above commentary, it is clear that much research has been accomplished, yet much more work remains. Prevalence of alcohol and drug use/abuse among Muslims is extremely difficult to determine as it relies upon self-reporting a stigmatized behavior. People may deny substance use to avoid embarrassing their families or communities, especially when they are a minority. Asking about others' use (Abou-Saleh, Ghubash, & Daradkeh, 2001; Arfken, Owens, & Said, 2012) or adding negative expectancies scale (Arfken et al., 2013) can help determine the extent of underreporting, but the difficulty remains. Finding a way to determine prevalence without relying on self-report would also help to advance the field.

Research on the success/failure of tailored treatment approaches and ideally randomized clinical trials of promising approaches are also needed. Additionally, research on online substance abuse outreach strategies and therapies are suggested, as they minimize stigma and fear of being seen by other Muslims. The need for and research on online therapies may be especially important for women who might feel reluctant to seek treatment at male-dominated treatment facilities. Outreach efforts through electronic screening with vignettes

tailored to Muslims with linked online treatment have potential, but we are unaware of research in this area.

Regardless of treatment approaches, Muslim and non-Muslim clinicians should be trained to screen effectively for substance use and abuse among Muslims and give brief feedback. Other respected and prominent adults in the Muslim community, such as religious leaders and teachers, should also be educated about substance abuse and given information on local resources. These trainings must be evaluated, given that ineffectual training may inadvertently increase stigma and create additional barriers to entering treatment.

For prevention, evaluation of existing prevention programs implemented among Muslim population to determine the active ingredients and areas to be tailored are necessary. Development of novel tailored programs (such as online programs involving the families) are another area of needed research.

Great strides have been made in substance abuse research among Muslim populations in the past decade. However, there are still gaps. Addressing these gaps will reduce the public health and medical burden of substance abuse among Muslim populations.

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