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A cross-sectional assessment of utilization of addiction treatment among injection drug users in Kabul, Afghanistan

Catherine S. Todd¹, Abdullah M.S. Abed², Paul T. Scott³, Naqibullah Safi², Kenneth C. Earhart⁴, Steffanie A. Strathdee¹

¹.Division of International Health & Cross-Cultural Medicine, Department of Family & Preventive Medicine, University of California, San Diego, 9500 Gilman Drive, 0622, La Jolla, CA, USA, 92093-0622

².National HIV/AIDS Control Program, Ministry of Public Health, Massoud Road, Kabul, Afghanistan

³.United States Military HIV Research Program /Division of Retrovirology, Walter Reed Army Institute of Research, 1 Taft Court, Suite 250, Rockville, MD, USA, 20850

⁴.Virology Research Program, United States Naval Medical Research Unit 3, Ramses Extension Street near Abbasia Fever Hospital, Cairo, Egypt

Abstract

The purpose of this study was to describe prior use of detoxification and addiction treatment programs among injection drug users (IDUs) in Kabul, Afghanistan. From 2005–2006, IDUs (n=464) recruited into this cross-sectional study completed an interviewer-administered questionnaire and whole blood rapid testing with fingerstick samples for HIV, syphilis, and hepatitis C antibody and B surface antigen testing. Participants were predominantly male (99.8%), Afghan (98.9%), and had little formal education. Correlates of detoxification and addiction treatment were identified with logistic regression. The majority (94.0%, n=435) felt great/ urgent need for treatment, of whom, 56.3% (n=245) reported inability to access treatment. Prior detoxification was associated with new needle use with each injection (AOR=1.91, 95% CI: 1.12 – 3.26) and prior incarceration (AOR=1.81, 95% CI: 1.04 – 3.13). The study's limitations are noted. Rapid scale-up and subsidy of needle and syringe programs and opioid agonist treatment is urgently needed in Kabul.

Keywords

Afghanistan; detoxification; injecting drug user; addiction treatment; needle exchange program

Background

Opium has been used both recreationally and medicinally in Afghanistan for centuries (Chouvy, 2002). In recent years, opiate use, and injection drug use in particular, has increased (UNODC, 2005). A recent nationwide study indicates that drug use is increasing in most areas of Afghanistan, with approximately 920,000 active drug users (3.8% of the population) estimated to reside within the country (UNODC, 2005). This number is

expected to increase further as refugees from surrounding countries, where many first started using illicit substances, repatriate in the near future (UNODC, 2005). Reasons postulated for the increasing numbers of users are large-scale opium production creating a ready drug supply within the country, poor socioeconomic opportunities, and repatriation of individuals influenced by residence in countries with higher prevalence of drug use (Hankins, 2002; Strathdee, 2006). Availability of opium and heroin may expand as production increases. Current projections indicate that Afghanistan provided 92% of the global opium supply in 2006; 10% of the total production is estimated to be consumed within the country (UNODC, 2005; UNODC, 2006).

In an environment of increasing drug use and high risk drug and sexual practices among drug users, effective harm reduction and addiction treatment programs need to be widely available to prevent or stabilize epidemics of blood-borne infection (WHO/UNAIDS/UNODC, 2006). For the purpose of this paper, needle and syringe programs (NSPs) were considered to be any program distributing, exchanging, and collecting injection equipment at no cost to the client and from any site, whether fixed or field-based for the purposes of this paper. Utilization of NSPs and addiction treatment, particularly opioid substitution therapy, has been associated with decreasing HIV seroprevalence and incidence and injecting behaviors among injection drug users (IDUs) in international settings (Wodak, 2006; Bastos, 2000; Kerr, 2004). Drug treatment, particularly opioid substitution therapy, has been consistently associated with decreases in HIV risk behaviors and overdose-related morbidity and mortality (Kerr, 2004; Caplehorn, 1996; Metzger, 1993). Among HIV-infected IDU, methadone and buprenorphine maintenance has been associated with increased uptake of antiretroviral therapy (Antela, 1997; Moatti, 2000). In light of these data, methadone and buprenorphine have been added to the World Health Organization's essential drug list (WHO, 2006).

Addiction treatment and detoxification programs have been present in Afghanistan for several decades, though methods are currently limited to acute treatment of withdrawal symptoms for detoxification, which may or may not be combined with inpatient or outpatient counseling (UNODC, 2005; Todd, 2005). Methadone and buprenorphine have not been approved for medical use within Afghanistan to date. The approval process lies with the Ministry of Public Health and this approval is necessary prior to importation or use of any medication by the government or affiliated medical services. In the 2005 nationwide drug use survey, no more than 100 inpatient beds for either drug treatment or detoxification programs were identified, suggesting that coverage of these programs to drug users potentially in need of treatment was only 0.25% (UNODC, 2005).

At the time of the study, Kabul, the capital of Afghanistan, had one fixed site NSP and three public drug treatment programs functioning. Kabul has been the site of prior surveys that estimated number of drug users, types of drugs used, and drug treatment program utilization (UNODC, 2005; UNODC, 2003) (Figure 1). Treatment modalities in Kabul, where the largest number of treatment programs exist, are largely abstinence-based counseling programs and treatment of acute withdrawal symptoms with benzodiazepines or other psychotropic medications. Inpatient treatment is possible but waiting lists often exceed six months due to the small number of available beds.

The purpose of this paper is to assess prevalence and correlates of prior utilization of detoxification, and addiction treatment programs among IDUs in Kabul. These data are meant to provide the perspectives of drug users that may be used to tailor services of harm reduction and addiction treatment programs in this setting to the needs of intended clientele.

Methods

Setting

Kabul, the capital of Afghanistan, has experienced rapid population growth in the last five years, with an estimated 2.5 million current residents (CSO, 2007). This sudden influx is due to returned refugees from neighboring countries and internally-displaced people fleeing either instability or drought (North, 2005; IRIN, 2002). In Afghanistan, the unemployment rate is currently estimated at 40% with 53% of the population living below the poverty line; these conditions are certainly true of and potentially exacerbated in Kabul due to crowding (CIA, 2005). It is estimated that the greatest density of heroin users are in Kabul, estimated at 16,500 users (UNODC, 2005).

Study Design and Participants

We conducted a cross-sectional study of IDUs in Kabul, Afghanistan, between June, 2005 and June, 2006 through the Voluntary Counseling and Testing (VCT) Center at the Central Polyclinic, an Afghan Ministry of Public Health facility. Eligible participants were those reporting injecting drugs within the past six months (confirmed through injection stigmata), aged 18 years or greater, and able to provide informed consent. Participants were recruited by outreach workers from harm reduction programs or were referred by prior participants. Prior to enrollment, the research study was approved by both domestic and international investigational review boards.

Procedures

Potential participants were identified by outreach workers and others knowledgeable about the drug user community in Kabul. The outreach workers were either current or former employees of harm reduction programs or pharmacists or others acquainted with and trusted by social networks of drug users. Outreach workers, seven of eight of whom were male, approached IDU of their acquaintance in areas of the city where drug users are known to congregate. Outreach workers asked potential participants if they were interested in participating in a study that provided medical testing for hepatitis and HIV. The number of IDU declining to accompany the outreach worker was not measured. IDU interested in study participation accompanied an outreach worker to the VCT Center, the site of enrollment. At the center, a trained study representative explained the study in a confidential setting and obtained informed consent. Each participant was assigned a unique study number. Participants were interviewed by a trained study representative of the same gender for completion of the questionnaire. Two participants elected to discontinue study activities and their information and consents were destroyed and not considered in analysis. Participants received a small gift of hygiene items (e.g. soap, toothbrush) of approximately U.S.\$4 value; this gift was not advertised during recruitment or the consent process to avoid coercion.

Provision of free counseling and testing was available to all drug users who visited the VCT Center with an outreach worker, regardless of study entry.

Pre- and post-test counseling and rapid whole blood testing for HIV, syphilis, hepatitis C antibody, and hepatitis B surface antigen was subsequently performed with preliminary positive tests. Confirmatory testing with Western Blot (HIV BLOT 2.2®, GeneLabs Diagnostics, Singapore) for HIV, T. pallidum plasma agglutination (TPPA, Fujirebio Diagnostics, Malvern, PA, USA), a second, serum-based rapid test (Standard Diagnostics HBV, Standard Diagnostics Laboratories, Korea) for hepatitis B, and RIBA (RIBA 3.0 SIA®, Chiron Corporation, Emeryville, CA, USA) for HCV was performed at the VCT Center in Kabul.. All participants received risk reduction counseling, condoms and sterile syringes, with referrals for treatment, voluntary detoxification programs, and NSPs upon request.

Measurement of variables and outcomes of interest

The questionnaire was pilot-tested for accuracy of translation and relevance of content with five IDU in Kabul and reviewed by all investigators to finalize content. The questionnaire included questions pertaining to sociodemographics, travel, incarceration, and medical histories, and drug use and sexual behaviors. Usual sources of injecting equipment were assessed. Multiple choices for prior treatment programming were provided, which encompassed both detoxification and treatment. Prior detoxification was divided into voluntary or non-voluntary (“lock-up”) programs, either with or without medication for withdrawal symptoms. Treatment choices included inpatient or outpatient programs with or without treatment of withdrawal symptoms. Programs incorporating group activities and counseling on either inpatient or outpatient basis were also included.

Detoxification was analyzed separately from treatment. Prior detoxification and treatment of addiction were determined through affirmative responses to the question, “Have you ever received treatment for a drug problem?”. Treatment was distinguished from detoxification by a multiple choice question assessing type of prior program, with the possible answers being lock-up (forced detoxification), detoxification without medication (“cold turkey”), detoxification with medication, residential treatment program, outpatient center at hospital (treatment), substitution therapy as inpatient or outpatient (methadone, buprenorphine, or other opiate), or other type of treatment with the answer specified. Multiple answers were allowed from those who reported more than one prior episode of treatment of detoxification, with utilization based on the total reported number of episodes. Responses for frequency and duration of prior addiction treatment were similarly measured in months and days, respectively. Participants were also queried about perceived need for and barriers to addiction treatment.

Statistical Analysis

The outcomes of interest for this analysis are prior utilization of addiction treatment and/or detoxification. Prevalence and correlates of prior addiction treatment and detoxification were assessed separately. Data analysis was performed six months after data collection and the manuscript written within two months of completing data analysis.

Continuous variables, such as age of initiating injection use, were dichotomized using the median age as the cut-off point. Correlates of prior treatment and detoxification were assessed with univariable logistic regression. Simultaneous multivariable logistic regression was performed to identify independent associations; inclusion of variables was determined using the likelihood ratio test considering all variables with $p \leq 0.10$ in univariable analysis. A p -value of 0.05 was required for inclusion in the final regression model.

Results

Of the 464 IDUs in this study, all but one was male and the majority (99%) were Afghan. The sole female participant was excluded from subsequent analysis. Most participants (88.1%) reported being currently employed, of whom the majority reported being day laborers (77.9%). One third reported no formal education and 22.0% had five years or less of formal education. Monthly earnings varied greatly, with approximately half of participants (49.3%) reporting earning 3000 Afghanis (1 U.S.\$=49 Afghanis). Half were married and only four participants reported being homeless.

Only one participant (0.2%) reported ever receiving syringes from an NSP; no participants mentioned NSP as their usual source for syringes during their lifetime or in the last six months. The majority (94.0%) felt great or urgent need for addiction therapy, of whom, 56.3% reported being unable to access treatment. The chief reasons for inability to receive treatment were perceived financial limitations and no available beds at the center (Table 1). The small number of subjects utilizing NSP precluded subsequent analysis investigating correlates of its use.

Only 14.9% of participants had ever undergone prior detoxification lasting a median of nine days. Prior detoxification was associated with using a new syringe with each injection ($OR=1.81$, 95% CI: 1.07–3.08) in univariable analysis. In multivariable analysis, prior detoxification was independently associated with using a new needle with each injection ($AOR=1.91$, 95% CI: 1.12 – 3.26) and with prior incarceration ($AOR=1.81$, 95% CI: 1.04 – 3.13).

Approximately one fourth (24.0%) of all participants reported prior treatment for addiction, with a median of ten months since the last treatment episode (Table 1). Outpatient programs were the most common addiction treatment reported and Kabul was the most frequent site for addiction treatment. In univariable analyses, prior addiction treatment was significantly associated with perceived difficulty attaining a new syringe ($OR=1.91$, 95% CI: 1.24 – 2.94). Other high risk injection and sexual behaviors were not significantly different between those who had prior treatment and those not reporting prior treatment. Multivariable analysis was not performed since no other variables met our criteria for consideration (i.e., $p < 0.10$).

Discussion

The public health infrastructure of Afghanistan is rebuilding after decades of conflict; treatment of drug addiction has not been a priority area within the nascent health care system. However, rising numbers of IDUs and emergence of HIV and other blood-borne infections within the IDU population indicate the need for increasing availability of and

services offered to drug users in Kabul (UNODC, 2005; UNAIDS, 2006). The most important findings of this study are the urgent need and unmet demand for treatment programs among this high risk population, consistent with the 2005 UNODC survey findings (UNODC, 2005). Although more than one-third of participants had previously undergone treatment or detoxification, most perceived great need for treatment and at least half felt they were unable to access treatment, lending further support for expansion of treatment programs.

In 2006, the Ministry of Counter Narcotics reported that approximately U.S.\$5 million has been invested in demand reduction programming in Afghanistan, including educational programs, NSP, and addiction treatment (personal communication, Dr. Mohammad Zafar). Of the public, no-cost treatment programs currently operating in Kabul, the oldest has been present for 21 years. The treatment philosophy has abstinence as the over-arching goal, with a measured progression towards abstinence in the program starting with motivational counseling sessions and reduction in daily drug dose to an inpatient detoxification program. The duration of the programs vary, with attendance in the outpatient group sessions ranging between one and three months, before detoxification (GTZ, 2006). Several of the treatment programs have been founded by local NGOs with experience with addiction treatment programs in Pakistan or international NGOs with experience in Europe. Data on overall program retention rates and outcomes in Afghanistan are not available, but one program reports a relapse rate of 35% within one year.(personal communication, Dr. S. Wali) Many of the current addiction treatment programs in Kabul are expanding their services to include NSPs and voluntary counseling and testing services on site, emulating successful harm reduction programming in culturally-similar settings like Iran (Vazirian, 2005; WHO, 2004a). The “triangular clinic” model of Iran unifies opioid substitution therapy, blood-borne infection counseling and testing for blood borne infections, needle, syringe and condom distribution, and antiretroviral treatment and support for those living with HIV/AIDS and their families (WHO, 2004a). This model has been found to be acceptable to both drug using clients and to the community in which the clinic is located, supported by qualitative testimony from service clients (WHO, 2004a). We speculate that this combination of treatment and harm reduction services, including opioid substitution therapy, may also be acceptable in Kabul; follow-up of current efforts is warranted to determine multiservice acceptability in this setting.

Another noteworthy finding of this study is the near absent utilization of NSP and lack of opioid agonist treatment or maintenance programs. Ample evidence supports the benefits of these programs, particularly for preventing an HIV epidemic, and the opportunity to do so in this setting will evaporate with delay (WHO/UNAIDS/UNODC, 2004b; Wodak, 2006; Bastos, 2000; Kerr, 2004). During the six month period between participant entry and the writing of this manuscript (six months), two additional NSPs with primary distribution and collection through outreach workers have opened in Kabul. However, opioid agonist treatment is currently unavailable; methadone and buprenorphine are not included on the list of medications approved for importation at this time. However, a pilot opioid substitution program is being considered. Opioid substitution therapy has been implemented in Central and South Asian countries and may be beneficial in Afghanistan (WHO/UNAIDS/UNODC, 2004b; Azim, 2005; Frantz, 2000).

Only perceived difficulty accessing a new syringe was associated with a prior treatment episode. During treatment episodes, IDU may be isolated from their usual syringe sources, being others in their social networks. This isolation may lead to perceived difficulty accessing syringes for those who resume injecting. No association between previous treatment and income level was detected, despite financial reasons being the most commonly reported barrier to treatment. This may be because the direct and indirect costs for services, particularly in the private sector, are so high that no one in this IDU population can afford them. Even free treatment contains indirect financial barriers, as those who are currently working must be absent from their jobs to attend motivational sessions and inpatient detoxification.

There were three no-cost treatment centers in Kabul operating at the time of the study, one more has since been added. However, before patients may be admitted for inpatient stay, several programs maintain the policy that the patient must attend a daily motivational program at the center for one to three months. This daily program requires daily transportation to and from the center and coverage of living and drug use expenses, which may present significant barriers to drug users living on the street or without family support. Even those IDU who were employed risk losing their job if they must attend a program daily. Private programs may cost as much as 10,000 Afghanis (approx U.S.\$205) for a fifteen day detoxification program, which is prohibitive for many drug users and their families in a country whose gross national income was estimated at \$250 in 2005 (UNICEF, 2007). Further study is needed to determine motivations for treatment in the Afghan setting.

Prior detoxification was associated with prior incarceration and use of a new needle with each injection. The association with incarceration may reflect involuntary detoxification in prison, resulting in misclassification. While drug users are to receive treatment for the first offense by Afghan law, relapse is punishable by imprisonment (Todd, 2005). Also, IDU imprisoned for non-drug related reasons may have experienced as involuntary “detoxification” while in prison. Involuntary detoxification programs exist in Afghanistan, where IDU are committed by their families, and IDU may not distinguish between these programs and imprisonment. It is important to note the potential perception of IDU that incarceration equated detoxification; addressing this perception is critical for any programming offering detoxification services in this setting.

Reported new needle use with each injection may reflect education received from either counselors or fellow IDUs during detoxification regarding low price and availability of syringes. Reported new needle use may also reflect behavior or socially-desirable response based on information regarding reducing blood-borne infection risk received during a detoxification program. This seems unlikely as those having prior detoxification were not less likely to report sharing syringes or using condoms. Detoxification has been found to be a marker for risky injecting practices, like receptive needle sharing, but in some cases has been associated with reductions in risky injecting behavior, as observed among IDU in Thailand (Choopanya, 2003; Peters, 1998; Liu, 2006). We did not observe either such relationship; however, there may have been insufficient power to detect a relationship due to the small number of participants reporting prior detoxification.

This study has important limitations that must be considered, which are self-reporting of behaviors, low sample sizes for some analyses, portrayal of treatment programming from only one perspective, and non-random convenience sampling. Both prior treatment and high risk behaviors were based on self-report; we asked for specific details of therapy (timing and location) to improve reporting accuracy. There were relatively fewer IDU who reported prior detoxification, which reduced statistical power to detect associations. Motivations for resuming injecting drug use were not examined; these issues likely impact relapse and should be investigated in subsequent studies. Additionally, interviewing just those active IDU who had previously had treatment may provide a biased view of treatment as we only have the perspective from those who have relapsed or have not been able to access treatment. Program implementers and other stakeholders were not interviewed, so little may be said about efficacy and acceptability of addiction treatment and harm reduction programming to the Kabul community, except information collected by other surveys (UNODC 2003, UNODC 2005). Last, respondent-driven sampling methods were not possible due to concerns of compromise of participant confidentiality, thus, these results may not be applicable to all IDU in Kabul.

Conclusions

It is clear that great demand for addiction therapy exists in Kabul, which is likely to increase should the trend of increasing drug use in modern Afghanistan continue (UNODC, 2005). Lack of funding for or social barriers to expansion or continuation of treatment centers, NSPs, and other harm reduction services has been identified in several settings as a direct contributor to high rates of morbidity and mortality among substance abusers (Platt, 2004; He, 2005). Further, harm reduction programming has been found to be cost-effective due to number of HIV infections averted in a variety of limited resource settings (Vickerman, 2006; Kumaranayake, 2004). It is imperative that funding for counter-narcotic activities be equitably distributed to improve the health of drug users and prevent potential epidemics of blood-borne infections in Afghanistan. This process will need to be politically driven, and is an expected outcome of nascent political advocacy projects for HIV and harm reduction now being initiated in Afghanistan.

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Figure 1.
City map of Kabul, Afghanistan.

*Available at http://en.wikipedia.org/wiki/Image:Kabul_City_Map.svg

Table 1.

Characteristics of prior addiction treatment among injection drug users in Kabul, Afghanistan.

Variable	N	%
Prior treatment/ detox program enrollment (n=458):		
None	292	63.8%
Types of prior program (193 total answers, multiple answers allowed):		
Hospital outpatient counseling program	88	45.6%
Detoxification with treatment of withdrawal symptoms	21	10.9%
Detoxification without treatment of withdrawal symptoms	16	8.3%
Imprisonment/ Lock-up	15	7.8%
Residential Program	13	4.4%
Opioid Substitution Therapy	2	1.0%
Other	5	2.6%
Payment for Prior Treatment or Detoxification (n=166):		
Yes	130	78.3%
Location of Treatment or Detoxification (n=155):		
Afghanistan:	87	
Iran:	49	
Pakistan:	18	
Number of Prior Treatment Courses (n=47):		
One	25	53.2%
Two	11	23.4%
Three or more	11	23.4%
Number of Prior Detoxification Courses (n=44):		
One	28	63.6%
Two	7	15.9%
Three or more	9	20.5%
	Median	IQR
Treatment Duration:	10 days	2 – 20 days
Detoxification Duration:	9 days	2 – 30 days
Time Elapsed Since Last Treatment:	7 mos	2 – 9 mos
Time Elapsed Since Last Detox:	9 mos	4 – 12 mos