Original Article

"South Asian Cocktail" – The Predominant Drug Use Pattern in Nepal and its Association with Spread of HIV

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Abstract:

Introduction: Central Bureau of Statistic of Nepal (2008) shows more than 46,000 illegal drug users, out of which 61% are injecting drug users (IDU). An injecting mixture of medicines called "South Asian Cocktail" is prevalent in Nepal. This study was carried out to find out the knowledge on drug use behaviour and health status with a focus on HIV in "cocktail" drug users.

Methods: A cross-sectional survey among opiate users in contact with the treatment system was performed. After an initial mapping of Kathmandu valley, 300 drug users, on a random basis, in contact of different treatment and counselling centres were interviewed. The research questionnaire was designed following Europ ASI and Maudsley Addiction Profile standards.

Results: Ninety one percent of the respondents were male and 9% female. 95% are injecting drug users with an average 8.7 years of drug use history. 86% are injecting different "cocktails" usually made of buprenorphine, diazepam, phenergan(promethazine) and/or other substances (30 day prevalence). Similarly, 48% use heroin whereas only 2% take cocaine/ crack. Amongst tested for HIV (N=223) 33% are positive (25% of sample population).

Conclusion: The "South Asian Cocktail" users have a higher risk behaviour than heroin drug users which is associated with the spread of HIV. It needs to be considered which HIV prevention measures are needed related to the specific needs of cocktail users, since the available services (like needle syringe exchange) does not seem to cover their specific needs.

Key words: South Asian cocktail, Opiates, Opioid substitution treatment, HIV

Introduction

People who use drugs are at risk of getting infected with HIV virus and spreading the infection to other drug users by needle-syringe-sharing or to their sex partners through unsafe sex. Injecting drug users can act as a bridge to transmit HIV to others with whom they have sexual contacts. According to IBBS 2011 report,76% of injecting drug users (IDUs) in Kathmandu Valley consistently used condoms with female sex workers compared to 40% who used condoms consistently with non-regular sex partners and only 9% who use condoms consistently with regular female sex partners in the past year.[1] Numerous studies have found IDUs to be disproportionately likely to be involved in the unsafe sex practices.[2,3] In addition, sexual contact between IDUs and non-injectors, drug injecting may also contribute to an increased incidence of HIV infection.

Until the 1990s injecting drug use was rare in Nepal. With the introduction of pharmaceutical drugs such as buprenorphine, benzodiazepines, chlorpromazine and dextropropoxyphene there was a transition away from smoking or chasing brown sugar to injecting drug cocktails, mainly of buprenorphine mixed with benzodiazepines and chlorpromazine and other antihistamines. Polydrug use appeared to be the norm (ranging from alcohol to heroin), and transition from non-injecting to injecting appeared to be linked to the need for choosing the most cost-effective way of taking drugs.[4]

According to Central Bureau of Statistic (2008) of Nepal more than 46,310 people are using illicit hard drugs in Nepal.[5]. Among them male (92.8%), 7.2% are women and 61.4%, are injecting drug users. It is estimated that in Nepal 70,256 people are living with HIV.[6] A substantial proportion of IDUs are HIV infected. However, in the metropolis region of Kathmandu the prevalence of HIV infections among IDUs decreased from 51.7% in 2005 to 20.7% in 2009.7 According to IBBS 2011 report HIV prevalence was found in 16.3% of IDUs who had been injecting drugs for more than five years while no HIV infection was found among those who had injected for less than one year.[1]

The impact of many types of psychoactive substances, whether injected or not, including alcohol, is risky to the extent that they are dis-inhibitors and affect the individual's ability to make decisions about safe sexual behaviour. In this context, the non-governmental organization "Recovering Nepal" has through their study in 2009 identified that IDUs are using multiple drugs as cocktail to get more impact.[8] According to Larance and colleagues buprenorphine has reportedly emerged as the favoured drug of injection among IDUs .[9] Also in India an increase in the consumption of prescription opioids such as buprenorphine, codeine and dextropropoxyphene among drug users has been observed in the past decade.[10] This cocktail taking behaviour has created health, social, economic and legal hazards to the IDUs. This study was conducted to gain knowledge on the use of cocktails and its hazards in IDUs.

Methods

A cross-sectional survey among opiate users in contact with the treatment system was performed. As per the CBS study (2008) around 17,458 drug users resides in the Kathmandu valley (Kathmandu, Lalitpur and Bhaktapur).[5] As the research focus especially on cocktail drug use, Kathmandu valley was selected for this survey due to high concentration of hard drug users, including injecting drug users. Out of the 17,000 plus hard drug users in Kathmandu valley 300 IDUs were selected from the study population.

Mapping of the institutions/services and the number of patients in treatment in Kathmandu Valley was done in order to calculate the sample size. The sample should consist 20% of the target group but no more than 300 persons.

Convenience (non-probability) sampling was used to select the respondents. 300 drug users (IDUs) were interviewed. Patients were selected on a random basis of lists of the respected treatment facilities.

As the research focus on study of cocktail drug users, only subjects who were in contact with rehabilitation centres, treatment centres, opioid substitution treatment (OST) clinics and counselling services were included in the study. Centres from Kathmandu, Lalitpur and Bhaktapur were visited to collect information. Altogether 300 patients participated in this study.

Six trained interviewers conducted structured interviews with the participants. Prior to the study, the interviewers received special training and agreed on the content of the interview, the organization of the centres and how to communicate with the drug users.

Interviewers used the questionnaire designed following EuropASI and Maudsley Addiction Profile standards in order to provide comparable information with other international studies.[11,12]

The interviewers requested information on patients' socioeconomic characteristics, addiction history prior to treatment entry: all drugs used for at least one month in their lives, routes of administration, the main drug of abuse (the most problematic drug, i.e. main cause for treatment

entry), age when the drug abuse began, the duration of drug use, and the total amount of money spent on drugs in the most recent month of abuse. In addition, the interviewers also inquired about the patients' cocktail drug use history: types of cocktails, history, causes of cocktail use, intake methods, sources of syringes, cost of drugs etc.

The interviewers conducted the interviews in collaboration with the centre staff, who encouraged the randomly selected patients to participate. Patients usually spent some time in the waiting room before visiting the counsellor, receiving their medication or visiting their doctor, thus providing a good opportunity for the interview. The interviewer explained the study to the drug user individually and inquired about their willingness to participate. The data collection in each facility or clinic continued to provide the monthly turnover of patients in the institution based on the report provided by the personnel.

The study was voluntary, and all respondents provided their written informed consent. The National Health Research Council of Nepal approved the study.

Statistical data analysis using the Statistical Package for the Social Sciences (SPSS for Windows, version 18; SPSS Inc. 1989, 2010), and analysed any differences in frequencies using Chi-square test; the ANOVA and t-test served to compare the means (level of significance< 0.05).

Results

During the study period 90.7% of the respondents are male, 9.3% female. Mean age is 28.7 years; more than half of the drug users are between 26 and 35 years old. The majority is currently in in-outpatient rehabilitation (together 43%), about one fifth is treated with methadone or buprenorphine. Two thirds have a stable partner whereas almost half of them (in total 32%) have addiction problems by themselves.

Forty seven percent of the Nepali drug users have ever been hospitalized for medical problems, and 39% suffer from chronic health problems. Among tested (N=223) 33% are HIV positive (25% of the whole sample). 59% of the study participants tested for hepatitis C (N=149) are infected (29% of the whole sample). 83% of HIV positive drug users have co-infections of hepatitis C. In the past 12 months before entering treatment 43% suffered from abscesses or skin infections.

Among male drug users 36% are HIV positive; in women this is true for only one person (4.5%). The mean score of physical health problems according to MAP (range 0-4) is 1.4 for the HIV positive respondents and 1.3 for the persons without HIV infection ($t=1.18$, $p=.238$). The MAP mental health score is significantly higher in HIV infected (2.2) than in the not infected group (1.8) ($t=4.5$, $p<.001$). Almost one quarter had suicide attempts in their life (23%), and one third experienced drug overdoses in their life before entering treatment.

The majority (95%) are injecting drug users with an average of 8.7 years of drug use history. 86% of the sample were injecting different "cocktails" usually made of buprenorphine, diazepam, phenergan and/or other substances (30-days prevalence before entering treatment). Almost half of the sample used heroin (48%) whereas only 2% took cocaine or crack. Cannabis is the most consumed illegal drug among the drug users of Kathmandu Valley. According to the number of different cocktails and frequency of use 52% are intensive consumers of "South-Asian cocktail". 34% take cocktails on a moderately (less frequent) basis (see below). 14% of the drug users did not consume any cocktail in the last month as shown in table 1.

Table 1: Sample characteristics and drug use history of the drug users in Kathmandu valley by intensity of current cocktail use (N=300)

Variables	No cocktail use	Moderate use	Intensive use
Gender	74.4%	91.2%	94.8% ***
Age, years	28.1 (±6.7)	27.6 (±6.2)	29.6 (±6.1) *
Currently in OST	18.6%	20.6%	21.3%
Education level			
Primary school	18.6%	23.5%	32.9% *
Second. school	32.6%	48.0%	43.2%
High school	48.8%	28.4%	23.9%
Stable living situation	100.0%	96.1%	98.8%
Employment			
Working/student	60.5%	56.9%	57.4%
Unemployed	25.6%	36.3%	32.9%
Household/other	14.0%	6.9%	9.7%
Ever injected drugs	67.4%	100.0%	100.0% ***
Length of injecting drug use, years	8.5 (±6.6)	8.4 (±5.5)	10.1 (±6.1)
Length of cocktail use, years	7.8 (±6.5)c)	8.0 (±5.0)	9.2 (±5.6)
Length of heroin use, years	9.9 (±6.0)	11.0 (±6.3)	12.2 (±6.2)
Serious health problems	4.7%	20.6%	23.2% *
HIV positive (among tested)	26.9%	22.7%	38.5%
HCV positive(among tested)	38.9%	58.3%	63.9%
Co-infection	18.6%	31.4%	47.7% ***
Physical health (MAP score, 0-4)	1.4 (±0.4)	1.4 (±0.4)	1.3 (±0.5)
Mental health (MAP score, 0-4)	1.7 (±0.7)	1.7 (±0.7)	2.0 (±0.8) *
N	43	102	155

a) Chi2-Test, ANOVA: Significance: * p<.05, ** p<.01, *** p<.001.

b) Primary school or lower.

c) In the group without cocktail use the number of years is related to former periods of cocktail use.

As mentioned above 86% of the sample population use cocktail drugs, i.e. they use different types of psychoactive drugs to mix specific cocktails. 45% of the drug users usually take three or four different cocktails. According to the results of the interviews and respondents' statements the following different types of cocktails are consumed by the drug users in Kathmandu Valley. Only 12% of the men and 39% of the women use no cocktail in the past 30 days before the interview (table 2). On the other hand it can be shown that different types of cocktails are used by the same person. The average number of different cocktails used is 2.0 (±1.3). Based on the cocktail users only the mean number is 2.4 (±1.0).

Table 2: Different types of cocktails consumed by the drug users in Kathmandu Valley past 30 days (N=300)

Type of cocktail	Men	Women	Total
1. Buprenorphine + Diazepam	64.7%	53.6%	63.7%
2. Buprenorphine + Diazepam + Phenergana)	59.2%	46.4%	58.0%
3. Buprenorphine + Diazepam + Phenergan + Stargunb)	69.5%	42.9%	67.0%
4. Other (Bupren.+ Phenergan or Cocktail + Avil)c)	15.8%	7.1%	15.0%
No cocktail use	11.8%	39.3%	14.3%
No. of cocktails mean, ±SD	2.1 (±1.2)	1.5 (±1.5)	2.0 (±1.3)

a)Phenergan:promethazine.

b)Stargun: ###

c)Avil: pheniramine maleate.

Cocktails are typically consumed several times a day. The majority of the intensive users take (any kind of) cocktail normally three or more times a day (70%). This is also true for the moderate cocktail users (69%). Another quarter of both groups consume cocktails two times on a typical day (intensive users: 26%, moderate users: 25%).

On the basis of the respondents' information the category "intensive use" is used for persons who took at least two different cocktails in the past 30 days and at least one of them on a daily basis. Empirically the average number of different cocktails consumed in this group is 3.0 (±0.6). 34% took cocktails on a moderately (less frequent) basis. Their mean number of cocktails used during the past 30 days is 1.5 (±0.8).

As regards to the risk behaviour, the study shows that the intensive users are at higher risk as significantly more of them share needles than the moderate users and no cocktail users. Similarly, the intensive users also share other equipment very often. This clearly states that the intensive cocktail users are practicing risk behaviours significantly more often.

Table 3: Drug use (past 30 days) and risk behavior of the drug users in Kathmandu valley by intensity of current cocktail use (N=300)

	No cocktail use	Moderate use	Intensive use
Alcohol	66.7%	66.7%	60.6%
Number of days	19.1 (±11.7)	22.1 (±10.0)	18.6 (±10.4)
Heroin	81.4%	29.4%	51.0% ***
Number of days	27.0 (±7.4)	13.8 (±10.6)	16.0 (±10.2) ***
Cannabis	69.8%	87.3%	80.0% *
Number of days	24.8 (±9.1)	21.7 (±9.6)	24.0 (±8.1)
Benzodiazepines	27.9%	94.1%	89.7% ***
Number of days	22.6 (±9.4)	25.0 (±8.8)	26.2 (±6.8)
Chewing tobacco	25.6%	39.2%	52.3% **
Number of days	23.5 (±9.1)	24.5 (±9.1)	21.3 (±9.9)
No. of different substances	4.7 (±1.8)	6.0 (±1.5)	6.5 (±1.9) ***
Use of 10 ml syringes	11.8%	61.8%	56.9% ***
Multiple use of the same needle	45.0%	69.6%	74.8% **
Needle/equipment sharing	48.8%	61.8%	90.3% ***
N	43	102	155

a) Chi2-Test, ANOVA: Significance: * p<.05, ** p<.01, *** p<.001.

Most of the intensive cocktail users felt that these cocktail drugs fight against symptoms of drug sickness (59%, moderate users: 40%). Much more intensive cocktail users, i.e. 45%, than moderate users (25%) are consuming cocktail drugs because the drug helps to tackle the situation or ease problems. Considering the cost factor a higher percentage of intensive cocktail users (28%, moderate users: 18%) expressed that they use cocktails because they are cheaper than other drugs.

For the cocktail drug use, all the drug users use syringes. Most of the drug users generally get syringes from pharmacies or drug stores (intensive users: 72%, moderate users: 80%) or from dealers (intensive users: 94%, moderate users: 89%). The HIV positive drug users are about 5 years older on average and, correspondingly, have a longer "addiction career" than the HIV negative persons.

Table 4: Drug use history and risk behaviour of the interviewed drug users in Kathmandu valley by HIV status (subsample tested for HIV, N=223)

Variables	HIV positive	HIV negative	Significance
Age, years	33.1 (±6.0)	28.2 (±5.6)	t=6.0, p<.001
Length of injecting drug use, years	14.2 (±5.7)	8.5 (±5.3)	t=7.3, p<.001
Length of cocktail use, years	12.8 (±5.6)	7.8 (±4.5)	t=6.9, p<.001
Length of heroin use, years	16.3 (±6.3)	10.5 (±5.0)	t=6.9, p<.001
Cocktail use Moderately	20.3%	31.5%	Chi2=4.5, p=.108
Intensively	70.3%	55.7%	
Multiple use of the same needle	91.9%	63.5%	Chi2=20.1, p<.001
Needle/equipment sharing	93.2%	75.2%	Chi2=10.6, p<.01

Discussion

This survey among 300 drug users of Kathmandu valley was the first systematic study to shed a light on the current living situation, the state of health and the drug use as well as their risky behaviour of cocktail IDUs who were in contact with addiction services in Nepal. It provided actual and specific knowledge on the status of HIV and other infections.

Currently the so called "South Asian Cocktail" is the predominant drug in Nepal; pharmaceutical drugs needed to prepare the cocktail are less expensive than heroin and relatively easy to acquire. The cocktail users have a higher risk behaviour than heroin drug users which is associated with the spread of HIV. It needs to be considered which HIV prevention measures are needed related to the specific needs of cocktail users, since the available services (like needle syringe exchange) seem not to cover their specific needs (high percentage of sharing needles). Or it needs to be identified why the available HIV prevention services (like needle syringe exchange) do not cover the specific needs of cocktail drug users. Furthermore, opiate substitution treatment (OST) services should be extended to decrease intravenous drug use effectively and prevent infections of HIV, virus hepatitis and tuberculosis among IDUs. Similarly, the research also reveals that the cocktail drug substances are catered by drug stores and chemists. This indicates that there is a significant need of awareness raising for the drug store keepers so that they understand the impact of selling such drugs without a proper prescription.

The coverage of opioid substitution treatment (OST)in Nepal is comparatively low and high-risk injecting and sexual behaviour among IDUs continues. The finance for OST is largely from external donors and donations have become scarce with the current global economic problems.[13]

The kind of cocktail use several times a day, which turned out to be the normal pattern of consumption, and the main reason for consumption to fight against symptoms lead to the question if the cocktail users practice a kind of self-medication of underlying mental symptoms treatment or self-substitution of withdrawal symptoms rather than drug use for reaching a high or specific feelings. Especially diazepam has long half-life period which produces a cumulative effect in the body. Thus, specific consequences and side effects of benzodiazepine dependence will arise after long-term cocktail use. This indicates a much higher need for a comprehensive treatment approach in the region which provides the opportunity to offer appropriate treatment for other mental and somatic symptoms.

One limitation of our study is the choice of the sample which consists of persons who are in contact with drug services or treatment. Thus, no information on drug users without professional support can be obtained. This would be of particular interest since the majority of drug users in Nepal are not reached by special services. However, the specific problems of cocktail users should be covered by professional services which, again, require an increase in capacity of OST and harm reduction activities for drug users.

Conclusion

This study is the first of its kind to understand the situation of cocktail drug use in Nepal and its results have brought some lights on cocktail use at the same time this research has guided for some more specific research needs such as: situation of cocktail drug user with HIV infection, psychiatric co-morbidity, role and effect of the antihistamine within the cocktails, are these cocktail drug users getting services/benefited from harm reduction programs and is there a need for scaling up buprenorphine substitution treatment within the OST-program in Nepal?

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