International Journal of Advanced Science and Research
ISSN: 2455-4227; Impact Factor: RJIF 5.12
Received: 26-10-2020; Accepted: 12-11-2020; Published: 30-11-2020
www.allsciencejournal.com
Volume 5; Issue 5; 2020; Page No. 21-25

A study to assess the awareness and behavioural change in injecting drug users

Arushi Mishra[1], Preety Pathak[2]
[1] Assistant Professor, Amity University, Haryana, India
[2] State Epidemiologist, UPSACS, Lucknow, Uttar Pradesh, India

Abstract
Introduction: In the present era of highly active antiretroviral therapy (HAART), the incidence of new human immunodeficiency virus (HIV) diagnoses continues to remain high, with certain socio demo graphic groups experiencing increased rates of HIV compared to the general population. Sharing of needles and unprotected sexual contact are two high-risk behaviours that increase HIV transmission among injection drug users (IDUs).
Aim: This study was conducted to analyse the impact of participatory communication on HIV preventive behaviour among IDUs.
Materials and Methods: The study was done in the district of Lucknow among the Injecting Drug Users. The group of 50 IDU was selected according to the stratified sampling technique. These IDU's were then approached and called at the Targeted Intervention (TI) site for their first session. They were given an introductory session after which 5 group were made of 10 IDU each. These IDU's were assigned dates and each group was supposed to meet the team every day for 2-3 hours.
Result: The mean age of IDU was 37.2 $\pm$ 5.4 years. Majority of the participants (61%) were in the age group of 30-40 years. Majority of subjects (51%) were educated up to the primary education level whereas nearly 29% were illiterate. Only 19.6% of subjects were having regular employment while a vast majority (66.7%) had no regular employment. The subjects were ignorant about the modes of transmission of HIV and the mean score was as low as 2.25.
Discussion: This study shows, how effectively a behavioural modification can be obtained with communication in different forms. HIV has become a global epidemic and needs our attention at the earliest. For the people who are considered to be the high-risk groups; they should be educated about the various methods of transmission and how it can be prevented.

Keywords: awareness, behavioural change, injecting drug users

Introduction

In the era of highly active antiretroviral therapy (HAART), the incidence of new human immunodeficiency virus (HIV) diagnoses continues to remain high, with certain socio demo graphic groups experiencing increased rates of HIV compared to the general population. Sharing of needles and unprotected sexual contact are two high-risk behaviours that increase HIV transmission among injection drug users (IDUs) [1, 3]. IDUs are a priority group for targeted interventions in India where HIV prevalence (2014–2015) is higher among IDUs (9.9 %) than female sex workers (FSWs) and men who have sex with men (MSM) (2.2 and 4.3 % respectively). Although the epidemic among FSWs and MSM is stabilising, HIV prevalence among IDUs is on rise [4]. Moreover, with several states/regions reporting high HIV prevalence (>10 %) among IDUs, new IDU-driven epidemics are emerging in India [4].

The most cost-effective strategy for the reduction of HIV risk and transmission is HIV testing [5] which provides an entry point for prevention and treatment. Early HIV diagnosis is central to timely initiation of treatment [6, 8]. Knowledge of HIV status through testing can lead to adopt the safe injection practices and sexual behaviours [2, 9, 13]. Additionally, HIV testing provides an opportunity to counsel clients on HIV prevention and risk reduction. HIV testing is one of the most important priorities of the Indian government, and targeted interventions require all high-risk groups, including IDUs, to test for HIV once every 6 months [14, 15]. With the aim of increasing HIV testing accessibility and availability, the Indian government has scaled up voluntary counselling and testing (VCT) services for HIV across the country [14].

Although prevention interventions in India have focused primarily on saturating HIV testing among high-risk groups, including IDUs, testing uptake among IDUs remains far away from universal [4]. As a result, many IDUs who are HIV infected are unaware of their status and may transmit the virus to others. Despite the critical importance of IDUs to HIV prevention and care efforts, limited information is out there available on the characteristics of IDUs undergoing HIV testing in India.

Although recent research showed that combined biomedical and behavioural approaches have the most potent effect on HIV risk reduction [16], the intervention topics that confer the greatest reductions in HIV risk have yet to be determined. Furthermore, researchers have' nt yet determined how best to focus on target and deliver interventions to socio demo graphic groups at the highest risk for substance use-associated HIV. Intervention delivery methods, such as group vs. individual interventions, may significantly impact the effectiveness of interventions aimed towards HIV prevention for those that need them most. Finally, there has not been a widely disseminated universal intervention technique for preventing HIV in IDUs. Though many HIV prevention interventions are evidence-based, more work is needed to examine which of these interventions is the most effective [17, 18].

To address this gap, a study was conducted to analyse the

impact of participatory communication on HIV preventive behaviour among IDUs.

Materials and Methods

The research design that was adopted is the pre-test and post-test experimental research design after the behavioural intervention in the target group of IDUs. The study was conducted in the district of Lucknow. IDU community is not restricted to a particular site hence certain areas in Lucknow which are considered the hotspots of the IDU are taken in this study. All the hotspots are under the close vigilance of Uttar Pradesh State AIDS control society (UPSACS). The reasons for setting the desired hotspots were familiarity with the place, proximity of the setting, availability of sample subjects, feasibility of conducting the study and cooperation from the authorities.

Inclusion criteria

- Individuals with a habit of injecting drug and have done so more than once in the last one month
- Individuals who have been freshly enrolled in the program run by NACO
- Subjects who are able to understand English or Hindi

The group of 50 IDU was selected according to the stratified sampling technique. These IDU's were then approached and called at the Targeted Intervention (TI) site for their first session. They were given an introductory session after which 5 group were made of 10 IDU each. These IDU's were assigned dates and each group was supposed to meet the team every day for 2-3 hours. These hours were completely dedicated to the intervention provided to them. The intervention included the model participation, focussed group discussion and activity method. Through all possible means the gravity of the disease and its mode of transmission was explained to them. Focussed group discussions were mainly concentrated on one topic and a group of 10 IDU' were taken every time and explained about it. The next type of intervention was the model participation in which there were models which were used for the demonstration and the education of the subjects. On these models the demonstration of condom usage and the personal hygiene was given. After each discussion and session there was a participation session held in which the subjects were randomly called and asked to demonstrate on the models and explain what was counselled to them.

A pre-assessment questionnaire was initially filled by the subjects on the first day which was followed by intervention sessions and then the same questionnaire was filled by the same candidates at the last day of the intervention program. The intervention was carried over for almost a period of 2 months.

Study tool

A structured interview schedule was constructed based on the review of literature, discussion with experts and investigators personal experience in the field. The tool was reviewed by the group of technical experts after which the study was carried out. The tool used for collecting data is a structured interview schedule and it had multiple sections. First section had socio demographic information.

The characteristics include name, age, address, highest level of education, marital status, occupation, average monthly income and the native state. The second section had 10 items.

These were to assess the knowledge about HIV/AIDS transmission. These include questions to be answered in an affirmative of negation like if HIV can be transmitted by sex without condoms, from infected mother to child, transfusion of infected blood, sharing needles and syringes, using infected blades etc.

The third section had items which assesses the knowledge of the subjects in the field of HIV testing. These include their awareness about the places where the HIV testing can be done, if they have taken a test before and if yes then when and the reasons why they hesitate to go in for the tests. The fourth section assessed about the knowledge of the information regarding the needle syringe exchange program that is run by NACO for the IDU's associated to them.

Data analysis

The data collected from both pre-test and post-test was entered for each IDU in a excel sheet and analysed using SPSS. The results have been analysed through the percentage of correct answers given by the subjects in each section. For each response a score was given and the total score was calculated for each participant. Finally, pre-test and post-test mean scores for each area were compared and paired t test was used for statistical significance.

Results

The mean age of IDU was 37.2 $\pm$ 5.4 years. Majority of the participants (61%) were in the age group of 30-40 years. With this analysis we can see that younger subjects are getting into the drug addiction; specially the early 30's. This also reflects that probably the subjects are getting into the habit in their late 20's because by the time they get associated with the NGO/ UPSACS team it takes few years. This shows that the youth years of an individual are the most prone years in his life for getting into this addictive habit. Moreover, it was observed that all the IDUs were males. (Table 1).

As shown in Table 1 that majority of subjects (51%) were educated up to the primary education level whereas nearly 29% were illiterate and only remaining 20 % were educated up to secondary or higher secondary level. Role of awareness programs is very important so that the subjects are aware of the preventive measures of the disease, how the disease can be acquired and how to prevent themselves from getting the deadly virus and transmitting it to others. Most of the subjects (50%) were married and living with their partners and hence can spread the disease to their partners also.

Income also plays a major role in getting a person into a habit like addiction. A person who has a regular income is much less prone to the habit as compared to a person who is unemployed or has an irregular employment. Only 19.6% of subjects were having regular employment while a vast majority (66.7%) had no regular employment. Moreover, nearly 39% had income source of less than Rs 1000 per month and a large majority (37%) had income less than 5000 a month. (Table 1).

Table 1: Socio-demographic profile of Study subjects

Characteristics (N=51)	Frequency	Percentage (%)
Age		
< 20	0	0.00
20-30	4	7.84
30-40	31	60.78
40-50	15	29.41
50-60	1	1.96
>=60	0	0.00
Sex		
Male	51	100.00
Female	0	0.00
Education		
Illiterate	15	29.41
Primary	26	50.98
Secondary	8	15.69
Higher Secondary	2	3.92
Marital Status		
Unmarried	14	27.45
Married	25	49.02
Divorced/Widower/Separated	12	23.53
Occupation		
Irregular Employees	34	66.67
Regular Employees	10	19.61
Unemployed	7	13.73
Income		
<Rs. 1,000	20	39.22
Rs. 1,000 – 5,000	19	37.25
Rs. 5,001 – 10,000	5	9.80
No Income	7	13.73

All the subjects were asked questions pertaining to the modes of transmission of HIV both pre and post intervention. The subjects were ignorant about the modes of transmission of HIV and the mean score was as low as 2.25. They were then counselled and explained about the HIV transmission through the intervention as a result of which the mean score increased to 5.69. (Table 2)

The section on HIV testing had questions regarding the knowledge on HIV testing, the facilities where these tests are done and if these tests are done free of cost. It also asks the subjects if they have undergone any test before and if yes then how many months back. The results were shocking since most of them did not know about the testing facilities given by the government. The knowledge about HIV testing was very less pre intervention and increased post intervention. (Table 2) Similarly, the knowledge regarding needle syringe exchange was assessed pre-intervention. National AIDS control organisation (NACO) provides the subjects an excellent program of the needle syringe exchange. This program allows the IDU's to inject with a new needle and syringe every time the subjects felt the urge to do it. The used needles and the syringes had to be returned to the peer educator or should be dropped at the drop-in centres so that it cannot be reused again and hence the vicious cycle of the transmission is prevented. There is strong bonding developed between the peer and the subjects. The knowledge about Needle-Syringe Exchange Program was very less pre intervention and increased post intervention. (Table 2) The total score for all the sections done reveals that there is a marked difference in the knowledge level of the subjects post intervention as shown is Table 2.

Table 2: Knowledge levels Pre and Post Intervention

Knowledge Areas	Maximum Score	Pre-Intervention		Post-Intervention		
		Mean Score	SD	Mean Score	SD	p value
Knowledge on HIV Transmission	10	2.25	1.988	5.69	1.334	<0.001
Knowledge on HIV Testing	2	0.31	0.707	1.76	0.619	<0.001
Knowledge on Needle-Syringe Exchange Program	3	0.55	1.064	2.24	1.031	<0.001
Overall Knowledge Score	15	3.12	3.26	9.69	2.687	<0.001

Discussion

The result showed how effectively a behavioural modification can be obtained with communication in different forms. HIV has become a global epidemic and needs attention at the earliest. For the IDUs who are considered to be the high-risk groups who should be educated about the various methods of transmission and how it can be prevented.

Although the state has prioritised HIV prevention programmes for IDUs, just one third of male IDUs had ever tested for HIV despite 66 % having accessed programme services; these rates are far below the national goal of saturating HIV testing among high-risk groups in India [14]. Similar low testing rates among IDUs have been reported in other studies in India as well [19, 21].

Under targeted interventions, all high-risk groups, including IDUs, must test for HIV every 6 months; however, recent estimates (2014–2015) indicate that testing rates remains far below the specified level. One third of IDUs nationally have never tested for HIV, and in some high HIV prevalence regions/states such as Uttar Pradesh and Bihar (HIV prevalence among IDUs >27 %), less than one third had taken an HIV test ever [4]. Although nationally ever-testing rates among IDUs have increased perhaps as a result of focused interventions for IDUs under NACP, the continued testing gap is a challenge for HIV prevention efforts, particularly in the context of IDUs' high-risk behaviours, rising HIV prevalence in this group and emerging IDU-driven epidemics in several states/regions [4]. Notably, in India, nationally, HIV ever-testing rates are lowest among IDUs as compared to MSM (78%) and FSWs (84 %) [4]. Increased prevention efforts for IDUs, including regular VCT uptake by all IDUs across all states in the country is crucial, given the potential for HIV transmission in this high-risk group.

These IDUs are most at risk, as they are unaware of their sero-status and, therefore, may not be linked to treatment and may continue to transmit HIV infection through their risk behaviours [2, 20]. As early detection is essential to provide timely care and treatment, and prevent further HIV transmission, programmes must ensure that all IDUs test regularly for HIV, promote the adoption of risk reduction behaviours and link HIV-positive IDUs to timely care and treatment.

While various studies have documented that IDUs' risky injection and sexual behaviours elevate the risk of HIV

transmission to their sexual partners [3, 22, 23], and our targeted interventions have been effective in promoting protective behaviours. As HIV counselling and testing promote safe sex behaviours among IDU populations [1, 24], efforts are needed to encourage all IDUs who are sexually active to test regularly for HIV, to prevent the onward transmission of infection to their sexual partners.

Consistent with other studies, it has been shown that high perceived risk of HIV infection is a significant predictor for HIV testing [25, 26]. Hence there should be concerted efforts to increase HIV testing among IDUs by making them aware and this would strengthen strategies to build awareness of personal risk.

Peer-led outreach can expand programme coverage among marginalised groups and address HIV testing barriers. Peers are often the initial source of information on HIV, including testing benefits and available testing and treatment facilities [27, 30]; they can reach hidden IDUs and can be trusted to keep HIV status confidential [31, 32]. Moreover, peers can accompany IDUs to health testing facilities if necessary and sensitise health workers to IDUs' special needs. Prevention programmes must invest in strengthening existing peer networks to increase HIV testing uptake. Peers should be given well-defined targets, including for referrals to VCT centres, to maximise testing.

The study findings also point to the need for programmes to strategically focus on counselling, in addition to providing needle and syringe services, to promote HIV testing. Counselling sessions must build awareness of the benefits of regular HIV screening and early HIV diagnosis and treatment; promote awareness of the efficacy of ART and the availability of government-supported treatment services; and raise the perception of personal risk for HIV. Repeated and time-intensive peer counselling is more effective than single sessions in reinforcing behaviour change [28] and should be adopted by the programme.

The study has some limitations. The use of trained field staff may have increased participants' level of comfort at the time of interview and reduced underreporting. We considered only male IDU respondents for the current analysis, and the study may have missed a group of female IDUs who have not tested for HIV. Anecdotal evidence suggests that non-injecting drug use is more common among female drug users [20], and given the evidence that the vast majority of IDUs in India are male, we limited the current analysis to male IDUs only. Further, as injecting drug use characteristics vary across states in India, our results may not be generalisable to IDUs in other states and settings.

Conclusion

In conclusion, the behavioural intervention programme for IDUs improved the knowledge and created awareness among the IDUs. Some of the important intervention include need based distribution of needles and syringes in these areas, increase in reported safe injection practices, increase in reported consistent condom use, and stabilization of HIV epidemic in high burden districts. Thus, there is a need to maintain the intensity of such targeted public health interventions such as outreach services, counselling services for HIV and STI prevention, care, and treatment, provision of free new needle/syringe, abscess management, clinic services for treating of sexually transmitted infections, condom promotion and distribution and empowering the community to ensure high clinic attendance, needle exchange programmes to promote safe needle and syringe use, and long term reduction of HIV and STIs in this population in India.

Further large studies would considerably improve the quality of HIV prevention intervention research which might help to improve the clinical applicability of these HIV interventions and findings will provide valuable inputs for future programmes aimed at increasing HIV testing uptake and reducing HIV transmission, among IDUs in India.

References

1. Kermode M, Armstrong G, Medhi GK, Humtsoe C, Langkham B, Mahanta J, *et al*. Sexual behaviours of men who inject drugs in northeast India. Harm Reduct J. 2015; 12:4.
2. Armstrong G, Medhi GK, Mahanta J, Paranjape RS, Kermode M. Undiagnosed HIV among people who inject drugs in Manipur, India. AIDS Care. 2015; 27(3):288-92.
3. Mishra RK, Ganju D, Ramesh S, Lalmuanpuii M, Biangtung L, Humtsoe C, *et al*. HIV risk behaviors of male injecting drug users and associated non-condom use with regular female sexual partners in north-east India. Harm Reduct J. 2014; 11:5.
4. IBBS Report 2014-15.pdf [Internet]. [cited 2020 Oct 15]. Available from: http://naco.gov.in/sites/ default/ files/IBBS%20Report%202014-15.pdf
5. Venkatesh KK, Becker JE, Kumarasamy N, Nakamura YM, Mayer KH, Losina E, *et al*. Clinical impact and cost-effectiveness of expanded voluntary HIV testing in India. PLoS One. 2013; 8(5):e64604.
6. Strategies for Management of Antiretroviral Therapy (SMART) Study Group, Emery S, Neuhaus JA, Phillips AN, Babiker A, Cohen CJ, *et al*. Major clinical outcomes in antiretroviral therapy (ART)-naive participants and in those not receiving ART at baseline in the SMART study. J Infect Dis. 2008; 197(8):1133-44.
7. Pilcher CD, Tien HC, Eron JJ, Vernazza PL, Leu S-Y, Stewart PW, *et al*. Brief but efficient: acute HIV infection and the sexual transmission of HIV. J Infect Dis. 2004; 189(10):1785-92.
8. Rotheram-Borus MJ, Newman PA, Etzel MA. Effective detection of HIV. J Acquir Immune Defic Syndr. 2000; 25(2):S105-114.
9. Holmberg SD, Palella FJ, Lichtenstein KA, Havlir DV. The case for earlier treatment of HIV infection. Clin Infect Dis. 2004; 39(11):1699-704.
10. Marks G, Crepaz N, Senterfitt JW, Janssen RS. Meta-analysis of high-risk sexual behavior in persons aware and unaware they are infected with HIV in the United States: implications for HIV prevention programs. J Acquir Immune Defic Syndr. 2005; 39(4):446-53.
11. Bor J, Herbst AJ, Newell ML, Bärnighausen T. Increases in adult life expectancy in rural South Africa: valuing the scale-up of HIV treatment. Science. 2013; 339(6122):961-5.
12. Tanser F, Bärnighausen T, Grapsa E, Zaidi J, Newell ML. High coverage of ART associated with decline in risk of HIV acquisition in rural KwaZulu-Natal, South Africa. Science. 2013; 339(6122):966-71.
13. Holtgrave DR. Costs and consequences of the US Centers for Disease Control and Prevention's recommendations for opt-out HIV testing. PLoS Med.

2007; 4(6):194. 171899. pdf [Internet]. [cited 2020 Oct 15]. Available from: https://helda.helsinki.fi/bof/bitstream/handle/123456789/7307/171899.pdf?sequence=1
14. HIV/AIDS Data Hub for the Asia Pacific [Internet]. HIV/AIDS Data Hub for the Asia Pacific. [cited 2020 Oct 17]. Available from: https://www.aidsdatahub.org
15. Bekker LG, Beyrer C, Quinn TC. Behavioral and biomedical combination strategies for HIV prevention. Cold Spring Harb Perspect Med, 2012, 2(8).
16. Metzger DS, Navaline H. HIV prevention among injection drug users: the need for integrated models. J Urban Health. 2003; 80(4-3)59-66.
17. Meader N, Li R, Des Jarlais DC, Pilling S. Psychosocial interventions for reducing injection and sexual risk behaviour for preventing HIV in drug users. Cochrane Database Syst Rev. 2010; (1):CD007192.
18. Sarna A, Tun W, Bhattacharya A, Lewis D, Singh YS, Apicella L, *et al*. Assessment of unsafe injection practices and sexual behaviors among male injecting drug users in two urban cities of India using respondent driven sampling. Southeast Asian J Trop Med Public Health. 2012; 43(3):652-67.
19. Sarna A, Tun W, Sharma V, Sebastian M, Madan I, Yadav A, *et al*. High uptake of HIV testing in a cohort of male injection drug users in Delhi, India: prevalence and correlates of HIV infection. AIDS Behav. 2013; 17(7):2479-89.
20. Armstrong G, Humtsoe C, Kermode M. HIV risk behaviours among injecting drug users in Northeast India following scale-up of a targeted HIV prevention programme. BMC Public Health. 2011; 11(6):S9.
21. Mahanta J, Medhi GK, Paranjape RS, Roy N, Kohli A, Akoijam BS, *et al*. Injecting and sexual risk behaviours, sexually transmitted infections and HIV prevalence in injecting drug users in three states in India. AIDS. 2008; 22(5):S59-68.
22. Suohu K, Humtsoe C, Saggurti N, Sabarwal S, Mahapatra B, Kermode M, *et al*. Understanding the association between injecting and sexual risk behaviors of injecting drug users in Manipur and Nagaland, India. Harm Reduct J. 2012; 18(9):40.
23. Sherman SG, Latkin CA. Intimate relationship characteristics associated with condom use among drug users and their sex partners: a multilevel analysis. Drug Alcohol Depend. 2001; 64(1):97-104.
24. Rou K, Guan J, Wu Z, Li L, Rotheram MJ, Detels R, *et al*. Demographic and behavioral factors associated with HIV testing in China. J Acquir Immune Defic Syndr. 2009; 50(4):432-4.
25. Solomon S, Kouyoumdjian FG, Cecelia AJ, James R, James L, Kumarasamy N, *et al*. Why are people getting tested? Self-reported reasons for seeking voluntary counseling and testing at a clinic in Chennai, India. AIDS Behav. 2006; 10(4):415-20.
26. Needle RH, Burrows D, Friedman SR, Dorabjee J, Touzé G, Badrieva L, *et al*. Effectiveness of community-based outreach in preventing HIV/AIDS among injecting drug users. International Journal of Drug Policy. 2005; 16:45-57.
27. Jain B, Krishnan S, Ramesh S, Sabarwal S, Garg V, Dhingra N, *et al*. Effect of peer-led outreach activities on injecting risk behavior among male drug users in Haryana, India. Harm Reduct J. 2014; 11:3.
28. Medley A, Kennedy C, O'Reilly K, Sweat M. Effectiveness of peer education interventions for HIV prevention in developing countries: a systematic review and meta-analysis. AIDS Educ Prev. 2009; 21(3):181-206.
29. Tobin KE, Tang AM, Gilbert SH, Latkin CA. Correlates of HIV antibody testing among a sample of injection drug users: the role of social and contextual factors. AIDS Behav. 2004; 8(3):303-10.
30. Woodford MR, Chakrapani V, Newman PA, Shunmugam M. Barriers and facilitators to voluntary HIV testing uptake among communities at high risk of HIV exposure in Chennai, India. Glob Public Health. 2016; 11(3):363-79.
31. Beattie TSH, Bhattacharjee P, Suresh M, Isac S, Ramesh BM, Moses S, *et al*. Personal, interpersonal and structural challenges to accessing HIV testing, treatment and care services among female sex workers, men who have sex with men and transgenders in Karnataka state, South India. J Epidemiol Community Health. 2012; 66(2):42-48.