International Journal of Drug Policy xxx (2014) xxx–xxx

Contents lists available at ScienceDirect

International Journal of Drug Policy

journal homepage: www.elsevier.com/locate/drugpo

Research paper

An assessment of an HIV prevention intervention among People Who Inject Drugs in the states of Manipur and Nagaland, India

Prabuddhagopal Goswami[a,*], Gajendra Kumar Medhi[b], Gregory Armstrong[c], Maninder Singh Setia[d,e], Shajan Mathew[a], Gay Thongamba[a], Lakshmi Ramakrishnan[a], Bitra George[a], Rakesh Kumar Singh[a,1], Ramesh S. Paranjape[f], Jagadish Mahanta[b]

[a] FHI 360, New Delhi, India
[b] Regional Medical Research Centre, Dibrugarh, Assam, India
[c] Nossal Institute of Global Health, University of Melbourne, Australia
[d] Consultant Dermatologist and Epidemiologist, Mumbai, India
[e] Consultant Epidemiologist, MGM Institute of Health Sciences, India
[f] National AIDS Research Institute, Pune, India

ARTICLE INFO

Article history:
Received 13 November 2013
Received in revised form 22 April 2014
Accepted 25 April 2014

Keywords:
PWID
HIV
STI
Hepatitis B&C
Condom use
HIV prevention programme
Needle/syringe exchange programme
Integrated behavioural and biological assessment
CMIS
Cross sectional survey

ABSTRACT

Background: The present study describes an assessment of a large-scale intervention, "Avahan", using an evaluation framework that assesses the program coverage, changes in injection patterns, condom use, and STI and HIV prevalence among People Who Inject Drugs (PWID) in two states of India – Manipur and Nagaland.

Methods: Program monitoring data and results from two rounds of a cross sectional biological and behavioural surveys in 2006 (Round 1) and 2009 (Round 2) were used. The sample included 839 and 860 PWIDs from Manipur and 821 and 829 PWIDs from Nagaland in Round 1 and Round 2 respectively for current analysis. Bivariate and multivariate analyses were done to measure the changes in behavioural and biological outcomes between the two rounds and to examine the association between programme exposure and behavioural outcomes.

Results: In Manipur, about 77% of the PWIDs were contacted by the peer educators/outreach workers every month and about 18% of the PWIDs visited the clinic every month by March 2010. In Nagaland, however, the proportion of PWIDs visiting the clinic monthly remained low (11% in March 2010). PWIDs in both states were more likely to report 'consistent safe injection practice in the last six months' in Round 2 compared to Round 1 (Manipur: adjusted odds ratio (aOR): 1.88, 95% confidence intervals (CI): 1.46–2.43; Nagaland: aOR: 2.35, 95% CI: 1.86–2.80) PWIDs were also more likely to report consistent condom use with regular partners in Round 2. The prevalence of Hepatitis B virus (HBV) increased in Round 2 in Manipur (11% vs 6%, $p < 0.001$) and Nagaland (8% vs 6%, $p = 0.05$). The prevalence of Hepatitis C virus (HCV) was high and did not change, either in Manipur (67.3% vs 69.9%, $p = 0.42$) and Nagaland (14.7% vs 15.1%, $p = 0.82$). Similarly, the prevalence of HIV did not change significantly between the two Rounds either in Manipur (27.8% in Round 1 vs 29.2% in Round 2, $p = 0.59$) or in Nagaland (1.2% in Round 1 and 1.6% in Round 2 of the IBBA, $p = 0.82$).

Conclusion: Improvements in safe injection practices and consistent condom use with regular partners suggest effectiveness of prevention efforts. However, increase in HBV prevalence and non-decline in HCV and HIV prevalence in both the states also underscore the need to continue and intensify targeted interventions (such as Hepatitis B vaccination, needle exchange programmes, condom distribution) for long term risk reduction among PWID population.

Introduction

The HIV epidemic in India is concentrated among high-risk groups like female sex workers (FSW) and their clients, sexually transmitted infections (STI) clinic attendees, men who have sex with men (MSM), male-to-female transgendered people, and People Who Inject Drugs (PWID). The recent HIV sentinel surveillance

* Corresponding author at: M&E, FHI 360, India H-5, Green Park Extension (Ground Floor), New Delhi 110016, India. Tel.: +91 11 40487777; fax: +91 11 26172646.
E-mail addresses: pgoswami@fhi360.org, probal.goswami@gmail.com (P. Goswami).
[1] Formerly.

http://dx.doi.org/10.1016/j.drugpo.2014.04.016
0955-3959/

2010–2011 shows that HIV prevalence among antenatal clinic attendees (considered representative of the general population) is low (0.4%), and that HIV prevalence is higher among the high risk groups. According to the surveillance report, the prevalence was 2.7% among FSWs, 4.4% among MSM, and 7.1% among PWIDs; thus, PWIDs have the highest HIV prevalence among the high risk groups in India on average (National AIDS Control Organisation, 2012). Furthermore, PWIDs are also at high risk of infection with blood-borne viruses such as Hepatitis B and Hepatitis C (Horton & Das, 2010). It has been reported that the prevalence of Hepatitis B surface antigen was 3.8% and the prevalence of Hepatitis C was as high as 47.8% (Mahanta, Borkakoty, Das, & Chelleng, 2009). The National AIDS Control Organization (NACO) of India in its third phase considers prevention interventions among PWIDs as a key thrust area; thus, there is an emphasis on targeted interventions in these groups to encourage safe injecting practices (National AIDS Control Organisation, 2012).

India, with a population of 1.2 billion, is a huge and diverse country comprising of 28 states and seven union territories (National Portal of India, 2014). In 2002, six states were considered to be high prevalence states. Of these, Manipur and Nagaland, the two north-eastern states were considered as high prevalence states (in 2002) in India. The HIV epidemic in these states has largely been driven by injecting drug use (Mahanta et al., 2009; Medhi et al., 2011; National AIDS Control Organisation, 2011). Injecting drug use is a serious public health concern in both states, with approximately 2% of the population engaging in injecting (Chandrasekaran et al., 2006), even though the nature of the types of drugs used in both the states may differ. The estimated adult HIV prevalence was 1.4% in Manipur and 0.8% in Nagaland, and among PWIDs, the HIV prevalence was 12.9% in Manipur (2010–2011) and 2.2% in Nagaland (2010–2011) (National AIDS Control Organisation, 2012). Though the HIV prevalence was very high in Manipur (about 80%) in late nineties, it has reduced in the recent years (about 12%) in 2007.

In both these states, the respective State AIDS Control Society (SACS) were the main funders of the HIV programmes and interventions and covered about 50–60% of PWIDs till 2003. "Avahan", the India AIDS Initiative, supported by the Bill & Melinda Gates Foundation is considered to be one of the largest prevention programmes in a single country. Initiated in 2003, it focussed on prevention programmes and targeted interventions in what was considered to be a concentrated epidemic. The intervention programmes were started across various states in high risk groups such as female sex workers and their clients, men who have sex with men, and PWIDs; the population for interventions were based on the nature of the epidemic and key populations in these states (Bertozzi, Padian, & Martz, 2010; Dandona & Benotsch, 2011; Laga & Vuylsteke, 2011; Sgaier et al., 2012). It started interventions among PWIDs in certain selected districts in both Manipur and Nagaland. These districts were selected in consultation with national and state level authorities, so as to avoid duplication of services (Fig. 1a and b). Avahan's main strategies for intervention were: to achieve a high coverage of services including outreach; deliver a package of proven prevention services (provision of free new needle/syringe, abscess management, clinic services for treating of sexually transmitted infections, condom promotion and distribution and empowering the community); and address determinants of HIV risk (sharing needle/syringe, condom use, multiple partners and advocacy to reduce structural barriers to safer injection and sex practices) (Priya Mannava, Pillai, Hazarika, Chandrashekar, & Kermode, 2012).

Avahan's evaluation framework was based on approaches for large-scale public health programs and followed the program's logic model: assess scale-up and coverage; changes in intermediate outcomes (such as safe injecting practice [consistently avoiding injection with a needle/syringe already used by others, drawing drugs from common container], consistent condom use and reduction of STIs); and changes in HIV prevalence among the high risk groups (Bill & Melinda Gates Foundation, 2008a, 2010; Boerma & Weir, 2005). Two rounds of cross-sectional surveys termed Integrated Behavioural and Biological Assessments (IBBA) were conducted in 2006 and 2009 to assess these outcomes.

The present manuscript assesses the role of Avahan intervention on changes in behaviours and HIV/STIs among male PWIDs in Manipur and Nagaland. The specific objectives were: (1) to document the scale-up and intensity of coverage of the Avahan programme; (2) to study self-reported consistent safe injecting practice and their association with the Avahan intervention; (3) to estimate the association between self-reported consistent condom use and Avahan intervention; and (4) to assess the prevalence of STIs and blood-borne infections (including HIV, Hepatitis B, and Hepatitis C) and their association with Avahan intervention.

Methods

This paper uses programme monitoring data, and behavioural and biological data from two cross sectional surveys – the IBBA surveys – conducted in Manipur and Nagaland.

Framework

We developed an analytical evaluation framework based on the Avahan evaluation design (Table 1). The aim of using the framework was to: (1) examine the scale and intensity (based on availability and utilization of services) of Avahan coverage; (2) assess the intermediate outcomes-consistent safe injecting practice and condom use; (3) assess changes in prevalence of STIs including HIV and other blood borne pathogens; and (4) examine the association of exposure to the Avahan interventions and self-reported injecting behaviour, self-reported condom use, and STI prevalence.

Data sources

Avahan program monitoring data

Avahan developed a computerized management information system (CMIS) which collected data on outreach services and clinical services through the course of program implementation (Verma et al., 2010). In each district, NGO partners implementing the Avahan program gathered and reported monthly data on program inputs and infrastructure, outreach services, and clinical service utilization. Data were aggregated and reported to the lead implementing partner at the state level and a subset of indicators was aggregated centrally using the CMIS. Program monitoring data from January 2005 till March 2011 were used to assess trends of programme coverage and uptake of program services.

Integrated Behavioural and Biological Assessment (IBBA)

Two rounds of IBBA were undertaken among male PWIDs in two districts (Bishnupur and Churachandpur) of Manipur and two districts (Phek and Wokha) of Nagaland (Fig. 1a and b). These districts were selected from seven Avahan intervention districts in Manipur and eight in Nagaland; they were chosen purposively based on size of the PWID population (Saidel et al., 2008). The size estimates of PWIDs were 2000 in Bishnupur, 2400 in Churchandrapur, 2200 in Phek, and 3100 in Wokha districts. In Manipur, Avahan's coverage was 100% in Bishnupur, 87% in Churchandrapur, and 100% in both the districts of Nagaland. Thus, Avahan was the sole intervention in three of the four districts of the IBBA and a significant part in the fourth district. Round 1 of the IBBA was conducted in 2006 and Round 2 in 2009. Men aged 18 years or older who reported injecting drugs for non-medical reasons at least once in the last six

Please cite this article in press as: Goswami, P., et al. An assessment of an HIV prevention intervention among People Who Inject Drugs in the states of Manipur and Nagaland, India. *International Journal of Drug Policy* (2014), http://dx.doi.org/10.1016/j.drugpo.2014.04.016