

Targeted Interventions in Rajasthan, India: How Informed are the Beneficiaries About Transmission of Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome?

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Abstract

Research Questions: What is the present level of knowledge among the high-risk groups regarding human immunodeficiency virus (HIV) transmission and what is the source of such knowledge? What role do the stakeholders play in enhancing their level of knowledge? **Objectives:** To assess the efficacy of interventions focused on high-risk groups, and to find out indications on the needs to work with the general population. **Study Design:** Community-based cross-sectional survey about transmission of HIV/acquired immunodeficiency syndrome (AIDS); **Study Period:** December 2002. **Participants:** 1792 respondents, which included 1001 truckers, 389 migrants, 206 street children, and 196 commercial sex workers (CSWs). **Setting:** In intervention sites under SACS in Rajasthan **Analysis:** Frequency distribution and Chi-square tests. **Results:** Knowledge about all the four methods of transmission of HIV/ AIDS was found to be relatively poor among the targeted intervention subjects. Of those who knew about HIV/AIDS about 67 per cent of the spouses of out migrants (55%) over one-third of the in migrants (35%), 45 per cent of the female commercial sex workers and 0.8 per cent truckers knew about all the correct modes of transmission of HIV/ AIDS. TV/Radio emerged as the main source of knowledge about the correct modes of transmission for most of the respondents. The state health services and NGO workers, though primarily responsible for imparting knowledge to the subjects were found to be playing marginal role in the same.

Keywords: High-risk group, human immunodeficiency virus/acquired immunodeficiency syndrome, knowledge, modes of transmission

Human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) has turned to be a global epidemic and the number of people affected with it is rapidly increasing. In India, a sharp increase in the estimated number of HIV infections, from a few thousand in the early 1990s to around 5.1 million children and adults in 2003, has been observed. With a population of over one billion, the HIV epidemic in India will have a major impact on the overall spread of HIV in Asia Pacific, and the entire world.⁽¹⁾

The first round of behavior survey reported that about 63% of the respondents from the State of Rajasthan were aware of HIV/AIDS. As expected, the proportion of respondents who were aware of HIV/AIDS was higher in the urban areas (84%) compared to that in the rural areas (57%). This is significantly lower than the all-India average where over three fourths (76%) were aware of HIV/AIDS. The knowledge with regard to the

correct methods on HIV/AIDS transmission among the respondents from Rajasthan was consistently lower than the national average.⁽²⁾

Evidences have been presented worldwide- that some people are more vulnerable to HIV because of their profession, lifestyle, and various other reasons. In India, at present, the focus is on the female commercial sex workers (CSWs), intravenous drug users, truckers street children, migrants, and men having sex with men who are considered at high risk or core transmitters.⁽³⁾

The state of Rajasthan continues to be a low prevalence state. The HIV prevalence amongst STD clinic attendees is 2.84% and is 0.25% among the ANC clinic attendees.⁽⁴⁾ However, Rajasthan appears to be heading for a volatile situation in the near future, as certain high-risk groups are present in the state of Rajasthan. These include female commercial sex workers (certain communities like Nat, Kanjar, and Bedia are traditional sex providers), truckers (two national highways pass through the state), migrants birth in migrants (to cities like Jodhpur and Jaipur for work both from within the state and outside the state) and out migrants to all over the country and aboard (especially from the Sekhawati region of the State). All these groups pose risk since they act as possible carrier of the virus.

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Under the second National AIDS Control Programme (NACP-II) many programmatic interventions have been launched and targeted interventions are one of them. The basic purpose of the targeted interventions is to reduce the rate of transmission among the most vulnerable and marginalized groups.⁽⁵⁾ They also create an environment that facilitate behavior change.

The intervention projects under NACP-II are need-based and vary from one state to another. In Rajasthan state, AIDS Control Society (RSACS) sanctioned 11-targeted intervention projects in the year 2000. These projects covered truckers (2 projects), out migrants (2 projects), commercials sex workers (4 projects), street-children (2 projects) and in migrants (1 project). These projects were carried out by the state level non-governmental organizations between 2000 and December 2002. A huge investment in terms of human resources, logistics, and finance is being generated to create awareness hoping that it will lead to promotion of safe behavior in the targeted group.

A study to assess the impact of these interventions was conducted during 2002-2003 by the Indian Institute of Health Management Research (IIHMR), Jaipur.⁽⁴⁾ This assessment was considered important since an assessment will not only information with regard to the efficacy of the interventions focusing on these high-risk groups; it will also give indications on the need of working with general population.

Materials and Methods

The study involved 1792 respondents; of which, 1001 were truckers, 389 were migrants (both immigrants and spouses of the emigrants), 206 street children and 196 commercial sex workers (CSWs). The study subjects were from different areas of the state of Rajasthan.

The high-risk groups were defined as street children, in-migrants, spouses of out-migrants and CSWs. The street children those who were less than 13 years of age and were staying in streets/slums with or without parents were covered by the NGOs under intervention program of RSACS in Jaipur and Jodhpur. The in-migrants were considered as all those individuals who have migrated from other villages to Jaipur in search of livelihood and had engaged themselves in either rickshaw pulling, as laborers, or daily wage earners; and were covered under the TI interventions conducted by NGOs. The spouses of the out-migrants, i.e., those who had migrated out in search of livelihood were those who were covered under the TI intervention program of RSACS at Navalgarh block of Jhunjhunu. All those who worked as truckers on NH 8 and NH 11 and covered by the NGO were considered as high risk groups. All women who were working as sex workers in the selected areas districts of Dausa,

Alwar, Tonk, and Dholpur of Rajasthan were identified by RSACS and were covered under the intervention programs conducted by NGOs.

The number of subjects to be interviewed was decided by the RSACS. The intervention sites, as reported by NGOs, were visited, and the PPS method was used to calculate the number of subjects to be interviewed from each of the site. Since availability of the subjects was a constraint in case of CSWs, truckers, street children, and in-migrants, all those who were available at the intervention sites were interviewed until the stipulated sample number was reached. The intervention was carried out for the entire village; therefore, in the case of the spouses of the out-migrants, the number of respondents required from each of the site was selected using systematic random sampling.

All the respondents were asked about their knowledge about the different modes of transmission of HIV/AIDS and the source of their acquired knowledge.

Trained investigators interviewed all the respondents and this was done in complete anonymity. All the respondents were asked for a verbal consent and were given a choice to withdraw from the study at any time they wished. In case of minors, the consent of the guardians was sought. Information was collected in December 2002. The information collected was assessed at the Indian Institute of Health Management Research, Jaipur using base and Epi-Info software.

Results

A majority of subjects were aware of the correct modes of transmission, the correct responses ranged from 3%-97%. Approximately 86% of the subjects were aware that HIV/AIDS could be transmitted through heterosexual route. The knowledge with regard to this route of transmission was high among all groups, except street children where it was observed to be 42%. The CSWs and the spouses of out-migrants in equal proportions (about 96% each) were knowledgeable about this mode of transmission. The difference was found to be statistically significant ($P < 0.05$) [Table 1].

Popular sources that provided information that HIV/AIDS could be transmitted through sex with an infected person were TV/radio (26%), friends and relatives (17%), NGO worker (11%), IEC material and newspaper (5%), and doctors (4%).

Two-thirds of the subjects (64%) were aware of the homosexual route of HIV infection. This knowledge was high among the spouses of the out-migrants (79%), truckers (71%), and female CSWs (63%). Almost two-fifths of the immigrants and majority of street children were not aware that homosexual relation could cause

Table 1: Knowledge about correct and incorrect modes of transmission among beneficiaries of targeted intervention

	Street children (N = 140)	Commercial sex workers (N = 184)	Truckers (N = 852)	Spouses of out-migrants (N = 137)	In migrants (N = 93)
About heterosexual route	59 (42.1)	178 (96.7)	764 (89.7)	131 (95.6)	75 (80.6)
Homosexual relations	17 (12.1)	116 (63.0)	604 (70.9)	108 (78.8)	54 (58.1)
About blood transfusion	63 (45.0)	159 (86.4)	680 (79.8)	125 (91.2)	66 (71.0)
About MTCT	12 (8.6)	145 (78.8)	24 (2.8)	117 (85.4)	40 (43.0)
About kissing	41 (29.3)	39 (21.1)	126 (14.8)	14 (10.2)	9 (9.7)
Shaking hands	38 (27.1)	19 (10.3)	40 (4.71)	6 (4.4)	5 (5.4)
Mosquito bites	55 (39.3)	44 (23.9)	156 (9.1)	27 (19.7)	3 (3.2)
Sharing food	56 (40.0)	42 (22.8)	130 (15.2)	36 (26.3)	10 (10.7)
Using toilet	32 (22.8)	36 (19.6)	93 (28.5)	39 (28.5)	6 (6.4)

HIV transmission. All high-risk groups differed from each other significantly in their knowledge about this mode of transmission ($P < 0.01$).

Source of knowledge about the role of homosexual relations in transmission of HIV/AIDS was attributed to TV/radio and friends and relatives (17%). About 13% attributed the source of information to NGO by 25% and 17% of the respondents respectively workers. As less as only 3% of the respondents reported that newspapers and IEC material provided them with the information.

A vast majority of the respondents (77%) were aware of unsafe blood transfusion as route of transmission. The knowledge was high among spouses of the out-migrants (91%), CSWs (86%), and truckers (80%), whereas, it was comparatively low among the in-migrants (71%) and the street children (45%), ($P < 0.05$).

The source of information for those who reported that HIV/AIDS could also spread through unsafe blood transfusion was TV/Radio (28%), friends and relatives (16%), NGO workers (12%), doctors (4%) and advertisement (2%).

Knowledge about the fact that HIV/AIDS can be transmitted from an infected mother to children remained poor (24%) among the subjects. Both groups of female subjects, i.e., spouses of out-migrants (85%) and female CSWs (79%) were more informed about this mode of transmission. The knowledge about transmission from mother to children was low among truckers (3%) and street children (9%), ($P = 0.01$).

TV/Radio proved to be an important source of information (43%) for this route of transmission. This was followed by NGO workers (24%), friends and relatives (14%), doctors (7%) and newspaper and IEC material (2%) [Table 2].

As many as 16% of the respondents believed that the HIV virus could be transmitted while kissing. This myth was most prevalent among the street children. (29%), followed by CSWs (21%), and the truckers (15%). The myth was least prevalent among both migrant groups (10% each).

As far as the source of information for modes of transmission through kissing is concerned, subjects attributed the source to friends and relatives (31%), TV/radio (23%), NGO workers (10%), advertisements (8%), doctors (5%), IEC material and newspaper (3% each).

Comparatively fewer respondents (8%) reported shaking hands as a mode of transmission. While 27% of the street children and 10% of the CSWs informed that shaking hands can result in transmission, the percentage was as low as 5% for truckers and in-migrants each and 4% for spouses of out-migrants.

Similarly, the knowledge about transmission by shaking hands with infected person was reportedly received from friends and relatives (32%), TV/radio (15%), NGO workers (12%), doctors (6%), advertisements (3%), IEC material (2%) and newspaper (1%).

As many as 20% percent of the total respondents claimed that a mosquito can spread HIV/AIDS. This myth was most prevalent among street children (39%), CSWs (24%), and spouses of out-migrants (20%). Less than 10% of the truckers and in-migrants reported that HIV/AIDS could be transmitted by mosquito bite.

Those who responded that HIV/AIDS could be transmitted through mosquito bite were asked about the source of the information. The subjects reportedly collected the information through friends and relatives (20%), TV/radio (15%), NGO worker (12%), doctors (35%) and newspaper and advertisement (2% each).

Two out of five street children reported that sharing food with an infected person could lead to HIV/AIDS. About one fourth of the spouses of the out-migrants and CSWs and 15% of the truckers and 11% of the in-migrants also felt that one could get HIV/AIDS by sharing food with an infected person.

Friends and relatives (34%), TV/radio (26%), NGO worker (11%), advertisement and doctor (5% each), were the important sources of this information.

Table 2: Knowledge about sources of information among beneficiary of targeted intervention areas

	TV/radio	Friends/relatives	NGO workers	IEC material	Doctor	Newspaper
Heterosexual (N = 1207)	311 (25.8)	201 (16.7)	137 (11.4)	49 (4.0)	46 (3.8)	15 (1.2)
Homosexual (N = 882)	223 (25.3)	147 (16.7)	111 (12.6)	22 (2.5)	12 (1.4)	2 (0.2)
Blood transfusion (N = 326)	285 (27.7)	166 (16.1)	126 (12.2)	44 (4.3)	32 (3.1)	18 (1.7)
MTCT (N = 326)	140 (42.9)	94 (28.8)	45 (13.8)	23 (7.1)	4 (1.2)	1 (0.3)
Kissing (N = 229)	53 (23.1)	71 (31.0)	23 (10.0)	7 (3.1)	11 (4.8)	6 (2.6)
Shaking hands (N = 108)	16 (14.8)	34 (31.5)	13 (12.0)	2 (1.9)	6 (5.6)	1 (0.9)
Mosquito bites	42 (14.7)	56 (19.6)	34 (11.9)	2 (0.7)	8 (2.8)	5 (1.8)
Sharing food	72 (26.3)	92 (33.6)	29 (10.6)	7 (2.6)	14 (5.1)	1 (0.4)
Using toilet	66 (32.0)	64 (31.1)	21 (10.2)	6 (2.9)	11 (5.3)	3 (1.5)

The belief that sharing the toilet with HIV/AIDS infected person can also lead to transmission was observed among 28% of the spouses of out-migrants, 23% of the street children, 20% of the CSWs, 11% of truckers, and 6% of in-migrants. Those who reported that sharing the toilet with HIV/AIDS infected person would result in transmission 'reportedly' got this information from TV/ radio (32%), friends and relatives (31%), NGO worker (10%), doctors (5%), and newspaper and advertisement (2%).

Discussion

The National AIDS Control Organization (NACO)-the apex government body specifically created for combating HIV/AIDS in India-spends over one-third (34%) resources on information, education, and communication.⁽⁶⁾ However, many studies including NFHS-II,⁽⁷⁾ reveal that the general population is quite ignorant about HIV/AIDS and there are ways to prevent it. As per NFHS II, 60% of the married women aged 15-49 years had never heard of HIV/AIDS. The corresponding figures for Rajasthan state are even more a matter of concern since 79% of them remained ignorant about the virus.⁽⁵⁾

According to the findings of the behavior survey, 11% reported having received interpersonal communication on HIV/AIDS/STDs. Similarly, information on the use of condoms was conveyed interpersonally to only 10%.⁽²⁾

The purpose of undertaking targeted interventions was to create an environment that will facilitate behavior change, and thereby, contribute towards reducing the rate of transmission of HIV/AIDS amongst the most vulnerable and the marginalized. The first step towards creating conducive environment for change has been to build the knowledge base among the subjects, which, by far, remains the first step of any behavior-change intervention. As per the Population Communication Services Network, the knowledge about the desired behavior is the first of six steps of behavior change.⁽⁸⁾ In the present publication, an attempt has been made to look at the current level of their knowledge both about the correct as well as the incorrect modes of transmission.

It was observed that the knowledge about all the four methods of transmission of HIV/AIDS was relatively poor among the subjects. For example, of those who knew about HIV/AIDS about 67% of the spouses of out-migrants (55%) over one-third of the in-migrants (35%), 45% of the female CSWs and 0.8% truckers knew about all the correct modes of transmission of HIV/AIDS.⁽⁴⁾ This is an issue of grave concern. This can be taken as an indication of the status of knowledge among general population. It is assumed that the knowledge of general community will be lesser than that of the targeted intervention subjects.

It was seen during the survey that subjects had very superficial knowledge about AIDS, and at times, their responses regarding the transmission modes were very vague and unscientific, so much so that they attribute the knowledge about incorrect methods mostly to NGO workers, media, and government health workers. This should be viewed either in terms of the retention power of the subjects or the intensity of the method through which knowledge has been disseminated to them. If former is true, then efforts need to be taken by the information providers to provide information in such a way that it is sustained or it is re-enforced at intervals.

Taken together, for almost all kinds of false and true modes of transmission reported, friends/relatives remained the biggest source of information. Only for the transmission from mother to child and homosexual relationship, the responses attributing the source of information to TV/radio has surpassed those of the "friends and relatives." However, as a target group, the source of information on modes of transmission varied.

Some of their responses like attributing the information on mosquito bite, as means of transmission to electronic media are certainly incorrect. This is a secondary issue; the primary one being the fact that these are the people whose behaviour we are trying to change with behaviour change strategies.

As far as the correct modes of transmission were concerned, the friends and relatives were sources of

information to maximum number of the subjects. Only for the transmission through mother to child, maximum number of the respondents has reported that they came to know about this through TV/radio (43%) followed by the NGO workers (29%). The finding that maximum number of the respondents attributed source of their knowledge was family and friends shows that the family members are the most potent source of information, and probably, most effective catalyst who can bring about change in behavior.

The other sources, which are specially working to bring awareness, such as the NGO workers needs to be skilled as not even one-third of the respondents (highest 29% for MTCT) have reported them as informers. This indicates that NGO workers have a long way to go; they need to reach all the subjects as even a single high-risk case left unreached means that the risk has multiplied manifold both for his/her chances of getting infected and also spreading the infection further.

Another disturbing aspect of the study is absence of health providers as sources of information. This calls for introspection as by design state's health system is expected to lead the crusade against the HIV/AIDS. The fact that few of the respondents mentioned them as the source of information indicates further efforts need to be made in this field.

Future of targeted interventions in the state

The fact that the knowledge of various modes of transmission is poor among the targeted subjects, poses serious questions regarding the success of the targeted interventions. The fact that the relatives and friends (the community) has emerged as a greatest source of information both for the correct as well as incorrect modes of transmission is one of the greatest challenges. In order to strengthen this group, the magnitude of intervention needed is very high, since logistically speaking, it is most cumbersome to contact this group. It is also true that periodic re-enforcement of the messages of prevention to this powerful group is necessary. Therefore, the group needs utmost attention.

The media, both print and electronic, has also emerged

as a strong source of information. This highlights the increased importance of this powerful medium in building the knowledge base of the community. It is recommended that this be strengthened further in order to empower the community.

Two of the significant stakeholders who are traditionally the backbone for any health behavior intervention, the health providers and NGOs workers, are conspicuously absent from the list of information providers listed by the subjects. The efforts need to be made to involve these groups more strongly.

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