

Awareness about HIV infection among the paramedical staff in a tertiary care hospital in Delhi, India

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Abstract

In India, acquired immunodeficiency syndrome (AIDS) is a growing epidemic involving all sections of the society. Health care personnel are at increased risk of acquiring blood borne diseases like AIDS, hepatitis, etc. We aimed to assess the level of awareness of HIV infection among the paramedical staff working in a tertiary care hospital. A total number of 207 paramedical staff were asked to complete a questionnaire covering the various aspects of HIV and AIDS which was then critically reviewed. We observed that 57.54% of the staff was aware of the different aspects of HIV infection. Our results highlighted that awareness regarding the different facets of HIV varied among the nurses, lab technicians and support staff. Transmission of blood borne infections through needle stick injury is a harsh reality involving health care personnel. There is an urgent need to teach basic knowledge about HIV infection among high-risk populations.

Introduction

The alarming rise of sexually transmitted diseases has put India in the top position in AIDS scenario in the Asian continent.¹ India is one of the largest and most populated countries in the world, with over one billion inhabitants. In 2007, UNAIDS and the WHO issued HIV estimates for India; HIV had decreased from 5.7 million (3.4-9.4 million) people in 2005 to 2.5 million (2.0-3.1 million) people in 2006.^{2,3} HIV prevention efforts should concentrate on high-risk groups such as commercial sex workers and their clients, migrant laborers and truck drivers, medical professionals, and injection-drug users.⁴

Medical professionals and other health care workers, by virtue of their profession, can get infection from patients, a contaminated envi-

ronment and patient specimens either by direct contact or indirect contact. The risk of being infected with HIV through a needle stick or prick with inoculation to infected blood is approximately 0.25 to 0.3%, and is 0.05-0.3% following mucus membrane exposure. The hospital staff of nurses, technicians and the para medical support staff are directly involved in handling, transportation and disposal of bio-medical waste.⁵ They need to be made aware of HIV infection, the way it can spread, and the importance and method of hospital waste segregation, transportation and disposal as these are high-risk labor sectors.

Materials and Methods

The study was conducted in the GB Pant and Lok Nayak Hospital, New Delhi. A total number of 207 subjects (nurses, technicians and the para medical support staff) were included in the study. All the respondents were categorized into 5 groups according to number of years of service.

All the participants were given a questionnaire and the filled questionnaire was collected on site. The questionnaires were reviewed and evaluated by coordinating officers. The questionnaire was made up of 11 questions regarding knowledge about HIV and AIDS which was subdivided broadly into 4 categories *i.e.* (i) AIDS definition and presentation; (ii) transmission of HIV; (iii) protection and disinfection; (iv) prophylaxis and treatment.

Results

Questionnaires were filled and collected from 207 subjects. Of this, 59.9% of the respondents were nursing staff (n=124), 31.8% were laboratory technicians (n=66), and 8.2% were hospital support staff employees which included ward and laboratory attendants and sweepers (n=17). The experience of the participants ranged from one year to 31 years of service. The nursing and technical staff were graduates in their respective fields whereas the support staff were less educated with the majority of them only having completed their basic schooling with no college experience.

Table 1. Awareness levels in different subgroups of participants.

	Nurses (%)	Technicians (%)	Support staff (%)
Symptomology and presentation	82.85	90.85	71.4
Transmission	41.6	61.3	41.6
Disinfection and precautions	32.5	38	16.5
Prophylaxis and treatment	40	55.4	43.7
Total	52.96	63	42.7

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Table 1 shows HIV awareness status in the different groups according to job profiles. Approximately 58% of the respondents gave correct responses about the different facets of HIV. Knowledge about AIDS and its presentation was correctly known by 84.7% of the total number of participants. Of this, 52.96% of the nurses, 63% of the technicians and 42.7% of the support staff were aware and informed about AIDS as evaluated by our questionnaire. Approximately 48% of the respondents knew about the transmission and spread of HIV. Awareness about the prescribed methodology for disinfection and protection, as well as prophylaxis and treatment, was observed in 33% and 45% of the study subjects, respectively. The corresponding figures for the nursing staff on the four cardinal questions regarding HIV transmission, protection, prophylaxis and treatment were 82.85%, 41.6%, 32.55 and 40%, respectively. Similarly, correct knowledge about the above-mentioned parameters among the technical staff was 90.85%, 61.3%, 38% and 55.4%, respectively. The support staff was found to be the least aware about the different aspects of HIV, as shown by their low percentages in all the four subgroups- 71.4%, 41.6%, 16.5% and 43.7%, respectively.

Our participants were further subdivided into 5 categories (<5 yrs, 6-10 yrs, 11-15, 16-20 and >20 years) according to their experience and the results are shown in Table 2.

Table 2. Awareness levels according to number of years of service.

	≤5 years	6-10 years	11-15 years	16-20 years	>20 years
n	68	37	40	35	27
Symptomology and presentation	90.8%	82.8%	78%	75.2%	72.8%
Transmission	56%	51.5%	50%	43.3%	38%
Disinfection and precautions	36%	45%	19%	30%	20%
Prophylaxis and treatment	49.7%	45.7%	33%	47%	47%
Total	62.9%	60%	51.7%	54%	50%

The above-specified subgroups included 68, 37, 40, 35 and 27 respondents. On further analysis of any association between knowledge score and years of experience, it was found that respondents' knowledge scores decreased as their years of experience increased.

Discussion

India ranks third, behind South Africa and Nigeria, in the largest number of people living with HIV.⁶ In the present study, it was observed that among the hospital staff only 58% was aware about HIV. Though most of them had knowledge of the symptoms and presentation of the disease, they had no knowledge about disinfection, universal precautions, and prophylaxis against exposure to needle stick injury. This is of the utmost importance in health care centers to prevent occupational exposure and iatrogenic transmission. The study conducted on nurses, lab technicians and support staff indicated very different knowledge scores, with the support staff scoring the least. Approximately 85% of the staff were aware of the symptomology and presentation of AIDS, with the laboratory technicians showing maximum knowledge.

Only 48% were aware that HIV is transmitted through unprotected intercourse, perinatal spread, intravenous drug abuse and transfusion of contaminated blood. They were not aware that HIV is not transmitted by shaking hands, sharing toilets and utensils with HIV positive subjects and mosquito bites. Only 10% of the respondents knew the most common mode of transmission of HIV in India.

Knowledge about disinfection and precautions was even lower at 33%, though 61% of the technicians knew about the universal precautions and various methods that can be adopted for HIV disinfection. However, 90% of the respondents were aware that used needles should be destroyed after single use.

The respondents were found not to have a complete knowledge of the ideal prophylaxis and treatment protocols. Only 45% of the participants could score adequately in the questions about these. Nurses (40%) and support staff (43.7%) were not aware about needle stick injury and post exposure prophylaxis as compared to technicians (55.4%). On further analysis, we found an inverse relationship between the knowledge about HIV and the number of years of service. The highest scores were observed in the young recruits who had been in service for less than five years. In older staff, who had been in service for more than ten years, only approximately 50% of them

were aware about the different aspects of HIV as evaluated by us.

Conclusions

Among participants of the study, the laboratory technicians were more knowledgeable as compared to the nurses and the attendants about all the aspects, which were addressed in our questionnaire. Our study indicates that there are a lot of misconceptions regarding HIV. We would suggest incorporation of regular training programs and classes on HIV awareness and biomedical waste management in the hospital administration curriculum.

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