

**A STUDY OF AWARENESS OF HIV RELATED ISSUES AMONGST TECHNICAL PERSONS AND DOCTORS IN ALL THE MEDICAL COLLEGES OF KOLKATA**

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**ABSTRACT: INTRODUCTION:** HIV/AIDS awareness day was founded by five different organizations founded by the centres of disease control and prevention in 1999. The government of India estimates that about 2.40 million people living in India are living with HIV (1.93-3.04 million). The objective of this study is to evaluate the level of awareness of AIDS related issues amongst doctors and technical staffs in all the medical colleges of Kolkata. Ethics committee clearance was obtained from the mother institute. A review of literature was done to understand the level of awareness amongst the aforesaid sections of people in different countries. **METHODS:** This cross sectional study was done amongst general duty medical officers and technical staffs in all the medical colleges of Kolkata by a predesigned, pretested, structured interview schedule using questionnaire. Statistical analysis was done by SPSS version 19 and Z test was applied to compare between the two rates. A p value less than .05 was considered significant. **RESULTS:** 51.1% of the medical officers and 35.1% technical staffs know that HIV could either be transmitted through sexual contact or blood contact or the transmission may occur from mother to child. It was also found that about 62.2% of the medical officers and 65% of the technical staffs had the knowledge that body fluids like tear, urine, saliva and sweat were not infectious unless contaminated with blood. **CONCLUSIONS:** We found that the overall awareness of the subject in the doctors and technical staffs was still less and had to be improved through periodical training and regular supervision.

**KEYWORDS:** Education, PLHA, prevention, Promotional materials.

**INTRODUCTION:** HIV/AIDS awareness day was founded by five different organizations founded by the centers of disease control and prevention in 1999. The government of India estimates that about 2.40 million people in India are living with HIV (1.93-3.04 million). India's highly heterogeneous epidemic is largely concentrated in only a few states in the industrialized South India (Andhra Pradesh 500000, Maharashtra-420000, Karnataka-250000, Tamil Nadu-150000) account for 55% of all HIV infections in the country. West Bengal, Gujarat, Bihar, Uttar Pradesh are estimated to have more than 100000 PLHA (people living with AIDS) each and together account another 22% of HIV infections in India.<sup>[1]</sup>

According to India's National AIDS and Control organization (NACO), the bulk of HIV infections in India occur during unprotected sexual intercourse. India's HIV epidemic is of global interest. Two years ago it was shown that HIV prevalence in young women declined by a third between 2000-2004 in the Southern states of Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu. HIV prevalence at young ages (15-24 yrs.) is a useful proxy for trends in HIV incidence.<sup>[2]</sup>

Incidence has fallen in South India. The most probable reason is reduced contacts with female sex workers by husbands of tested women or increased condom use in sex work.<sup>[3]</sup>

## ORIGINAL ARTICLE

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There are four specific focal points in awareness of HIV/AIDS- education, testing, involvement and treatment. Educationally, the focus is to get people educated about the basics of HIV/AIDS in their local communities. Getting tested is very vital. This is important for those who are sexually active or those who are at high risk of contracting AIDS.

People who are living with the virus or newly testing positive getting them connected to treatment and care services is important. Awareness can be spread by bearing the basics of HIV transmission, prevention, getting tested, national and social advertising and social media, promotional materials etc. our study is conducted amongst doctors and medical staffs in all the medical colleges of Kolkata.

The objective of our study was to evaluate the level of awareness of AIDS related issues amongst doctors and technical staffs in all the medical colleges of Kolkata. 'Life is worth saving and working for the betterment of our survival has to become our paramount objective and goals.

We know how it feels to lose someone from an illness, but we also know how to love someone through it. It is time for us to put AIDS behind us by making sure those living with HIV or AIDS know we care. We stand on some strong shoulders that intended for us to survive' said La Mont "Montee" Evans, NBHAAD (National Black HIV/AIDS Awareness Day) National coordinator.<sup>[4]</sup>

**MATERIALS AND METHODS:** This cross sectional survey was done amongst general duty medical officers and technical staffs of five medical colleges of Kolkata between December 2014 to June 2014. The medical officers and technical staffs were selected by purposive sampling. Those who were willing to participate in the study and gave consent for the same were included in the study. A predesigned, pretested structured interview schedule was used to interview both the groups.

The interview schedule was reviewed and approved by the experts in the dept. of community medicine of the mother institute. Institutional ethical committee clearance was obtained. The interview schedule contains variables like content items on assessing the knowledge on transmission of HIV, practice of standard precaution and knowledge about post exposure prophylaxis against HIV.

**Statistical Analysis:** Data collected was analyzed by SPSS (Statistical package for Social Scientist) version 19. Z test was applied to compare between two rates. A p value less than .05 was considered as significant.

**RESULTS:** Out of the 45 medical officers, 23 were males and 22 were females. And out of the 57 technical staffs, 45 were males and 12 were females. It was found that 51.1% of the medical officers and 35.1% technical staffs know that HIV could be transmitted either through sexual contact or through blood contact or the transmission may occur from mother to child. However the difference between the two groups was not found to be statistically significant ( $z=1.42$ ,  $p=.155$ ), it was also found that about 62.2% of the medical officers and 65% of the technical staffs had the knowledge that body fluids like tear, urine, saliva, and sweat were not infections unless contaminated with blood.

In this case also the difference was not significant ( $z=.08$ ,  $p=.93$ ). Among the medical officers and the technical staffs 51.1% and 33.3% respectively knew that HIV remained active in fresh blood outside the body but the difference was not statistically significant ( $z=1.61$ ,  $p=.107$ ).

While assessing the practice of standard precaution among the two groups it was found that significantly more technical staffs (87.7%) always used gloves in comparison to the medical officers (48.9%) and this was found to be statistically significant ( $z=4.05$ ,  $p=.000$ ).

## ORIGINAL ARTICLE

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The proper disposal of used needles by destroying in hub cutter was practiced by almost equal proportion of medical officers and technical staffs (86.7% and 84.2% respectively). However, this difference was not found to be significant ( $z=.07$ ,  $p=.94$ ). But in both cases of medical officers and technical staffs the action following needle prick i.e., washing with soap and water and starting ARV drugs was found to be poor (35.6% and 28.1%) respectively. Similar observation was made in case of action following exposure of mucous membrane of mouth and eyes {medical officers 17.8% versus technical staffs 22.8%; ( $z=.37$ ,  $p=.789$ )}.

Regarding the optimum time for starting PEP drugs only 68.9 of medical officers and 50.9% of technical staffs mentioned that it had to be started within 72 hours of exposure. The difference was not found to be statistically significant ( $z=1.63$   $p=.103$ ). The main reasons cited by both the groups for not always using gloves were clumsiness in handling instruments and workload. Around 13% of medical officers and 12% of technical staffs even bent needles after use.

**DISCUSSION:** The level of knowledge on the correct identification of both high and low risk body fluids for HIV transmission were high among HCV and surgery resident doctors in Nigeria.<sup>[5-6]</sup> In our study about 62.2% of the medical officers and 65% of the technical staffs had the knowledge that body fluids like tear, urine, saliva and sweat were not infections unless contaminated with blood. Much lower rates of knowledge of high and low risk body fluids were found among Nigerian and UK anesthetist.<sup>[6-7]</sup>

We found that 48.9% of medical officers had the knowledge that HIV can be contracted through unprotected sex and 38.6% technical staffs also knew it. 7% of technical staffs know that mother to child transmission of HIV can occur.

In South Africans it was found that many people in townships were unaware of the primary modes of HIV/AIDS transmission through unprotected sex with an HIV positive individual and through mother to child transmission from an HIV positive mother to her body during pregnancy.<sup>[8]</sup> Epidemiologic studies of non-sexual household contacts of HIV infected patients including several small series in which HIV transmission failed to occur after bites or after percutaneous inoculation or contamination of cuts and open wounds with saliva from HIV infected patients suggest that the potential for salivary transmission of HIV is remote.<sup>[9-10]</sup>

We found that the percentage of medical officers who says that the activity of HIV remaining active in fresh blood outside the body is 51.1% and that of technical staffs is 33.3%. But it was found that the risk of transmission of HIV and HBV from these fluids and materials is extremely low or non-existent.

HIV has been isolated and HbsAg has been demonstrated in some of these fluids however epidemiologic studies in the health care and community setting have been implicated these fluids or materials in the transmission of HIV and HBV infections.<sup>[9-10]</sup> Universal precautions apply to blood and to other body fluids containing visible blood. Occupational transmission of HIV and HBV to health care workers by blood is documented.<sup>[11-12]</sup>

In our study regarding the optimum time for starting PEP drugs, we observed that 69% of medical officers mentioned and 51% of technical staffs mentioned it as less than 72 hours( $z=1.63$   $p=.103$ ). In a study conducted in Nigeria to determine the knowledge of awareness among Nigerian family physicians, it was effective in preventing HIV transmission.<sup>[13]</sup> In another survey among junior doctors in the U.K, 93% of those surveyed had heard of PEP for HIV, however only 76% were aware that HIV PEP reduced the transmission of HIV.<sup>[14]</sup>

## ORIGINAL ARTICLE

Other studies reported much lower rates of knowledge (between 15-38.5%) about the optimal timing for PEP in the event of a needle stick injury.<sup>[15]</sup> Among Nigerian dentists 64.4% were reported to have good knowledge regarding the adequacy of knowledge of HIV, PEP.<sup>[16]</sup>

**Limitations of the Study:** The study had its own limitations like purposive method of sampling and small sample size. Also actual practice among the participants could not be observed and was mostly self-reported. This indicated the dire need for periodical training and regular monitoring and supervision of the health personnel.

**CONCLUSION:** The knowledge on HIV regarding the modes of transmission, standard precaution, pre and post exposure prophylaxis was quite poor among the participants. Continuous supervision by higher authorities regarding these essential issues in medical care services should be mandatory.

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	<b>Medical Officers (n=45)</b>	<b>Technical Staffs (n=57)</b>
<b>Transmission</b>		
Sexual contact	22 (48.9)	22 (38.6)
Blood contact	-	11(19.3)
Mother to child	-	4(7.0)
All	23 (51.1)	20 (35.1)
<b>Body fluids</b>		
Tear	3 (6.7)	1 (1.7)
Urine	-	1 (1.7)
Saliva	12 (26.7)	15 (26.3)
Sweat	2 (4.4)	3 (5.3)
None unless contaminated with blood	28 (62.2)	37 (65.0)
<b>Activity of the virus HIV remains active in fresh blood outside the body</b>		
Yes	23 (51.1)	19 (33.3)
No	18 (40.0)	22 (38.6)
Sometimes	4 (8.9)	16 (28.1)

**Table 1: Knowledge Amongst Doctors and Technical Staffs About Transmission of Hiv\***

**\*Figures in Parenthesis Indicate Percentage:**

All: z=1.42 p=.155

None unless contaminated with blood: z=.08 p=.93

Activity of virus: yes z=1.61 p=.107

<b>Standard precaution and PEP</b>	<b>Medical Officers (n=45)</b>	<b>Technical Staffs (n=57)</b>
<b>Frequency of using gloves</b>		
Sometimes	12 (26.7)	4 (7.0)
Occasionally	11 (24.4)	3 (5.3)
Always	22 (48.9)	50 (87.7)
<b>Disposal of used needles</b>		
Bend	6 (13.3)	7 (12.3)
Destroy in hub cutter	39 (86.7)	48 (84.2)
Throw in common container	-	2 (3.5)
<b>Action following needle prick</b>		
Wash with soap and water	19 (42.2)	26(45.6)
Start antiretroviral drugs	10 (22.2)	15(26.3)
All	16 (35.6)	16 (28.1)
<b>Action following exposure to mucous membranes of mouth</b>		
Wash mouth with plain water or normal saline	25 (55.5)	37 (64.9)
Start antiretroviral drugs	12 (26.7)	7 (12.3)
All	8 (17.8)	13 (22.8)
<b>Optimum time for starting PEP drugs</b>		
Less than 72 hours	31 (68.9)	29 (50.9)
7 Days	9 (20.0)	27 (47.4)
1 Month	5(11.1)	1 (1.7)

Table 2: Practice of Standard Precautions and Knowledge About Post Exposure Prophylaxis\*

**\*Figures in Parenthesis Indicate Percentage:**

- Always use gloves:  $z=4.05$   $p=.000$
- Destroy needle in hub-cutter:  $z=.07$   $p=.94$
- Action after needle prick:  $z=.60$   $p=.552$
- Exposure to mucous membrane:  $z=.37$   $p=.789$
- Starting PEP:  $z=1.63$   $p=.103$

**Questionnaire for Doctors:**

1. Please write down the name of your state:
2. District:
3. City/Town/Village you originally belong to.
4. Your native language:
5. Interviewer:
6. Informed consent.
7. Medical college you belong to:
8. Age: yrs.

## ORIGINAL ARTICLE

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9. Educational Qualification:
10. Address:
11. Religion/Sex:
12. Occupation:
13. How does HIV get transmitted? a) Through sexual route b) through blood c) from infected mother to child.
14. Your understanding of different body fluids with respect to spread of infection:  
Tear/urine/saliva/sweat/none unless contaminated with blood.
15. Does virus in fresh blood remain active outside the body: Yes/No/Sometime
16. Which is more infectious? : HIV/HBV.
17. Does physical contact transmit AIDS? A) talking to the person b) touching his things c) sharing his things d) shaking hands e) all f) none.
18. If there is a needle prick, will the person transmit AIDS? Yes/ No.
19. After needle prick what will be the advice for the person who got pricked? a) Wash with running water and soap b) wash with plain water nicely and apply some disinfectants c) to take antiviral drugs for one month d) all.
20. How do you assess the prognosis of a person with HIV? CD count is\_\_\_.
21. Do you suffer from thallemia / hemophilia?
22. Did you undergo blood transfusion-Yes/ No
23. Awareness about universal protection – How often do you use gloves? Sometimes/occasionally /every case.
24. How should needles be ideally disposed? A) Blunt the tip b) detach the metallic part from the plastic which is duly received in a prefilled Na hypochlorite soln. c) directly into common container.
25. If spillage occurs, what is your common method of disinfection? a) Wash with water b) phenyl c) Dettol / savlon d) bleaching powder put handful and wait for 30 min and clean it.
26. If spillage occurs on your garment what is your common method of disinfection? a) dip the apron / garment into 1% Na hypochlorite soln. for 1 hr the clean it as usual b) destroy it to the dustbin c) laundry.
27. What is the optimum time for post exposure prophylaxis following an occupational exposure a) 72 hr. b) 7 days c) 1 month.
28. If a seropositive mother willing to breast fed her baby then what is your advise a) stop feeding b) put on artificial milk c) put on drugs and fed.
29. While drawing ESR by method if a gush of blood enters the mouth a) immediately wash the mouth with plain water for 15 min if possible with some disinfectants and trace the source whether source is whether source is HIV/HCV/HBV b) if HIV start HAART as early as possible c) gingivitis infections with discontinuous mucous membrane due to soreness
30. Should there be separate schools for HIV positive children? Y/N.
31. Should HIV positive children/persons be kept in a separate place for spread of infection?
32. For how long the virus in fresh blood in active outside the body? a) Few days b) few min c) few sec d) few month.
33. How often should a person with risk behavior (drug abuse / multiple sex partners /sex work / sharing needles / transgender group etc) be tested for AIDS? 2y/3y/1y/5y.
34. Please name a few drugs used in treating AIDS?

**Questionnaire for Technical Staffs:**

1. Please write down the name of your state:
2. District:
3. City/Town/Village you originally belong to:
4. Your native language:
5. Interviewer:
6. Informed consent:
7. Respondent does not want to be interviewed:
8. Medical college you belong to:
9. Your age - yrs.:
10. Your educational qualification
11. Address:
12. Religion / Sex:
13. Occupation:
14. How does HIV get transmitted: a) through sexual route b) through blood c) from infected mother to child.
15. Your understanding of different body fluids with respect to spread of infection: Tear/urine/saliva/sweat/none unless contaminated with blood.
16. Does virus in fresh blood remain active outside the body: Yes/No/Sometime.
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18. Does physical contact transmit AIDS? A) talking to the person b) touching his things c) sharing his things d) shaking hands e) all f) none.
19. After needle prick what will be the advise for the person who got pricked? a) Wash with running water and soap b) wash with plain water nicely and apply some disinfectants c) to take antiviral drugs for one month d) all.
20. Do you suffer from thallemia / hemophilia –
21. Did you undergo blood transfusion – Yes/ No.
22. Awareness about universal protection – How often do you use gloves? Sometimes/ occasionally /every case.
23. How should needles be ideally disposed? A) Blunt the tip b) detach the metallic part from the plastic which is duly received in a prefilled Na hypochlorite soln. c) directly into common container.
24. If spillage occurs, what is your common method of disinfection? a) Wash with water b) phenyl c) Dettol / savlon d) bleaching powder put handful and wait for 30 min and clean it.
25. If spillage occurs on your garment what is your common method of disinfection? a) dip the apron / garment into 1% Na hypochlorite soln. for 1 hr. the clean it as usual b) destroy it to the dustbin c) laundry.
26. What is the optimum time for post exposure prophylaxis following an occupational exposure a) 72 hr. b) 7 days c) 1 month d) do not know.
27. If a seropositive mother willing to breast fed her baby then what is your advise a) stop feeding b) put on artificial milk c) put on drugs and fed.

## ORIGINAL ARTICLE

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28. While drawing ESR by method if a gush of blood enters the mouth a) immediately wash the mouth with plain water for 15 min if possible with some disinfectants and trace the source whether source is whether source is HIV/HCV/HBV b) if HIV start HAART as early as possible c) gingivitis infections with discontinuous mucous membrane due to soreness.
29. Should there be separate schools for HIV positive children? Y/N.
30. Should HIV positive children/persons be kept in a separate place for spread of infection?
31. For how long the virus in fresh blood in active outside the body? a) Few days b) few min c) few sec d) few months.
32. Please name a few drugs used in treating AIDS?
33. How often should a person with risk behavior (drug abuse/ multiple sex partners/sex worker/sharing of needles/transgender groups etc.) be tested for AIDS? 2y/3y/1y/5y.

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## ORIGINAL ARTICLE

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