



## Knowledge and Attitude about HIV/AIDS among medical students in a private medical college in coastal Karnataka

Sanjay Kini<sup>1</sup>, Sneha D Mallya<sup>2\*</sup>, Veena G Kamath<sup>3</sup>, Asha Kamath<sup>4</sup>, Ambika Coondoo<sup>5</sup>, Karthik Vasudevan Iyer<sup>6</sup>, Sujayendra D Murali<sup>7</sup>

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Department of Community  
Medicine  
Kasturba Medical College  
Manipal University  
Manipal, India 576104

### ABSTRACT

**BACKGROUND** The understanding of HIV/AIDS by MBBS students and their attitudes towards managing a retropositive patient will impact their practice in future.

**OBJECTIVES** To study the knowledge and attitude about HIV/AIDS among medical students and to analyse change in knowledge levels based on year of study of MBBS.

**METHODOLOGY** A cross-sectional questionnaire based study was conducted in a private medical college in Karnataka among 610 MBBS students. Aspects regarding general and clinical knowledge of HIV/AIDS, attitude towards HIV infected patients were dealt with.

**RESULTS** An increasing trend in the knowledge from 1<sup>st</sup> to 4<sup>th</sup> year was seen in the following aspects: knowledge regarding vertical transmission (78% to 93.3%), transmission through breast feeding (31.9% to 85.3%), tuberculosis as the most common opportunistic infection in HIV/AIDS (26.9% to 70%), correct time of initiation of post exposure prophylaxis (5% to 46.7%), facility for getting HIV test done confidentially (0.6% to 42.7%). An increasing trend in the negative attitude towards HIV patients was seen from 1<sup>st</sup> to 4<sup>th</sup> year when it came to right to refuse surgical treatment to HIV patient (40% to 56%) and an increasing trend in the favourable response towards HIV patients were seen from 1<sup>st</sup> year to 4<sup>th</sup> year when it came to their opinion whether HIV patients can be kept in general ward (57.5% to 78%).

**CONCLUSION** From the above study we conclude that the knowledge level on HIV/AIDS improved based on year of study. Discriminatory attitude towards HIV patients still persisted among students of all the years.

**Keywords:** Knowledge, Attitude, HIV/AIDS, Medical Students

### INTRODUCTION

In India, currently there are an estimated of 2.4 million people living with HIV<sup>1</sup>, which has become a major public health challenge. Asian sub-continent contributes to about 4.8 million people living with HIV<sup>2</sup>. The key strategy for controlling this epidemic is health education, particularly Information, Education and Communication (IEC). Although doctors, nurses and health workers are the major

messengers of information between the medical community and general population, medical students also play a major role in both highlighting facts and bringing to rest myths about diseases such as HIV/AIDS. Given the increasing incidence and prevalence of HIV/AIDS, and its enormous impact on health system, it is important to know the level of knowledge about HIV/AIDS among medical students. Most of the students, irrespective

<sup>1</sup> Post graduate student

<sup>3</sup> Professor and Head

<sup>4</sup> Selection grade lecturer  
(Biostatistics)

<sup>5,7</sup> Undergraduate Medical Student

<sup>6</sup> Medical intern

\*Corresponding Author

<sup>2</sup> Assistant Professor  
Department of Community  
Medicine  
Kasturba Medical College  
Manipal University  
Manipal, India 576104

Phone: 0820-2922324

Fax: 0820 2922275

Email: drsnehakamath@gmail.com

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of their choice of specialty after graduating, will eventually come in contact with an HIV/AIDS patient. It is then that we feel, there might be a distinct possibility that biases, misconceptions and negative feelings held during the period of clinical rotation or training can result in unwillingness, or even refusal to treat certain patients. They will be the torch bearers of knowledge for a patient inquiring about or getting treatment for HIV/AIDS. It is thus important to know their level of awareness and attitude about this infection so they can disseminate right information and provide appropriate counseling.

### OBJECTIVES

The objectives of this study were to know the knowledge and attitude of medical students about HIV/AIDS and to analyse the change in knowledge levels with increase in the year of study.

### METHODOLOGY

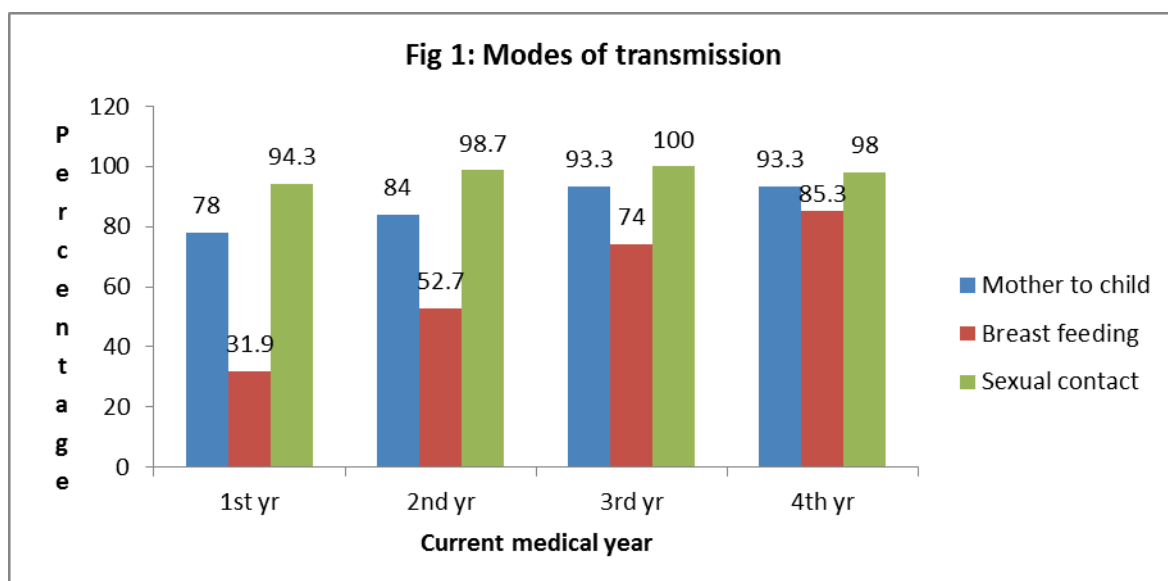
A cross sectional questionnaire based study was conducted in a private medical college in coastal Karnataka during March/April 2011. The questionnaire was validated by experts in the field. Cronbach's alpha which was calculated for the questionnaire was found to be 0.832. Hence, the internal consistency of the questionnaire was good. Institutional Ethics Committee clearance was obtained. Informed consent was obtained from participants. We selected all the medical students who were present in the class at the time of data collection. There were 610 medical students, of

which 160 were from 1st year and 150 each from 2nd, 3rd and 4th years. Knowledge regarding routes of transmission, high risk groups, opportunistic infections, screening and confirmatory tests, post exposure prophylaxis, facility for testing HIV, standard precautions, and attitude towards HIV infected people and source of information were analyzed. Statistical analysis was done with Statistical Package for Social Sciences (SPSS) version 15 and the data is presented in the form of percentages. Association between categorical variables was carried out using Chi square test. A p value of <0.05 was considered significant.

### RESULTS

The study sample included 277 males and 333 females. There were 160 first year medical students & 150 students in each 2<sup>nd</sup> year, 3<sup>rd</sup> year and 4<sup>th</sup> year.

**Figure 1** shows the percentage of students who gave right response in each class regarding modes of transmission. Third and 4<sup>th</sup> year students had better knowledge than 1<sup>st</sup> and 2<sup>nd</sup> year students regarding mother to child transmission. This result was statistically significant ( $p < 0.01$ ). Knowledge about whether HIV can transmit through breast feeding also showed increasing trend as it moved from 1<sup>st</sup> year to 4<sup>th</sup> year ( $p < 0.01$ ). Some of the students also had the misconception that HIV could spread through saliva and kissing.





Among 3<sup>rd</sup> and 4<sup>th</sup> year students, 100% of the students had the knowledge of any one of the high risk groups where as it was 99.3% & 97.5% among 2<sup>nd</sup> and 1<sup>st</sup> year respectively. Table 1 shows the knowledge of the students according to various

years about different high risk groups. Right responses given by the number of students with the percentages in parenthesis is mentioned in the **Table 1**.

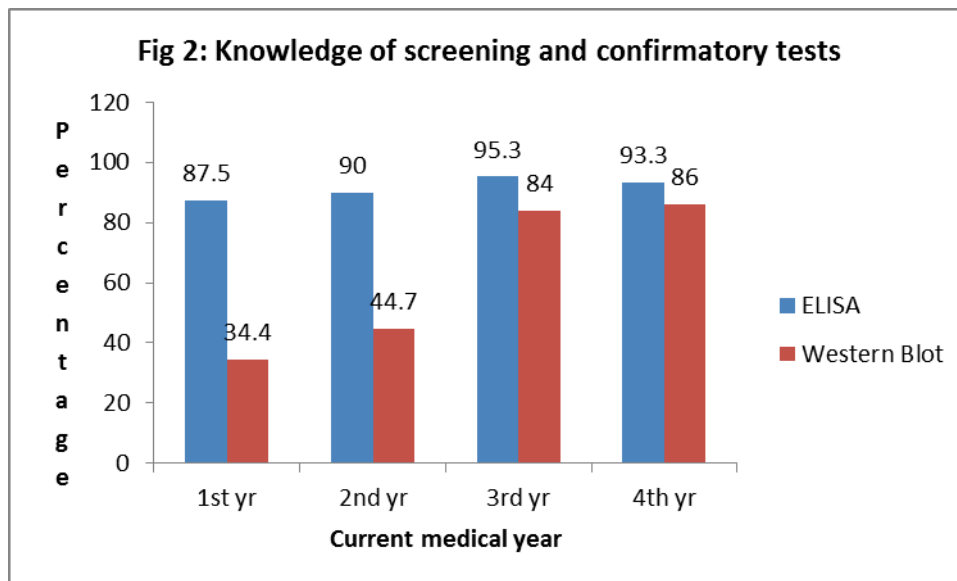
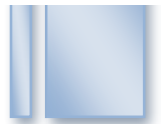
**Table 1 Knowledge of high risk groups among students**

High risk category	Year of study				p Value
	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	
Medical students & doctors	42 (26.3%)	75 (50%)	83 (55.3%)	101 (67.3%)	<0.01
Truck drivers	43 (26.9%)	50 (33.3%)	145 (96.7%)	127 (84.7%)	<0.01
IV drug abusers	138 (86.3%)	133 (88.7%)	145 (96.7%)	136 (90.7%)	0.05
Recipients of blood	138 (88.5%)	141 (94.6%)	140 (93.3%)	140 (93.35)	0.18
Commercial sex workers	146 (91.3%)	142 (94.7%)	148 (98.7%)	148 (98.7%)	0.1
Homosexuals	96 (60.0%)	137 (91.3%)	142 (94.7%)	142 (94.7%)	<0.01

Knowledge about tuberculosis being the most common opportunistic infection was found to be 26.9%, 46%, 64% & 70% among 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> year students respectively, thus showing an increasing trend ( $p < 0.01$ ).

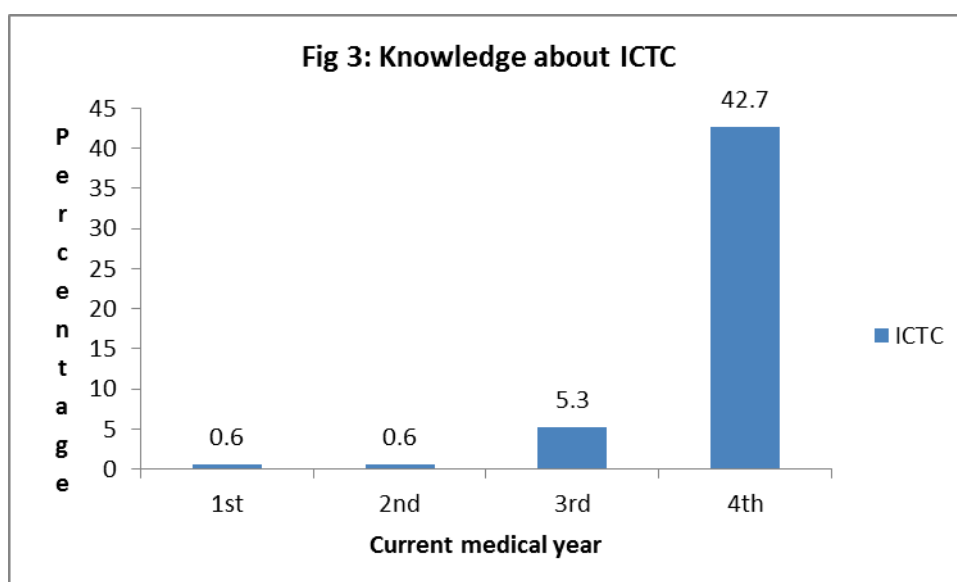
The correct knowledge about HIV tests, showing the percentage of students who marked the right

response as ELISA as the screening test for HIV and western blot as confirmatory test for HIV is shown in **Figure 2**. Third and 4<sup>th</sup> year students had better knowledge about confirmatory test compared to 1<sup>st</sup> and 2<sup>nd</sup> year students ( $p < 0.01$ ).



About 4.4%, 20%, 34% & 23.3% of the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> year students respectively had the right knowledge on the level of sero-conversion after needle stick injuries as 0.3% ( $p < 0.01$ ). About 5%, 8.7%, 32.7% & 46.7% of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> year students respectively had the right knowledge of correct time frame within which post exposure prophylaxis should be taken which is 72 hours ( $p < 0.01$ ).

When asked about their knowledge regarding the facility where people can go and get their HIV test done confidentially about 0.6%, 8.7%, 18% and 44% of the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> year students respectively gave the right response ( $p < 0.01$ ). The percentage of students who gave the right response as Integrated Counseling and Testing Centre (ICTC), according to their class of studying is given in **Figure 3**. Fourth year students had a better knowledge than rest of the years ( $p < 0.01$ ).



Regarding knowledge about standard precautions, 98.7% of both 3<sup>rd</sup> and 4<sup>th</sup> year students knew that

wearing gloves where there is possibility of coming in contact with blood and body fluids is important



whereas the knowledge was just 86.9%, 84% among 1<sup>st</sup> and 2<sup>nd</sup> years students respectively. About 96% of 4<sup>th</sup> year students and 94.7% of 3<sup>rd</sup> year students knew that wearing mask, gown, goggle where sprouting of blood is expected is beneficial for prevention of HIV whereas the knowledge was 81.3% and 76.7% among the 1<sup>st</sup> and 2<sup>nd</sup> year students respectively.

The attitude of the students regarding HIV is given in the **Table 2**.

When asked whether they are willing to work alongside a HIV positive coworker 87.2% of the

students gave a positive response. When asked regarding their response if they come to know that their close friend has HIV, 88.7% of students said that they would accept him/her without change.

When the 3<sup>rd</sup> and 4<sup>th</sup> year students were asked whether the MBBS curriculum has sufficiently trained them in dealing them with HIV/AIDS patient, 58.7% and 62.7% of 3<sup>rd</sup> and 4<sup>th</sup> year students respectively gave a positive response. The main source of information regarding HIV was books among 3<sup>rd</sup> and 4<sup>th</sup> year students whereas it was media/internet among 1<sup>st</sup> and 2<sup>nd</sup> year students.

**Table 2 Attitude of students towards HIV patients**

Attitude of students	Year of study				p Value
	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	
Every patient should get mandatory HIV testing	128 (80%)	110 (73.3%)	100 (66.7%)	104 (69.3%)	0.008
HIV patient admitted can be kept in general ward	92 (57.5%)	90 (60.0%)	107 (71.3%)	117 (78.0%)	0.001
Should be aware of persons HIV status before examining him	126 (78.8%)	137 (91.3%)	136 (90.7%)	138 (92.0%)	0.003
Have the right to refuse surgical treatment to a HIV infected person	64 (40%)	72 (48%)	74 (49.3%)	84 (56%)	0.088
Sexual partner of an HIV patient should be informed against the patient's wishes	139 (86.9%)	127 (84.7%)	137 (91.3%)	134 (89.3%)	0.33
AIDS is a disease of immoral people	10 (6.2%)	20 (13.3%)	6 (6.7%)	10 (6.3%)	0.07
If a health worker is HIV+ he should inform higher officials	130 (81.3%)	121 (80.7%)	137 (91.3%)	124 (82.7%)	0.05

## DISCUSSION

Knowledge levels of medical students about basics of transmission, prevention and diagnosis and their attitude towards HIV positive patients are

important. Our study shows a general trend of increase in knowledge with progress of year of study. A similar kind of trend was observed in a study conducted among university students in



Xinjiang in China<sup>3</sup>. In our study there were some misconceptions among the students like; HIV can spread through saliva & kissing. In a similar study by Basavayya et al<sup>4</sup>, it was observed that students had misconception that HIV can be spread through kissing and playing together. A study by Benora SK et al<sup>5</sup> among undergraduate students of Delhi university in India revealed that 58% students believed one could get infection by oral route. A study done by Mohsin S et al<sup>6</sup>, showed some myths among medical students like urine can transmit HIV. This study also revealed that 60% of the students were not willing for mouth to mouth resuscitation and 40% were not willing to assist in surgical procedures. In a study by Rekha Udgiri et al<sup>7</sup> 10% of the respondents were of the misconception, that AIDS may be transmitted to health care personnel by examining the patient.

With regards to the attitude of students towards HIV/ AIDS in our study, we found that the percentage of students who believed that they have the right to refuse treatment to a HIV patient was increasing with the increase in the year of study. Results of a study done by Paxton S et al<sup>8</sup> showed that about one sixth of HIV positive patients were denied treatment. A study by Daniel M<sup>9</sup> identified serious gaps in the knowledge about transmission of HIV among health care professionals in government and private hospitals in India leading to refusal of treatment to People Living with HIV/AIDS (PLHIV). In the present study, when asked about the attitude of the students if they come to know that their close friend has HIV AIDS, majority of them stated that they would accept without change. In a study done by Bounbouly Thanavanh et al<sup>10</sup>, it was observed that only 70.7% respondents gave favourable response when asked a similar question. In our study most of the students were willing to work alongside a HIV positive coworker which showed a favourable attitude towards people living with HIV/AIDS. In a study done by Al-Rabeei NA et al<sup>11</sup> about 64% of the students expressed their willingness to work along with people living with HIV/AIDS.

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The major source of information for the 3<sup>rd</sup> and 4<sup>th</sup> year students was books whereas it was media/internet for 1<sup>st</sup> and 2<sup>nd</sup> year students. In the study done by Al-Rabeei NA et al<sup>11</sup> mass media was the most common source of information.

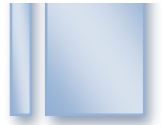
The results of the study may not be generalizable as the study was confined to one medical college. Results of the present study could be confounded by the health education classes on HIV/AIDS which students attended prior to their medical education or outside the medical curriculum. Also, as the students were sitting together in the classrooms during questionnaire administration, could have affected the promptness of responses.

From the above study, we recommend that there is a rising need to provide HIV/AIDS education from the start of medical curriculum to improve the awareness levels and remove the misconceptions. Also, medical colleges need to inculcate positive attitude among students towards HIV/AIDS patients to prevent discrimination and improve patient care. In depth interviews to assess reasons for negative attitudes is a possible area of exploration. Multicentric studies could provide better understanding of students' knowledge and attitude levels.

## CONCLUSION

Though the overall knowledge among the students was good, few minorities of the students held some misconceptions. There is a strong need for imparting HIV related education right from the beginning of medical curriculum so as to demystify misconceptions among students. Another area that needs to be addressed is the attitude of students towards people living with HIV. There is a need for medical colleges to foster an environment that is conducive to the development of appropriate student attitude towards HIV. Further such studies must be conducted involving all branches of health care so as to prepare health science students to handle HIV/AIDS patients better and also contribute to health education in society.

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