

Knowledge, attitude, and beliefs of young, college student blood donors about Human immunodeficiency virus

Anju Dubey, Atul Sonker, Rajendra K. Chaudhary

Department of
Transfusion Medicine,
Sanjay Gandhi Post
Graduate Institute of
Medical Sciences,
Lucknow,
Uttar Pradesh, India

Abstract

Introduction: Young people, who tend to be healthy, idealistic, and motivated, are an excellent pool of potential voluntary unpaid blood donors. Recruiting and retaining young blood donors improves the long term safety and sufficiency of a country's blood supply. Knowledge, attitude, and beliefs about Human immunodeficiency virus (HIV) should play an important role in prevention of disease transmission. **Materials and Methods:** This study was a questionnaire based survey, conducted to explore the levels of knowledge, attitude, and beliefs about HIV in young college student blood donors. **Results:** The results showed that the proportion of participants with comprehensive knowledge of HIV prevention and transmission was lesser than expected. Increase in education level and male gender was found to be significantly associated with high HIV-related knowledge. The responses on the different aspects of HIV-related attitude were also varied and there is still stigma associated with Acquired Immunodeficiency Syndrome (AIDS) even in the educated groups. **Discussion:** There was a spectrum of myths and misperceptions emphasizing the need of education that recognizes the social context of attitude towards HIV. Results from this study may contribute to the development of appropriate educational and training material for this group of donors which in turn, may assist in achieving the elusive goal of safe blood supply in future.

Key words:

Attitude, beliefs, blood donors, college students, HIV, knowledge

Introduction

Recruitment of healthy, well-informed, non remunerated blood donors is the cornerstone to safe blood supply. Young people, who tend to be healthy, idealistic, and motivated, are an excellent pool of potential voluntary unpaid blood donors. Blood donors of younger age group are especially advantageous as they possess overall good health and potential for lifelong donations. Nevertheless, there is evidence that young people in general are more likely to practice risk behavior-associated with transfusion transmissible infections. Thus, promoting safe lifestyles and reducing the prevalence of Human immunodeficiency virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) among young people can improve the long-term safety and sufficiency of a country's blood supply.

Behavioral surveys have shown, over the years, in making an important and useful contribution of informing the national responses to HIV.^[1] The goal of this study is to determine the existing level of knowledge, types of attitude, and prevalence of various false beliefs in the young college students who may be potential blood donors, about HIV infection. This information may play a pivotal role in promoting safe blood supply in the future.

Materials and Methods

This cross-sectional study was carried out by the department of Transfusion Medicine of a tertiary care teaching hospital of north India. The participants included 630 college students, who came to donate blood either in the department or in the outdoor blood donation camps organized by the department. The questionnaire was designed to assess their knowledge and awareness about various aspects of HIV infection such as etiology, mode of transmission, diagnosis, treatment, and sources of information. It also had questions about beliefs, myths, attitudes towards HIV victims, and the need and willingness to attend HIV awareness programs. After collection of proforma, a lecture was delivered explaining each and every aspect of the dreadful disease making them aware regarding HIV using power point presentation.

The data was analyzed using Statistical Package for Social Sciences (SPSS) 17.0 software. Comparison between the groups was done using Chi-square test and Fisher's exact test. A *P*-value of less than 0.05 was considered significant.

Results

The study comprised of 630 participants, of which, 485 (76.98%) were males and 145 (23.02%) females,

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Correspondence to:

Dr. Anju Dubey,
Department of Transfusion
Medicine,
Sanjay Gandhi Post
Graduate Institute of
Medical Sciences,
Lucknow - 226 014,
Uttar Pradesh, India.
E-mail: dranjudubey@gmail.com

91 (14.44%) were married and 531 (85.56%) unmarried, 504 (80%) were undergraduates and 126 (20%) were postgraduate students. Age of the participants ranged between 18 years and 27 years. In response to the questions regarding modes of HIV transmission, the correct answers were given more by males compared to females and significantly higher ($P < 0.05$) number of postgraduate students compared to undergraduates [Table 1]. Similarly, modes of prevention of transmission were better known to male, married and postgraduate participants compared to their counterparts [Table 2].

On analyzing the responses to questions about the common knowledge of HIV [Table 3], it was seen that only 23.5% participants knew about antiretroviral therapy, 22.3% were aware of Integrated Counseling and Testing Centers, and only 35.5% had received HIV prevention education during their curriculum. In this section, better responses were given by females, married, and postgraduate participants.

On eliciting the attitude towards HIV [Table 4], 74.9% participants agreed to share a room with infected person, 9.7% admitted to personally know an HIV infected individual, and 85% refused to donate blood if infected with HIV. Only 44.4% participants had ever attended any HIV awareness program and 91.4% recommended HIV testing of both partners before marriage.

In the section, evocating the myths about HIV [Table 5], 6.3% participants believed that it can be transmitted by mosquito bite, 3.0% believed that it can be caused by using the same toilet as HIV positive person, 3.5% believed that it can be transmitted by sharing clothes, 18.6% said that donating blood can cause HIV, and 10% believed that a permanent cure is available. Only people who lead an immoral life get AIDS was the perception of 6.9% participants and 7.9% said that AIDS patients should be isolated from the society for the safety of others.

For 47.3% participants, television was the main source of information followed by discussion among friends (21.7%), newspaper (15.4%), radio (10.2%), books (3.2%), and posters (2.2%).

Discussion

The prevalence of HIV reported in Indian blood donors ranges from 0.084% to 3.87%.^[2-9] Even in the voluntary donors, a seropositivity rate of 3.87% has been reported in 1993.^[3] Based on data collected between 1988 and 1998, the United States Centers for Disease Control and Prevention (US CDC) reported that HIV positive donors younger than 35 years of age were more likely to have been recently infected than those 35 years or older.^[10] However, there is paucity of data on prevalence of HIV infection in young blood donors from India. Young people are vulnerable to HIV infection because they lack the crucial information, such as

Table 1: Frequency of responses regarding modes of HIV transmission

Mode	Male <i>n</i> = 485	Female <i>n</i> = 145	Married <i>n</i> = 91	Unmarried <i>n</i> = 539	Under graduate <i>n</i> = 504	Post graduate <i>n</i> = 126	Total <i>n</i> = 630
Transfusion of infected blood <i>n</i> (%)	452 (93.2)	133 (91.7)	83 (91.2)	502 (93.1)	474 (94.0)	111* (88.1)	585 (92.8)
Infected mother to child <i>n</i> (%)	367 (75.7)	102 (70.3)	70 (76.9)	399 (74.0)	371 (73.6)	98 (78.8)	469 (74.4)
Sharing infected needles and syringes <i>n</i> (%)	451 (92.9)	135 (93.1)	82 (90.1)	504 (93.5)	476 (94.4)	110* (87.3)	586 (93.0)
Unprotected sexual contact <i>n</i> (%)	464 (95.7)	136 (93.8)	89 (97.8)	511 (94.8)	476 (94.4)	124* (98.4)	600 (95.2)
Homosexual relationship with infected male <i>n</i> (%)	376 (77.5)	105 (72.4)	72 (79.1)	409 (75.9)	374 (74.2)	107* (84.9)	481 (76.3)

**P*-value <0.05

Table 2: Frequency of responses regarding methods of HIV prevention

Mode	Male <i>n</i> = 485	Female <i>n</i> = 145	Married <i>n</i> = 91	Unmarried <i>n</i> = 539	Under graduate <i>n</i> = 504	Post graduate <i>n</i> = 126	Total <i>n</i> = 630
Proper use of condoms <i>n</i> (%)	435 (89.7)	127 (87.5)	84 (92.3)	478 (88.7)	443 (87.9)	119* (94.4)	562 (89.2)
Avoiding sexual promiscuity <i>n</i> (%)	441 (90.9)	126 (86.9)	84 (92.3)	483 (89.6)	448 (88.9)	119* (94.4)	567 (90.0)
Use of sterilized needles for tattooing/ear piercing <i>n</i> (%)	421 (86.8)	121 (83.4)	77 (84.6)	465 (86.30)	430 (85.3)	112 (88.9)	542 (86.5)
Proper testing of blood before transfusion <i>n</i> (%)	358 (73.8)	113 (77.9)	71 (78.0)	400 (74.2)	373 (74.0)	98 (77.8)	471 (74.7)

**P*-value <0.05

Table 3: Frequency of responses to questions for assessing the knowledge about HIV

Mode	Male <i>n</i> = 485	Female <i>n</i> = 145	Married <i>n</i> = 91	Unmarried <i>n</i> = 539	Under graduate <i>n</i> = 504	Post graduate <i>n</i> = 126	Total <i>n</i> = 630
Full form of AIDS known <i>n</i> (%)	404 (83.3)	133* (91.7)	77 (84.6)	460 (85.3)	418 (82.9)	119* (94.4)	537 (85.2)
Causative agent known <i>n</i> (%)	431 (88.8)	139 (95.8)	84 (92.3)	486 (90.1)	451 (89.5)	119 (94.4)	570 (90.5)
Difference between HIV and AIDS known <i>n</i> (%)	398 (82.0)	133 (91.7)	77 (84.6)	454 (84.2)	417 (82.7)	114* (90.5)	531 (84.3)
Antiretroviral therapy known <i>n</i> (%)	111 (22.9)	37 (25.5)	25 (27.4)	123 (22.8)	102 (20.2)	46* (36.5)	148 (23.5)
It is possible to have a negative HIV test in initial few days after infection, fact known <i>n</i> (%)	191 (39.4)	59 (40.7)	38 (41.7)	212 (39.3)	209 (41.4)	41* (32.5)	250 (39.7)
High risk groups known <i>n</i> (%)	340 (70.1)	94 (64.8)	65 (71.4)	369 (68.4)	337 (66.8)	97* (76.9)	434 (68.9)
Integrated counseling and testing centers known <i>n</i> (%)	117 (24.1)	24 (16.5)	42* (45.0)	99 (18.4)	106 (21.0)	35 (27.8)	141 (22.3)
Have received HIV prevention education during their curriculum <i>n</i> (%)	186* (38.3)	38 (26.2)	34 (37.3)	190 (35.2)	176 (34.9)	48 (38.1)	224 (35.5)

**P*-value <0.05

Table 4: Frequency of responses regarding attitude towards HIV

Mode	Male n = 485	Female n = 145	Married n = 91	Unmarried n = 539	Under graduate n = 504	Post graduate n = 126	Total n = 630
Agree to share room with HIV positive person n (%)	375* (77.3)	97 (66.9)	63 (69.2)	409 (75.8)	388 (76.9)	84* (66.7)	472 (74.9)
Personally know or met HIV infected person n (%)	49 (10.1)	12 (8.3)	07 (7.6)	54 (10.0)	54 (10.7)	07 (5.6)	61 (9.7)
Ever attended HIV awareness program n (%)	227* (46.8)	53 (36.5)	42 (46.1)	238 (44.1)	223 (44.2)	57 (45.2)	280 (44.4)
Recommend HIV testing of both partners before marriage n (%)	448 (92.3)	128 (88.3)	84 (92.3)	492 (91.2)	457 (90.7)	119 (94.4)	576 (91.4)
Will not donate blood if infected with HIV n (%)	413 (85.1)	123 (84.8)	80 (87.9)	456 (84.6)	425 (84.3)	111 (88.0)	536 (85.0)

*P-value <0.05

Table 5: Frequency of responses regarding false beliefs about HIV

Mode	Male n = 485	Female n = 145	Married n = 91	Unmarried n = 539	Under graduate n = 504	Post graduate n = 126	Total n = 630
Can be transmitted by mosquito bite n (%)	27 (5.6)	13 (8.9)	03 (3.3)	37 (6.8)	35 (6.9)	05 (3.9)	40 (6.3)
Can be caused by using the same toilet as HIV positive person n (%)	13 (2.7)	06 (4.1)	01 (1.1)	18 (3.1)	16 (3.1)	03 (2.4)	19 (3.0)
Can be caused by wearing clothes of HIV positive person n (%)	14 (2.9)	08 (5.5)	02 (2.2)	20 (3.9)	20 (3.9)	02 (1.6)	22 (3.5)
Can be caused by donating blood n (%)	91 (18.8)	26 (17.8)	12 (13.2)	105 (19.4)	98 (19.4)	19 (15.0)	117 (18.6)
A permanent cure is available n (%)	45 (9.3)	18 (12.4)	07 (7.7)	56 (10.4)	49 (9.7)	14 (11.1)	63 (10.0)
Only people who lead an immoral life get AIDS n (%)	31 (6.5)	13 (8.9)	04 (4.4)	40 (7.4)	39 (7.7)	05 (3.9)	44 (6.9)
AIDS patients should be isolated from the society for the safety of others n (%)	26 (5.4)	24* (16.5)	06 (6.6)	44 (8.1)	48* (9.5)	02 (1.6)	50 (7.9)

*P-value <0.05

modes of transmission and methods of prevention and this in turn may endanger safe blood supply in the future. Based on the results of this study, educational programs may be designed to increase the awareness in young people, who are prospective blood donors.

This study was undertaken to determine the existing level of knowledge about HIV infection amongst young, college going, potential blood donors who are sentinel to provision of safe blood in the future. Out of 800 participants approached, only 630 agreed to participate in the study or discuss about the subject, which included 485 (76.98%) males and 145 (23.02%) females, indicating the stigmatic nature of the disease in our society.

Questions on knowledge of HIV involved the etiology, correct identification of the modes of transmission, treatment, and the methods needed to prevent further HIV infection. The level of knowledge was shown to be inconsistent among genders, and different educational and marital status groups. The study results show that higher proportion of participants had certain knowledge about HIV but smaller proportion of them had comprehensive knowledge on HIV prevention and transmission. In majority of aspects, students of male gender, those who were married and those with higher education status, had greater percentage of correct responses compared to their counterparts [Tables 1-3].

Similarly, results from a study conducted in south India showed that higher HIV knowledge scores were significantly associated with higher education, male gender and, recently married couples (those married within past one year) among the general population.^[11] It was surprisingly evident that only 35.5% of students had received HIV prevention education during their curriculum and only 22.3% of the students knew about Integrated counseling and testing centers. A previous study in India has shown that intervention programs providing such education in the schools have resulted in marked improvement in knowledge and were associated with more positive attitude of students towards the disease.^[12] There is a strong need that

school education must directly address stigmatizing attitudes about HIV/AIDS, gaps in HIV/AIDS knowledge, and awareness of HIV-related health resources.^[13]

The responses on the different aspects of HIV-related attitude were also varied [Table 4]. In general, male participants had significantly better attitude compared to females. This may be attributed to their more social outlook. However, these results show that there is still stigma associated with AIDS even in the educated groups. People with HIV are still not well accepted in the communities despite various awareness programs aiming people living with HIV. People generally have positive attitude related to HIV but regarding people living with HIV, they may be afraid of being infected by contact of these patients.

Higher educational level is associated with HIV-related positive attitudes and positive attitudes towards people living with HIV/AIDS. This finding is consistent with findings of a previous study conducted in south India.^[14] Similarly, a study conducted on awareness and attitude of the general public toward HIV/AIDS in coastal Karnataka showed a significant association between education level and discriminatory attitude towards people living with HIV/AIDS.^[15] The higher the educational level of the person, the lesser their discriminatory attitude towards people living with HIV. Although, people may know the modes by which HIV cannot be transmitted, still there is fear of contracting the illness. This may result in negative attitude towards people living with HIV.

There are myths and misperceptions about the modes of spread of disease even among the literates. The participants who endorsed the stigmatizing views towards HIV were not necessarily those with lesser knowledge. This suggests that education about the biology of the disease in itself may not be sufficient for tackling the issue of underlying stigma; rather this must be addressed by education that recognizes the social context of attitude towards HIV.

The avenues of information for young people have increased tremendously over the past few years and so has youth access to these avenues. Electronic media is being aggressively used to bring home the message on HIV prevention. In the present study, television is the main source of information on HIV, followed by discussion among friends. Studies have shown that peer education has a significant impact in reducing risk behavior in young people.^[16-19]

To conclude, health promotion through extensive information, education, and communication, which influences the behavior of individuals, is a key element in efforts to limit the spread of HIV and it remains the single most important component in AIDS prevention and control program of any country. The most popular modes of information today for young generation are television and social networking sites which could be targeted to impart awareness. This study has important public health implications because the information collected can be used to design HIV prevention interventions for reducing HIV transmission among young blood donors which is critical in sustaining the safe blood supply. In addition, it is recommended that frequent surveys should be conducted to assess young donor awareness and rigorously monitor and address behavioral risks in this group. We hope that the results from this study will contribute towards the development of appropriate educational and training material for this group of donors which in turn, may assist in achieving the elusive goal of safe blood supply in future.

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