

# Knowledge about HIV/AIDS among University Students in Lahore

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## ABSTRACT

**Objectives:** To assess knowledge and concepts of university students about HIV/AIDS in general and its status in Pakistan.

**Material & Methods:** A structured questionnaire was developed to assess the knowledge of university students in a cross sectional survey. The study was conducted at Punjab University Lahore. The survey was completed in 3 months duration. Data was entered and analyzed in SPSS ver: 16.0. Knowledge was assessed about etiology, high risk groups, concepts about disease transmission, prevention and their source of knowledge.

**Results:** 500 university students were interviewed to assess knowledge about HIV / AIDS. The mean age of the respondents was  $22.00 \pm 1.5$  years. 68.0% were male. 92.6% of the respondents had heard about AIDS. 82.1% knew that HIV is caused by close sexual contact with infected person. 81.5% knew that HIV is caused by blood transfusion. 77.8% of the respondents believed that HIV can be transmitted by infected needle prick. 72.2% knew that HIV can be transmitted from mother to baby. Regarding knowledge about high risk groups, 82.8% had adequate knowledge about spread of HIV by commercial sex workers (CSW), multiple sexual partners, homosexuals, drug addicts. 61.8% received information about HIV/AIDS from television, 51.6% from print media, and 52.2% from internet, 24.8% from friends, 28.0% from teachers and 15.9% from parents.

**Conclusion:** Knowledge of university students about nature of disease and mode of transmission is satisfactory. There is lack of knowledge about disease prevalence in Pakistan. Media (print and electronic) is the major source of knowledge about the disease.

**Keywords:** Acquired immunodeficiency syndrome, human immunodeficiency virus, knowledge,

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## INTRODUCTION

Incidence of HIV has recently dramatically increased worldwide. Over 60 million people have become infected, including more than 20 million who have already died, and more than ten persons get infected with the virus every minute<sup>1</sup>. Researchers estimate that in many developing countries, one half or more of all HIV infections occur among young people less than 25 years, this also includes Pakistan, where about 60% of HIV infections are estimated to occur in young people aged 15–29<sup>2</sup>. WHO reports that more than 45% of all new infections occur in people aged 15-24 years<sup>3</sup>. It is estimated that some 40 million people between ages of 15-24 will have contracted HIV by 2020<sup>4</sup>. Effective HIV prevention among youth, therefore, is the key to the future course of HIV epidemic and understanding sexual attitudes and behaviors of youth in terms of HIV/STD risk is critical in this respect<sup>2</sup>.

Adolescence is a time when young people may be curious about sex and drugs<sup>5</sup>. Developmental characteristics of young populations include a tendency toward risk-taking behavior and indifference to the importance of preventive measures<sup>6</sup>. Moreover,

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other contributing factors like unemployment, easy availability of narcotic drugs and economic frustration can all influence young people to engage in unsafe behavior, which may put them at increased risk of HIV infection<sup>2,5</sup>. Because social taboos related to sexuality inhibit open discussion of issues related to sex and reproductive health, opportunities to gain accurate information about such issues and to learn skills with which to protect oneself from infection are often quite limited for the vast majority of youth.

The first case of AIDS in a Pakistani citizen was reported in 1987 in Lahore. In 1993, the first recognized transmission of HIV infection through breastfeeding in Pakistan was reported in Rawalpindi. During 1990s, cases of HIV and AIDS began to appear among groups such as commercial sex workers (CSWs), drug abusers and jail inmates<sup>5</sup>. Heterosexual transmission accounts for the majority (37%) of reported HIV cases, with the next most frequent mode of transmission (18%) being related to infection through contaminated blood or blood products. The remainder of the reported HIV cases are linked with infection through injecting drug use (4%), homosexual or bisexual sex (6%), and mother to child transmission (1.3%). Transmission modes for 35% of the reported HIV cases are unknown.

According to UNAIDS estimates, some 70,000 to 80,000 persons are infected with HIV in Pakistan.

Officially reported cases are, however, much less. Until September 2004, only some 300 cases of full-blown AIDS and another 2300 cases of HIV infection were reported to the National AIDS Control Program. Unfortunately, most observers believe that the number of reported cases represents only the "tip of the iceberg", and that the number of actual cases may be far greater than official reports suggest<sup>5,7</sup>. Until recently, Pakistan was classified as a low-prevalence country with many risk factors that could lead to the rapid development of an epidemic. However, recent evidence indicates that the situation is changing rapidly because of the presence of significant risk factors such as very low use of condoms among vulnerable populations including female sex workers (FSW), multiple sexual partners, truckers, and hijras, as well as the low use of sterile syringes among drug abusers<sup>7,8</sup>.

Since an accessible, affordable and complete cure for HIV/AIDS and effective vaccine to prevent HIV infection may not be available in the near future<sup>9,10</sup>, in order to restrict the AIDS pandemic, it is crucial to induce changes not only in awareness and attitudes, but also in behavior which would reduce the possibility of HIV/AIDS in future<sup>11</sup>. Although young population is at high risk of contracting the disease, few studies have examined the sexual behaviors of university/college students in Pakistan, so present study was conducted to assess knowledge of university students in this regard.

## MATERIAL AND METHODS

It was a cross sectional study conducted at Akhtar Saeed Medical & Dental College, Jinnah Hospital and Punjab University, Lahore from January 2007 to March 2007. 500 students from different departments were interviewed through a self-administered structured questionnaire by random sampling. They were inquired regarding their knowledge about etiology and prevalence of HIV/AIDS in Pakistan, its mode of spread, prevention and treatment. They were also inquired about their source of knowledge. Data was entered and analyzed in SPSS ver: 16.0. Frequency tabulation was generated for socio-demographic variables and knowledge regarding HIV / AIDS among students.

## RESULTS

Five hundred students selected by random sampling were interviewed. The age range was 18 to 28 years; the sample size is normally distributed with regard to age with mean age of 22.00 and standard deviation of 1.5 years. 32% were female respondents and 68.0% were male. 64.0% were residing in hostels

and 36.0% were day scholars. 92.6% of the respondents had heard about AIDS. According to 72.6% HIV is a rare disease in Pakistan. 42.0% of the respondents said that HIV is caused by germs. According to 59.6% HIV spreads by breast feeding, 23.8% by mosquitoes bite, and 22.5% by kissing. Regarding mode of spread, 82.1% of the respondents knew that HIV is caused by close sexual contact with infected person. 81.5% by blood transfusion and 77.8% of the respondents believed that HIV can be transmitted by infected needle prick. 72.2% were aware that HIV can be transmitted from mother to baby. Regarding knowledge about high risk groups the responses were, 75.8% said that a person with multiple sexual partners, 65.8% think that a commercial sex worker (CSW), 36% of the respondents believed that homosexuals belong to high risk group. According to 17.2% of the respondents people with poor nutritional status, living with patients with AIDS and medical professionals are at high risk of getting infected.

Regarding knowledge about prevention of HIV 34.0% said it can be prevented by use of condoms. 63.0% said that HIV can be prevented by practicing safe sex. 59.5% said that it cannot be prevented by screening blood, 71.5 said that HIV cannot be prevented by medicine, 76.0% were of the opinion that it cannot be prevented by use of vaccine, 6.5% said, it can be prevented by a vaccine and 17.5% didn't know about it. Regarding the student's source of knowledge about HIV / AIDS, 61.8% had information about HIV/AIDS from TV, 51.6% from print media, and 52.2% from internet, 24.8% from friends, 28.0% from teachers and 15.9% from parents

Table 1 : Demographic features (n=100)

	Frequency	%age
<b>Age of respondent</b>		
Mean 22.9 yrs. SD ± 1.49		
<b>Gender</b>		
Male	160	32.0
Female	340	68.0
<b>Residence</b>		
Hostel	320	64.0
Day Scholar	180	36.0
<b>Knowledge about AIDS</b>		
No	37	7.4
Yes	463	92.6

Table 2: Knowledge about status of AIDS in Pakistan

Status	Frequency	%age	Valid %	Cumulative%
Don't know	112	22.4	22.4	22.4
Widespread	25	5.0	5.0	27.4
Rare	363	72.6	72.6	100.0
Total	500	100.0	100.0	

# ORIGINAL ARTICLE

Table 3 Knowledge about cause of AIDS

Cause	Frequency	%age	Valid %	Cumulative %
Not caused by germs	170	34.0	34.0	34.0
Caused by germs	210	42.0	42.0	76.0
Don't know	120	24.0	24.0	100.0
Total	500	100.0	100.0	

Table 4: Inadequacy of knowledge about spread of AIDS (multiple response)

Inadequate Knowledge about spread of HIV	Response		%age of cases
	No.	%	
Sharing infected water, food	40	11.8	17.4
Mosquito Bite	55	16.2	23.8
Shaking Hands	8	2.4	3.5
Swimming pool	7	2.1	3.1
Breastfeed	138	40.5	59.6
Kissing	52	15.3	22.5
Second hand cloths	10	2.9	4.3
Working with AIDS patients	30	8.8	12.9

Total number of responses: 340

Dichotomy group tabulated at value 1.

Table 5 Adequate Knowledge about spread of AIDS: (multiple response)

Adequate Knowledge about spread of HIV	Response		%age of cases
	No.	%	
Blood Transfusion	330	23.3%	81.5%
Needle Prick	315	22.2%	77.8%
Ear Nose Piercing	148	10.4%	36.4%
Mother to Baby	292	20.6%	72.2%
Close sexual contact	333	23.5%	82.1%

Total number of responses:1418

Adequacy of knowledge about spread of HIV/AIDS

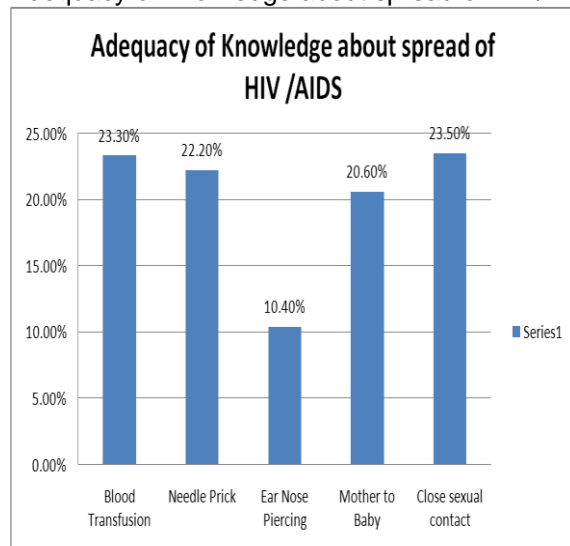


Table 6: Knowledge about high risk group of AIDS: (multiple response)

High risk group	Response		%age of cases
	No.	%	
Medical Professional	98	9.7	24.2
Homosexual	145	14.5	36.0
Multiple sexual partners	305	30.4	75.8
Commercial sex workers	265	26.4	65.8
Drug Addicts	115	11.5	28.6
Living with AIDS patients	50	5.0	12.4
Poor nutritional status	25	2.5	6.2

Total number of responses: 1003

Dichotomy group tabulated at value 1.

Table 7: Knowledge about prevention of AIDS.

Knowledge about Prevention of HIV	No		Yes		Don't know	
	Count	%	Count	%	Count	%
Using Condom	243	48.5	170	34.0	87	17.5
Safe Sex	98	19.5	315	63.0	87	17.5
Screening of Blood	298	59.5	115	23.0	87	17.5
Medicine	358	71.5	55	11.0	87	17.5
Vaccine	380	76.0	33	6.5	87	17.5

## ORIGINAL ARTICLE

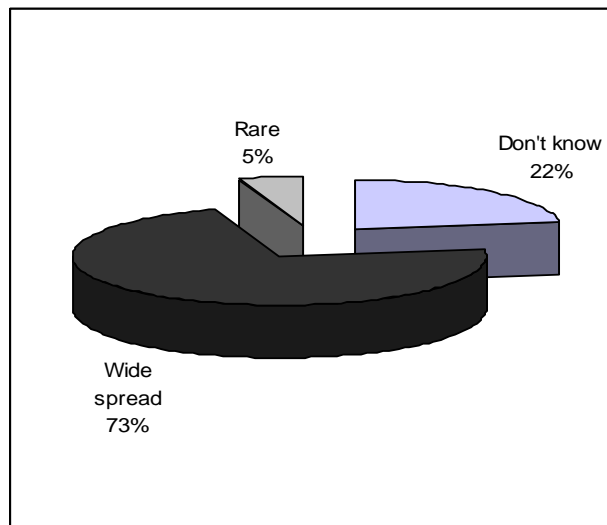
Table 8: Source of Knowledge about AIDS: (multiple response)

Source of knowledge	Response		%age of cases
	No.	%	
Television	243	26.4	61.8
Print media	203	22.0	51.6
internet	205	22.3	52.2
Friends	98	10.6	24.8
Parents	63	6.8	15.9
Teachers	110	12.0	28.0

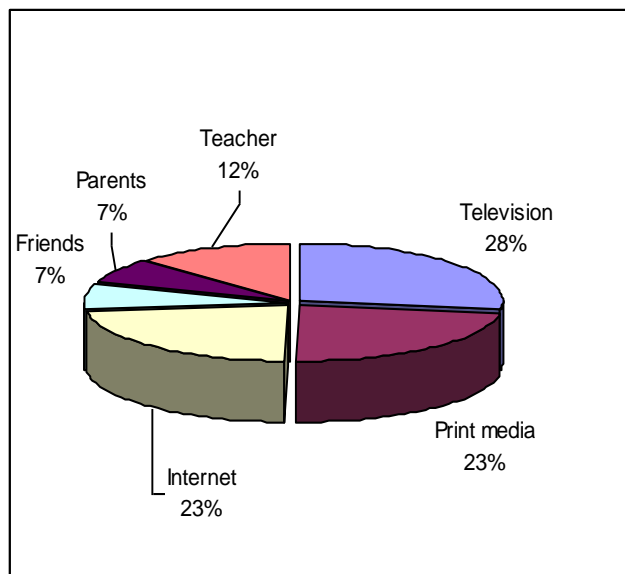
Total number of responses: 922

Dichotomy group tabulated at value 1.

Knowledge about status of HIV/AIDS in Pakistan



Source of knowledge about HIV/AIDS



## DISCUSSION

In the absence of an effective vaccine and treatment, the only way to combat a disease like HIV/AIDS is by prevention. The best single way to prevent the disease is through education<sup>6,12,13</sup>. There is lack of correct knowledge among the students entering into profession about the disease and its spread. So measures should be taken to educate the students in this regard. A survey was done to assess the level of awareness among students of a private medical college regarding HIV/AIDS, Hepatitis B and C. A total of 267 students participated. Majority of the students (98%) agreed that an infected person is a major source of transmission. Almost all (95%) students knew that blood transfusion was an important source of transmission. Wearing gloves (87%) and safe disposal of sharps waste (98%) were known by the students to be the ways of protection<sup>14</sup>. In our study 81.5% knew that disease is spread by blood transfusion. The difference is because medical students are at a different level of professional education.

In another study conducted in Turkey 95% of students were aware of AIDS by its definition and its causation. 96% of the respondents were aware that transfusion of blood and blood components is a major cause of spread of disease. The respondents had the knowledge that HIV infection could be prevented by using condom during sexual intercourse and having sex only with an HIV-negative faithful partner (86%). 6-42% of students had misconceptions about transmission and prevention of HIV/AIDS. The students identified television as their most important source of information about AIDS.<sup>15</sup> In Pakistan a study was done to determine the level of awareness about HIV/AIDS infection among female college students of Lahore. A total of 600 students were interviewed. 95.0% of the students had heard about HIV/AIDS and its presence in Pakistan, 61.7% knew that it is caused by germs. Over 70% of students knew that HIV can be transmitted through sexual contact, infected blood transfusion, and re-use of infected injection needles. Moreover, only 19.2% mentioned ear/nose piercing with infected needles while 46.8% mentioned breast feeding as sources of transmission. Individuals having multiple sexual partners (78.2%), drug addicts (38.8%), homosexuals (39.2%), commercial sex workers (52.2%) and health care providers (16.2%) were identified as high risk groups. 61.0% mentioned avoiding promiscuous sex, 49.3% knew use of condoms and 60.2% were aware that AIDS can be prevented by avoiding

homosexuality. 68% and 70.2% respectively held the view that avoiding used needles for injections in hospitals and laboratories for screening blood or blood products can prevent AIDS, while 78.2% and 55.8% respectively knew that there is no cure or vaccine available for AIDS. The study concluded that the general level of awareness regarding HIV/AIDS transmission and prevention was satisfactory among college girls included in the study, however a number of misconceptions and myths still need to be clarified<sup>16</sup>. Our study also determined similar results, we found out that 82.1% and 81.5% respectively knew that disease is transmitted by close sexual contact and blood transfusion. 77.8% of the respondents believed that HIV can be transmitted by infected needle prick. 82.8% had adequate knowledge about spread of HIV by CSW, multiple sexual partners, homosexuals, drug addicts.

Findings of a study at school of community health in Lagos-Nigeria showed that students had very good knowledge on AIDS and transmission of HIV<sup>17</sup>. In a study conducted at a Midwestern university in United States in which 1000 students were surveyed, the majority of students (77.3%) reported to be very familiar with HIV/AIDS including its mode of transmission but important misconceptions still existed. About 43.1% were unsure about the existence of drugs that can prevent maternal to child transmission of HIV and 12% actually believed that these drugs do not exist. This survey concluded that the coexistence among college students of both misconceptions about the mode of HIV/AIDS transmission and denial about their vulnerability to contract this disease underscores the need for a proactive approach to address these challenges facing our youths<sup>18</sup>.

Few studies have examined the long-term effects of peer-led HIV prevention in adolescents. A two-year follow-up study was conducted among senior high school students in China. In all 893 students in five schools were followed up. Data were collected at baseline, right after intervention (one month later) and two years later by a self-administered questionnaire. In the intervention group, the average knowledge score including reproductive health and HIV/AIDS/sexually transmitted diseases rose from 4.30 to 7.06 one month later ( $P < 0.01$ ) and to 7.08 two years later ( $P < 0.01$ ). Sustained increases were found in the attitude scores towards people living with HIV/AIDS and intention of condom use after intervention. The study indicates that peer-led HIV prevention education succeeds in improving and sustaining HIV/AIDS-related knowledge and some behavior intentions<sup>19</sup>. In a study conducted in Nepal among students it was concluded that the overall knowledge was good but there were lacunae in their

knowledge which could be addressed through educational interventions<sup>20</sup>. Further research should focus on strategies to sustain long term behavior change.

## CONCLUSION

While HIV prevalence appears to be low in Pakistan at present, the presence of a number of risk factors suggest the need for urgent, prioritized and coordinated action to curtail the emergence of a widespread epidemic. To provide adequate knowledge to the youth is a combined responsibility of media, healthcare providers, parents and teachers. There is need to add the topic in curriculum in non-professional institutions also.

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