

EDUCATION, THE ONLY VACCINE AVAILABLE FOR THE CONTROL OF HIV/AIDS

Mohammed Razzaq Malik¹, Ali Hussain¹, Shazia Majid², Mohammed Zafar Iqbal³

ABSTRACT

Back ground: HIV/AIDS is a potentially fatal disease. However, vast majority of the world's youth are unaware about the modes of transmission and prevention. **Objectives:** The objective of this study was to assess the impact of health education on the knowledge and beliefs of college students toward HIV/AIDS in Pakistan. **Patients & Methods:** This was an interventional study conducted in the Government Khawaja Fareed Post Graduate Degree College, Rahim Yar Khan, during the year 2009. It was conducted in two phases. In first phase, baseline data was collected to assess level of knowledge and belief of students about HIV/AIDS. 350 students of different classes participated in this study. Then a comprehensive lecture was delivered regarding transmission and prevention of HIV/AIDS. After a period of three months of this medical education intervention, the participants of first phase were asked to take part in second phase. A total of 314 students of previous group participated i.e 89.71% of the participants of the first phase. The data was collected and analyzed by SPSS version 14. **Results:** The mean age of the students was 17.44 ± 1.28 years. The knowledge of the students of 13th and 14th years of education was better as compared to 11th and 12th years of education. In the second phase, 314 participants joined the study. There was significant improvement in the knowledge of students about HIV ($p < 0.000$) and its modes of preventions ($p < 0.000$). **Conclusion:** It is necessary that sufficient knowledge about transmission and prevention of HIV/AIDS should be given to adolescents especially college students. College students should be encouraged to discuss about HIV/AIDS sequelae and prevention.

Key words: HIV/AIDS, college students, health education

INTRODUCTION

Acquired Immunodeficiency Syndrome (HIV/AIDS) is recognized as a major public health problem in most of the industrialized world. According to UNAIDS estimates, there are now 33.4 million people living with HIV, including 2.1 million children. During 2008, some 2.7 million people became newly infected with the virus and an estimated 2 million people died from AIDS.¹ Around half of all people who become infected with HIV do so before they are 25 and are killed by AIDS before they are 35.2 years of age.² The vast majority of people with HIV and AIDS live in lower- and middle-income countries.³ Pakistan has an estimated 97,400 HIV cases (<0.1% general population prevalence NACP and UNAIDS estimations) and the epidemic is rapidly progressing in risk groups such as intravenous drug users, male sex workers.⁴

Pakistan currently reports a low prevalence of HIV/AIDS. The fear of an expanded HIV epidemic is primarily due to segments of the Pakistani population engaging in high-risk practices, a low level of public knowledge about HIV/AIDS and dangerous blood transfusion and inoculation practices. An additional concern is Pakistan's geographic proximity to India, a country that has experienced a rapid rise of HIV/AIDS (by the end of 2007 the World Health Organization estimated that there were 2.5 million cases of HIV in India).⁵ Sexual contacts between Pakistanis and Indians, as well as nationals of other countries with HIV epidemics, may be points of entry for HIV into Pakistan. There are several other social factors contributing in the dissemination of HIV/AIDS. Women and men are marrying late. Because of this longer gap before marriage, premarital sexual activity must be increasing but the evidence across the country of increased premarital sexual behaviour is still inconclusive.^{6,7}

The teen years are a time of growth that involves experimentation and risk taking. Teenagers recognize that they are developmentally between child and adult, and majority of people become sexually active. Emerging cognitive abilities and social experiences lead teens to question adult values and experiment with health-risk behaviors. Some behaviors threaten current health, while other behaviors may have long-term health consequences.⁸ United Nations report released on 2002 revealed that the vast majority of the world's youth have no idea about the transmission of HIV/AIDS and how to

1. Department of Community Medicine, Sheikh Zayed Medical College/Hospital, Rahim Yar Khan
2. Department of Gynae & Obs Sheikh Zayed Medical College/Hospital, Rahim Yar Khan
3. Department of Orthopaedic Surgery Sheikh Zayed Medical College/Hospital, Rahim Yar Khan

Correspondence: Dr. Mohammed Razzaq Malik
Assistant Professor, Department of Community Medicine,
Sheikh Zayed Medical College/Hospital, Rahim Yar Khan

Email: mailsi58@yahoo.com
Cell: 0300-4156146

protect themselves from the disease. Adolescents are more vulnerable to develop unhealthy habits. They get the knowledge regarding sex from their peer group, pillow books etc. which do not give them correct information and some times mislead them.⁹ Among sexually active people, adolescents aged 15 to 19 years have some of the highest reported rates of STDs. Consequently, an estimated 25% of all people with HIV in the United States contracted HIV when they were teenagers.¹⁰ Therefore, one of the priorities of World Health Organization and the AIDS Prevention Center is to prevent AIDS in teenagers.¹¹

The National and Provincial AIDS Control Programs of the Government of Pakistan have established 13 HIV treatment and care centers nationwide. To date nearly 2819 HIV positive people are receiving care and of these 1258 are on life saving antiretroviral therapy. Pakistan has successfully established HIV treatment in all provinces via a clinic based model with locally and internationally trained staff. People Living with HIV (PLHIV) are also supported by NGOs.¹² Pakistan has the largest cohort of young people in its history and subsequent cohorts are expected to be even larger.¹³ Young people face a number of critical life decisions that relate to series of transitions to adulthood, such as, school leaving, employment and greater responsibility for oneself and family. In Pakistan, there is a scarcity of information on situation of adolescents and, thus, there is little evidence available on which to build policies. Realizing the need for collecting this type of information, this study was aimed to assess the knowledge and beliefs of college students in Pakistan toward HIV/AIDS.

SUBJECTS AND METHODS

This was an interventional study, which was conducted in two phases. All the students of each class were invited to participate. All the available students of different classes were included and 350 students were registered in the study. A self-administered questionnaire printed in Urdu was used to assess the level of knowledge and belief. The questionnaire was anonymous for maximum reporting. The purpose of the study was explained to the students in detail.

In the first phase, the students base line knowledge about the mode of transmission and prevention of HIV/AIDS was assessed by the help of a

structured questionnaire. After that, a comprehensive lecture using audiovisual power point presentation on the modes of transmission and prevention of HIV/AIDS in Urdu was delivered. Then, after a period of three months, the same questionnaire was re-administered to the same group of students. In the second phase, 314 students of the previous group were available. The effects of education and other socio-demographic variables on the knowledge of students, regarding HIV/AIDS were studied and data was analyzed on SPSS Version 14.

RESULTS

This was an interventional study conducted in two phases with an interval of 3 months. In the first phase of the study, 350 students participated. The mean age of the students was 17.44 ± 1.28 years of which 124 (35.43%) were 17 years old, 81(23.14%) were 16 years old, 79(22.57%) were 18 years old, 45(12.86%) were 19 years old and 21(6.00%) were 20 years old. Among these, 162 students (46.28%) were in first year, 101 (28.86%) in second year, 58 (16.57%) in third year and only 29 (8.29 %) were in the fourth year. (Table- 1)

Of the students, 71.43 % had heard about AIDS. The knowledge of the students of 13th and 14th years of education was better as compared to 11th and 12th years of education.

Table :I

Age and class wise distribution of students. (n=350)

Age	No. of students	Class	No. of students
16	81 (23%)	1 st year	162(46%)
17	124(35%)	2 nd year	101(29%)
18	79 (23%)	3 rd year	58 (17%)
19	45 (13%)	4 th year	29 (8 %)
20	21 (6%)	-	-
Total	350 (100%)	Total	350 (100%)

Majority of the participants (57.16%) got information about AIDS from TV, 8.85% from radio, 20.85 % from friends, 8.86 % from newspaper, while only 4.28% got information from health personnels. A very few students 4.29 % correctly knew about causative agent. A good number (60.85 % and 57.14 %) told about spread of AIDS by sexual contact with an infected partner and from transfusion of contaminated blood, respectively. While 54.29 % told its spread by use of injection-drug/ sharing needles and 22.29% said that mother can transmit HIV to their babies, a good proportion 52.29%

believed that it can be transmitted by preparing food, while 65.71% also wrongly believed its spread by saliva/ kissing. An equal number was of the opinion that it can spread by sharing towels and bedding. About the prevention of HIV/AIDS, 68.29% told by having sex with a single partner who is uninfected and 34.57% with use of a condom. Nearly equal numbers (59.14% and 52.29%) said that prevention can be done by avoiding sharing needles and razors, respectively.

Table: II
Responses before and after health educational intervention

Question	Before N=350	After N=314
Have you heard about AIDS	71 %	90 %
Causative agent	4 %	47%
Source of information		
TV-57%, Friends-21%, Newspaper-9%, Radio-9%, Health personals - 4%		
HIV/AIDS Transmission		
Unprotected sex with an infected partner	61 %	89 %
Use of injection-drug/sharing needles	54 %	83 %
Mother transmit HIV to their babies	22 %	69 %
Transfusion of contaminated blood	57 %	91 %
The virus does not spread by		
Preparing food	52 %	87 %
Sharing towels and bedding	39 %	84 %
Contact with saliva without blood	34 %	76 %
HIV Prevention		
Sex with a single partner who is uninfected	68 %	92 %
Use of a condom	34 %	63 %
Do not share razors	52 %	82 %
Do not share needles	59%	81 %

In the second phase of the study, after a period of three months of health educational intervention (comprehensive lecture about the mode of transmission and prevention of HIV/AIDS), 314 subjects of first phase participated in the study, hence 36 participants were not available.

There was significant improvement in the knowledge of HIV and its prevention ($p < 0.000$). Knowledge about causative agent of AIDS rose from 4.29 to 47.14%. The result of its spread by unprotected sex with an infected partner and its

spread by use of injection-drug/sharing needle was, 88.85% and 83.75%, respectively. After this health educational intervention, 68.78% knew that mother can transmit HIV to their babies.

There was an improvement regarding knowledge of transmission and 91% of the participants answered that it may be transmitted by contaminated blood transfusion. 86.62% and 83.75% told that there is no spread by preparing food and by sharing towels/ bedding, respectively. 76.11% were of the view that there is no spread by contact with saliva without blood. Due to this educational intervention, there were also improvements in knowledge about preventive measures. A large number of participants (92.03%) told that the best prevention is by having sex with a single partner who is uninfected and a lesser number (63.05%) told prevention by use of condoms. Majority (82.48% and 80.57%) answered avoiding sharing of razors and needles as preventive measure, respectively.

DISCUSSION

The behaviour of adolescents puts them at an increased risk for HIV and other STIs and their knowledge about HIV/AIDS is often inadequate. Providing young people with basic AIDS education enables them to protect themselves from becoming infected. Even for young people who are not yet engaging in risky behaviours, AIDS education is important for ensuring that they are prepared for situations that will put them at risk as they grow older. AIDS education for young people plays a vital role in global efforts to end the AIDS epidemic.¹⁴

When it was asked, whether they had heard about AIDS, 71.43 % of our study subjects had heard about this disease. While in a community based cross-sectional survey which was conducted regarding HIV/AIDS and STIs in October 2002 in Mirpurkhas (a rural district of Sindh), among adolescents, about 69% of the adolescents had answered that they have heard of HIV/AIDS.¹⁵ Media and friends are significant sources through whom adolescents obtain information regarding reproductive health matters. Majority of the participants (57.16%) had told TV as their source of information. In another study conducted at Rawalpindi, 67.54% students had mentioned television as their source of information.¹⁶ In our study, the percentage of students who mentioned TV as their source of information was less as compared to above mentioned study. This may be due to the fact that our study subjects belonged to relatively under developed areas.

Friends were the second major source of information and 20.85% of the students had gotten information regarding HIV/AIDS from this source, while least number (4.28%) got information from health personnels. The same results were found in a study conducted among the students from six urban schools in Kerman that peer education is a more effective method than health provider for AIDS education in the adolescent.¹⁷ It was observed in this study, that groups with higher level of education had more positive beliefs towards HIV/AIDS (students of 13th and 14th years of education) as compared to younger ones (students of 11th and 12th years of education). The results of our study have shown that there is an enhancement in the knowledge of students about the mode of transmission and means of protection from HIV/AIDS. This knowledge will help them in changing their belief towards the disease. The same findings were present in a case control study about medical intervention in Ukraine, where they observed significantly higher knowledge, beliefs and self-efficacy scores among students in the intervention school than in the control school.¹⁸

Health education brought a dramatic change in the belief of majority (89.72%) of the students. Comparable improvements were noticed in the attitude of students after health education campaign in Saudi Arabia. The results were very much congruent with our study.¹⁹ Majority of the students answered correctly concerning the three major ways of HIV transmission: unprotected sex with HIV positive partner (60.85%), receiving contaminated blood transfusions (57.14%) and use of injection-drug/ sharing needles (54.29%) respectively.

Our health educational intervention has revealed that audio visual based awareness campaign to college students can improve the level of knowledge about HIV/AIDS and change their attitudes positively, as there was improvement regarding knowledge of transmission such as unprotected sex with infected partner (61% vs 89%), sharing needles (54% vs 83%), mother to baby (22% vs 68%) and transfusion of contaminated blood (57% vs 91%).

Similarly, regarding preventive measure there was an improvement in knowledge, such as having sex with single partner (68% vs 92%), use of condoms (34% vs 63%) and avoiding sharing razors (52% vs 82%) and needles (59% vs 80%).

As Pakistan has a low prevalence of HIV/AIDS, awareness and knowledge of this disease is relatively poor. Even a great number of students (60.86%) had myths about its spread by kissing (contact with saliva without blood) and by sharing towels and bedding with the patients. The knowledge about HIV/AIDS is also poor among the people of European countries, mainly because in Europe, the big AIDS scare is over. People see AIDS, as just another chronic disease and no longer see it as a deadly threat associated with "risky" sexual behavior. As the sense of threat diminishes, so does the salience of HIV/AIDS knowledge. A recent report complained about the poor state of HIV/AIDS knowledge among the Belgian population and among the younger population (5-24 years) in particular.²⁰

Furthermore, knowledge is concentrated among those adolescents who have a higher level of education and able to meet their friends and have access to media. Despite the fact that HIV transmission can be prevented, each year millions of people become infected with the virus. Almost 1-in-6 of these new infections are among people under 15 years old.

CONCLUSION

A preventive strategy will decrease the load on the health care delivery system and improve its standards. In the course of the twentieth century, audio-visual media have become the means of communicating ideas and information about health and medicine. It has shown great potential all over the world and its impact has clearly been felt and demonstrated in the study. It is suggested that programmes for the awareness of HIV should be launched. Parents, families, teachers and administrators in orphanages or schools should be encouraged to discuss about HIV/AIDS with their students.

Acknowledgement

The article is attributed to Prof. Dr. Amanullah Khan, Head of Community Medicine Department FMHMC, Lahore and Dr. Hafiz Muhammad Yar Head of Community Medicine Department Sheikh Zayed Medical College Rahim Yar Khan.

REFERENCES

1. UNAIDS (2009, November), AIDS epidemic update
2. UNAIDS (2008, August), 2008 Report on the Global AIDS Epidemic.
3. WHO, UNAIDS & UNICEF (2009, September), 'Towards universal access: scaling up priority HIV/AIDS

4. Retrieved from: http://www.nacp.gov.pk/programme/components/hiv_prevention/hiv_care/
5. UNAIDS 2007, 6th July press release: 2.5 million people in India living with HIV.
6. Retrieved from: http://journals.lww.com/aidsonline/Fulltext/1997/07000/HIV/AIDS_and_its_risk_factors_in_Pakistan.2.aspx
7. Retrieved from: <http://www.avert.org/world-aids-day.htm>
8. Retrieved from: <http://www.medicinenet.com/teenagers/article.htm>
9. Jayakumary M, Jayadevan S. International Conference on AIDS (15th : 2004 : Bangkok, Thailand). Int Conf AIDS. 2004 Jul 11-16; 15
10. International Conference on AIDS (15th : 2004 : Bangkok, Thailand). Int Conf AIDS. 2004 Jul 11-16; 15
11. Office of National AIDS Policy. Youth & HIV/AIDS: An American Agenda. Washington DC: Office of National AIDS Policy, March, 1996. Centers for Disease Control and Prevention. HIV/AIDS Surveillance Report, 2001;13(No. 2).
12. Retrieved from: http://www.nacp.gov.pk/programme/components/hiv_prevention/hiv_care
13. Retrieved from: http://www.unicef.org/pakistan/unite_children_aids_2786.htm
14. UNESCO (2009, May), 'A strategic approach: HIV & AIDS and education'
15. Raheel H, White FM, Kadir M, Fatmi Z. International Conference on AIDS, "Knowledge and beliefs of adolescents regarding HIV/AIDS in a rural district Mirpurkhas, Sindh, Pakistan" (15th : 2004 : Bangkok, Thailand).
16. Irfan A, Arfeen S, Imran S. Knowledge of common diseases in a young educated male population in Pakistan. *Pakistan J. Med* 2003; 42 (3)
17. Macek M, Matković V. Beliefs of school environment towards integration of HIV-positive pupils into regular classes and knowledge about HIV/AIDS: cross-sectional study. *Croat Med J* 2005; 46(2):320-5.
18. Kyrychenko P, Kohler C, Sathiakumar N. Evaluation of a school-based HIV/AIDS educational intervention in Ukraine. *J Adolesc Health* 2006;39(6):900-7.
19. Al-Mazrou YY, Abouzeid MS, Al-Jeffri MH. Impact of health education on knowledge and beliefs of Saudi paramedical students toward HIV/AIDS. *Saudi Med J*. 2005;26(11):1788-95.
20. Retrieved from: <http://www.who.int/hiv/en/>.



Hazrat Ali (رضي الله تعالى عنه) Said:

“He who rushes madly after inordinate desire, runs the risk of encountering destruction and death”