Pak Armed Forces Med J 2007; 57(2): 118-124

AWARENESS OF AIDS RELATED PUBLIC HEALTH FACTS IN MEDICAL STUDENTS: A SURVEY IN A MEDICAL COLLEGE OF RAWALPINDI – PAKISTAN

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ABSTRACT

Background: The incidence of HIV infection is rising and Pakistan is considered a high-risk country. The key intervention to this threat, at present, is increased awareness of the population. This study was designed to assess awareness of medical students about HIV infection

Subjects and Methods: It was a cross sectional survey conducted on students of a Medical College of Rawalpindi in December 2005. A semi-structured questionnaire was used to assess awareness levels.

Results: A total of 648 students responded. Out of these 242 (37.35%) were males and 406 (62.65%) were females. A total of 595 (91.8%) students agreed that AIDS is a national threat. Six hundred and twenty five (96.4%) students were sure about HIV transmission modes. Four hundred and twenty eight (66%) students considered close contact safe, 544 (84%) knew that sharing swimming pools was not a risk and 511(78.9%) students knew that mosquitoes have no role in HIV transmission. A total of 321 (79.1%) female students were aware that condoms acted as barrier to HIV transmission compared to 217 (89.7%) males, ($p < 0.05$). Cumulative awareness on AIDS was 83.9%, and observed difference between groups' overall level of awareness was not significant ($p > 0.5$).

Conclusions: Although students demonstrated a high level of knowledge concerning AIDS and HIV, considerable misconceptions were also noted. A need was felt to enhance awareness programs among students in medical colleges on AIDS.

Keywords: AIDS, HIV, awareness, medical students

INTRODUCTION

In 1991 WHO predicted that by year 2000 there would be 40 million HIV infected individuals and majority (90%) will belong to the developing world [1]. An estimate issued in 2004 confirmed the prediction and the global burden of disease stood at 40 million at the end of 2003 [2]. Of these, 29.4 million (68%) resided in Sub-Saharan Africa, 6 million (20%) in South and South East Asia. In the year 2002 alone, 5 million new persons were infected all over the world [3]. The spread of HIV and development of AIDS is now being closely monitored worldwide.

Pakistan has been identified as one of the few countries in Asia having "extremely low" HIV prevalence but it is considered a high risk country due to smaller number of reported cases and high prevalence of risk factors [4]. There were an estimated 74,000 people living with HIV/AIDS at the end of 2003 [5].

In the absence of preventive and curative medicines for HIV/AIDS, the key instrument or intervention to arrest spread is to disseminate the knowledge, raise awareness and bring about behavior change in vulnerable segments of the society.

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The maximum risk population, more prone to adopting AIDS related behaviour, are the young people aged 10-29 years [6]. In Pakistan, 22-25%of the population is estimated to be adolescent [7].

This study was designed to assess the awareness among medical students of a medical college about important public health related facts of AIDS. Since medical students fall in the adolescent age group, their level of awareness on AIDS is of relevance and pertinent to gauge the same in youth of the society i.e target group for behaviour modification.

SUBJECTS AND METHODS

It was a cross sectional survey of medical students, both male and female, of the medical college in Rawalpindi. College authorities were informed and the students participated voluntarily on assurance of anonymity. It was conducted at the start of proceedings of a seminar on AIDS, held in the college auditorium on World AIDS day, 1st December 2005.

misconceptions regarding HIV infection and

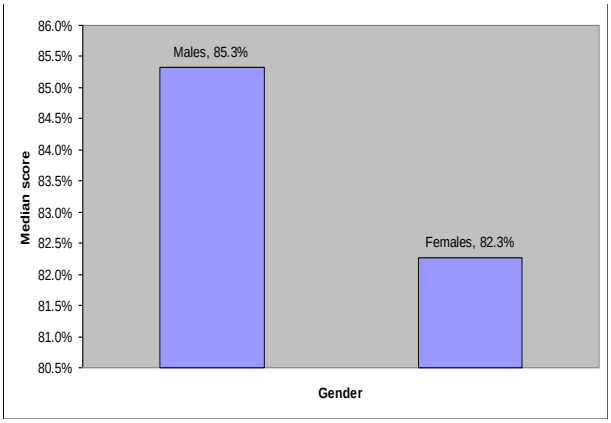

Fig. 1: Gender-wise awareness (significance p>0.05).

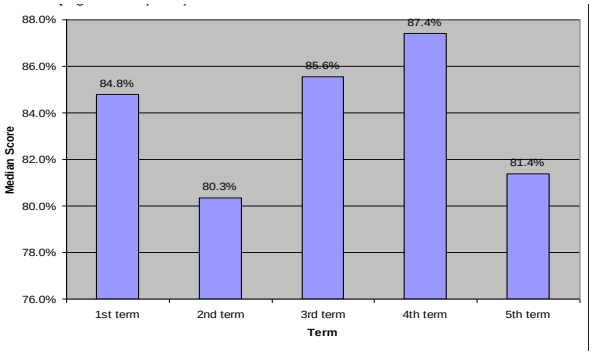

Fig. 2: Term-wise awareness level (significance p>0.5).

Table-1: A profile of respondents.

Background characteristics		Male	Female	Total
First Year MBBS & BDS	n	60	88	148
	% within term	40.54%	59.46%	100.00%
	% of Total	9.26%	13.58%	22.84%
Second Year MBBS & BDS	n	46	99	145
	% within term	31.72%	68.28%	100.00%
	% of Total	7.10%	15.28%	22.38%
Third Year MBBS & BDS	n	46	96	142
	% within term	32.39%	67.61%	100.00%
	% of Total	7.10%	14.81%	21.91%
Fourth Year MBBS & BDS	n	52	75	127
	% within term	40.94%	59.06%	100.00%
	% of Total	8.02%	11.57%	19.60%
Final Year MBBS	n	38	48	86
	% within term	44.19%	55.81%	100.00%
	% of Total	5.86%	7.41%	13.27%
Total	n	242	406	648
	% of Total	37.35%	62.65%	100.00%

The students were given a simple, yes/no/do not know, response questionnaire to which they were required to respond anonymously. It included questions on important public health facts and common AIDS.

Responded questionnaires were classified into satisfactory and unsatisfactory for purpose of inclusion/exclusion. Satisfactory was defined as a questionnaire completely

responded to, with no question dropped, or gender and term column missed.

Awareness level was measured in terms of proportion/percentage of respondents providing correct answers.

The data was collected and analyzed with SPSS. For purpose of comparison, the students were divided into five groups according to their academic year in the college, term; and two sub groups according to their gender. The awareness about different aspects was calculated independently for each group. Frequency distribution of different variables was analyzed. Percentages were used to describe the data and chi-square test was performed to assess the significance of the differences.

RESULTS

A total of 680 students filled in the questionnaire, of these 32 cases were rejected due to unsatisfactory data entry. A profile of the 648 respondents, showed 242 (37.35%) were males and 406 (62.65%) were females (table-1).

Table-2 summarizes the respondents' knowledge about the national threat and global burden of AIDS. A total of 595 (91.8%) students agreed that AIDS is a national threat and 523 (80.7%) students could quantify the global burden of disease. Level of awareness regarding the rate of new infections acquired by the young every day in the world was low, correct response n= 79 (12.2%).

Table-2: Knowledge of the HIV threat- national and global.

Background characteristics			HIV is not a threat in Pakistan		Globally > 33 million adults and children are living with HIV/AIDS		How many young people aged 10-24 gets infected with HIV every day in the world?	
		Correct Answer	False		True		> 8500	
Gender	n		n		n		n	
Males	242		217	89.7%	188	77.7%	38	15.7%
Females	406		378	93.1%	335	82.5%	41	10.1%
		Significance	p > 0.05		p > 0.05		p > 0.05	
Term								
1st term	148		136	91.9%	128	86.5%	15	10.1%
2nd term	145		134	92.4%	111	76.6%	17	11.7%
3rd term	142		133	93.7%	113	79.6%	25	17.6%
4th term	127		115	90.6%	99	78.0%	10	7.9%
5th term	86		77	89.5%	72	83.7%	12	14.0%
		Significance	p > 0.05		p > 0.05		p > 0.05	
Total	648		595	91.8%	523	80.7%	79	12.2%

Table-3: Awareness about the high risk groups.

Background characteristics			Only gay men and injecting drug users get HIV		Young people are most at risk of getting infected with HIV	
		Correct Answer	False		True	
Gender	n		n		n	
Males	242		237	97.9%	208	86.0%
Females	406		388	95.6%	339	83.5%
		Significance	p > 0.05		p > 0.05	
Term						
1st term	148		144	97.3%	120	81.1%
2nd term	145		138	95.2%	127	87.6%
3rd term	142		140	98.6%	119	83.8%
4th term	127		122	96.1%	111	87.4%
5th term	86		81	94.2%	70	81.4%
		Significance	p > 0.05		p > 0.05	
Total	648		625	96.4%	547	84.4%

A total 547 (84.4%) students knew that young population is the most at risk group, while 625 (96.4%) students were aware of the fact that AIDS is not just the problem of gay men and drug abusers (table-3).

Awareness levels regarding modes of transmission of the HIV infection is summarized in (table-4). A total of 625 (96.4%) students were sure about different modes of transmission. The proportion was significantly low in final term students, n= 77 (89.5%, p <0.05).

Awareness of the common misconceptions about modes of HIV transmission is also summarized in (table-4). Only 428 (66%) students knew that kissing an infected patient was not a risk, the proportion being significantly low in final term students, n= 42 (48.8%, p <0.05). A total of 544 (84%) respondents were aware of the fact that HIV cannot be contracted through swimming pools. A total of 511 (78.9%) students knew that mosquitoes cannot spread the disease.

Table-4: Knowledge of HIV transmission.

Background characteristics			What are the modes of HIV transmission?		Kissing a HIV positive man or woman can put you at risk of contracting the virus		I can get HIV from being in a swimming pool		HIV can be transmitted through mosquito bites	
		Correct Answer	Correct answer		False		False		False	
Gender	n		n		n		n		n	
Males	242		237	97.9%	151	62.4%	199	82.2%	195	80.6%
Females	406		388	95.6%	277	68.2%	345	85.0%	316	77.8%
		Significance	p > 0.05		p > 0.05		p > 0.05		p > 0.05	
Term										
1st term	148		148	100.0%	106	71.6%	124	83.8%	114	77.0%
2nd term	145		142	97.9%	90	62.1%	117	80.7%	109	75.2%
3rd term	142		135	95.1%	109	76.8%	126	88.7%	116	81.7%
4th term	127		123	96.9%	81	63.8%	112	88.2%	112	88.2%
5th term	86		77	89.5%	42	48.8%	65	75.6%	60	69.8%
		Significance	p < 0.05		p < 0.05		p > 0.05		p > 0.05	
Total	648		625	96.4%	428	66.0%	544	84.0%	511	78.9%

Table-5: Awareness about important facts in clinical features.

Background characteristics			A person can be HIV-infected and yet show no symptoms		I would know if I had HIV because I would get sick		You can tell when someone has HIV from the way they look	
		Correct Answer	True		False		False	
Gender	n		n		n		n	
Males	242		218	90.1%	205	84.7%	215	88.8%
Females	406		372	91.6%	317	78.1%	362	89.2%
		Significance	p > 0.05		p > 0.05		p > 0.05	
Term								
1st term	148		133	89.9%	127	85.8%	141	95.3%
2nd term	145		134	92.4%	113	77.9%	124	85.5%
3rd term	142		131	92.2%	117	82.4%	135	95.1%
4th term	127		117	92.1%	100	78.7%	113	89.0%
5th term	86		75	87.2%	65	75.6%	64	74.4%
		Significance	p > 0.05		p > 0.05		p < 0.05	
Total	648		590	91.0%	522	80.6%	577	89.0%

Table-5 summarizes the level of awareness of respondents about important facts in the clinical presentation of the disease. A total of 590 (91%) students knew that a person can be infected with HIV and yet have

no symptoms, while 577 (89%) students were aware of the fact that the disease cannot be diagnosed on clinical grounds. The level was particularly low in final term students; n=64 (74.4%, p <0.05).

Regarding important facts in public health preventive measures against the disease, results summarized (table-6), 513 (79.2%) students were aware of the fact that there is no vaccine against HIV. A total of 538 (83%) students knew that condoms act as a barrier to HIV, awareness significantly low in female students; n= 321 (79.1%) vs n= 217 (89.7%) of males, p <0.05. A total of 590 (91%) respondents were aware of the fact that the correct use of condoms was important. The level was 88.4% in females and 95.4% in males, (p <0.05).

Respondents' awareness of the role of drugs in limiting the viral activity and infectivity is shown in table-7. A total of 544 (84%) students knew that there is no cure for AIDS, the proportion of awareness being lowest in final term students (n= 61 (70.9%), p<0.05). Only 259 (40%) students understood the role of drugs in reducing the chances of HIV transmission from mothers to their babies being born [8], although 591 (91.2%) responded correctly to the fact that drugs cannot eradicate the virus from patients body

Table-6: Awareness about important facts in prevention of AIDS.

Background characteristics				There is no vaccine against HIV		Condoms act as a barrier to HIV		Correct use of condoms is an effective way to avoid getting infected with HIV	
		Correct Answer		True		True		True	
Gender	n			n		n		n	
Males	242			198	81.8%	217	89.7%	231	95.4%
Females	406			315	77.6%	321	79.1%	359	88.4%
		Significance		p > 0.05		p < 0.05		p < 0.05	
Term									
1st term	148			110	74.3%	124	83.8%	136	91.9%
2nd term	145			110	75.9%	126	86.9%	131	90.3%
3rd term	142			116	81.7%	108	76.1%	129	90.8%
4th term	127			107	84.2%	110	86.6%	119	93.7%
5th term	86			70	81.4%	70	81.4%	75	87.2%
		Significance		p > 0.05		p > 0.05		p > 0.05	
Total	648			513	79.2%	538	83.0%	590	91.0%

Table-7: Knowledge about important facts in treatment of AIDS.

Background characteristics				There is a cure for AIDS		HIV positive women can take medicine to reduce the chances of their babies being born with HIV		People on HIV medicines cannot pass on the virus	
		Correct Answer		False		True [8]		False [9]	
Gender	n			n		n		n	
Males	242			211	87.2%	101	41.7%	227	93.8%
Females	406			333	82.0%	158	38.9%	364	89.7%
		Significance		p > 0.05		p > 0.05		p > 0.05	
Term									
1st term	148			129	87.2%	55	37.2%	139	93.9%
2nd term	145			116	80.0%	48	33.1%	134	92.4%
3rd term	142			129	90.8%	58	40.8%	132	93.0%
4th term	127			109	85.8%	57	44.9%	113	89.0%
5th term	86			61	70.9%	41	47.7%	73	84.9%
		Significance		p < 0.05		p > 0.05		p > 0.05	
Total	648			544	84.0%	259	40.0%	591	91.2%

and patient on drugs can pass on the virus to other individuals [9].

Cumulative level of awareness about general aspects of AIDS and HIV among the surveyed population was 83.9%. A total of 207 (85.5%) among the males and 334 (82.3%) amongst the female students responded correctly (fig. 1); the difference was not significant ($p > 0.05$). Term wise, the awareness status has been shown in fig. 2. The observed difference between various terms was not significant ($p > 0.5$).

DISCUSSION

AIDS is a preventable disease. The awareness attitude and behavior of the younger population is one of the major determinants in the battle against HIV infection. The results of this survey showed that the knowledge about AIDS in the study population was satisfactory on many issues relating to public health. Foremost of these is the realization of the fact that AIDS is a threat in Pakistan (more than 90% agreed).

The survey revealed important areas where students lacked awareness. Significant proportions of respondents had misconceptions about transmission of the HIV by kissing a patient or an infected person. Similarly, awareness on the role of condoms in prevention of the disease and about the impact of drugs on virus activity and infectivity was also limited. Awareness on the role of condoms in prevention of the disease was significantly low in the female respondents. Other studies conducted on students belonging to different genders and academic years have shown similar results. In a study done on female college students a relative lack of awareness about the modes of HIV transmission, preventive role of condoms and role of drugs in limiting the viral transmission was noted [10]. In this study only 50.7% (n=600) of female students were aware of the fact that HIV cannot be contracted in swimming pools (85% of females in our study). The 47.8% of students knew that kissing an HIV infected person is not a risk (68.2% in our female population). The 59.5% respondents compared to 77.8% females in our study were aware of the fact that mosquitoes cannot spread the virus. As regards to prevention, 49.3% were aware of the role of condoms, 79.1% in our female group. Level of knowledge and awareness among female respondents was higher in our study as compared to the cited past study.

Another study, carried out in a medical college of Karachi, the pre clinical group seemed to have a higher, statistically significant ($p < 0.001$), awareness compared to the clinical group [11], where as no such significant disparity was seen in our study.

Over the years, many surveys have highlighted areas of low awareness in various population groups and have emphasized the increased employment of media, educational institutions, government and international agencies in propagation of AIDS awareness [12-14]. A study on a group of female students investigated the impact of various sources of information on awareness of AIDS and it pointed out the underutilization of these important sources [15].

CONCLUSION

Students demonstrated a high level of knowledge concerning AIDS and HIV, but had considerable misconceptions in certain aspects of the disease. Mass education programs in colleges- for example seminars, workshops etc- are required to be conducted regularly to improve knowledge of students regarding important health issues especially HIV infection.

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