

# Knowledge, Attitude and Practice on HIV/AIDS in local population of Anarkali, Lahore, Pakistan

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## ABSTRACT

**Objective:** To assess the knowledge, attitude and practices regarding AIDS.

**Background:** AIDS is a disease of human immune system. By year 2009 there were more than 33.4 million people world-wide affected by HIV/AIDS with 2.7 million new HIV/AIDS infections per year and 2 million annual deaths. The economic burden of this disease is far more than anticipated. The recent data shows there are 98,000 HIV-infected people living in Pakistan.

**Methods:** A cross-sectional survey was conducted directed to people in Lahore. The survey assessed the knowledge, attitude and practice of the people regarding HIV/AIDS on the basis of cohort's sex, age and level of education. Data was then analyzed using SPSS and p-values were estimated using Chi-squared test.

**Results:** A total of 50 individuals were surveyed. Our study showed that individuals with under matriculation education were less aware of the concept of AIDS( $p=0.002$ ), less aware of its prevention methods( $p=0.002$ ) and less likely to seek knowledge regarding HIV/AIDS( $p=0.027$ ). Male individuals were more likely to have screening for HIV/AIDS( $p=0.027$ ). Individuals aged above 25 years were more likely to have intra-venous drug use history( $p=0.004$ ).

**Conclusion:** Study cohort was well aware about the disease and its usual modes of transmission irrespective of their sex, age or education. Our study showed people generally wanted to practice safe sex, be restricted to their life partners. People also showed willingness to educate their children early about AIDS. However, more work is required to increase the level of education as this has impact on the awareness and notions of the individuals regarding AIDS.

**Keywords:** AIDS, HIV, safe sex, sexual transmission, prevention.

## INTRODUCTION

Acquired Immune deficiency syndrome (AIDS) is a disease of the human immune system. It is caused by Human Immunodeficiency Virus (HIV). The virus reduces the efficacy of the immune system making our bodies more susceptible to opportunistic infections and tumours (Kent A, 2001). Transmission of HIV is usually by direct contact of mucous membrane or bodily fluids such as blood, vaginal fluid, semen, and breast milk (Kent A, 2001). The most common methods of transmission are anal, vaginal or oral sex, blood transfusion, sharing contaminated needles, vertical transmission in pregnancy, childbirth and breast feeding (Weiss RA, 1993).

Previous studies have shown that older individuals have better awareness about AIDS but have identified important deficiencies among both older and younger age groups that need to be addressed (Im-em W et al, 2002). Another research conducted amongst commercial sex

workers in Dhaka, highlighted their lack of knowledge regarding HIV/AIDS and its possible consequences (Tazammal S, 1996). This study also showed that effective intervention increased the sex worker's awareness about AIDS and increased their use of safe sex methods. Intervention is thus imperative in understanding and managing a growing epidemic like AIDS.

According to WHO in 2009, there was estimated 33.4 million people worldwide affected with HIV/AIDS with 2.7 million new HIV infections and 2 million annual deaths due to HIV/AIDS. Pakistan has enjoyed a low prevalence of AIDS from 1987 to 2003 (WHO, 2009). The recent data shows currently there are 98,000 people living with HIV infection in Pakistan (WHO, 2009). This indicates that HIV infection is a growing epidemic and Pakistan is sitting on a ticking AIDS bomb that will affect the population at large deleteriously. However, as many other diseases, AIDS is also preventable. For the community to understand the

significance of prevention of this incurable disease is of immense importance in controlling the disease incidence and prevalence.

This survey provides insight about the general population's awareness and their notions about HIV/AIDS and its different parameters such as mode of transmission and prevention. This will lead to critical insight to develop interventions that seek to reduce the spread of HIV within a broader population.

## **MATERIALS AND METHODS:**

A cross-sectional study was conducted during year 2010 using pre-tested close ended questionnaire encompassing convenient sampling technique. The population targeted for the purpose of this study was the local residence of Anarkali, Lahore, Pakistan. This area is in close-proximity to the local commercial sex-worker area and has a high prevalence of poverty associated diseases such as tuberculosis and malnutrition. Verbal consent was taken from all the subjects. A sample size of 50 was selected to give 95% confidence level. This was calculated using EPI-INFO 2000.

Inclusion criteria: Both males and females over 18 years of age were included. Verbal consent was taken from all individuals.

Data was analyzed using SPSS and Chi-squared test was used to calculate the p-values. Three variables were considered (age, sex and education level) of the sample to investigate the effect of these variables on attitude, knowledge and practice regarding AIDS. Ethical approval to proceed with study was taken from the community medicine department at King Edward Medical University, Anarkali, Lahore, Pakistan.

## **RESULTS**

Our study investigated the effects of age, sex and education level of the cohort on knowledge, attitude and practices of the individuals. Table 1, 2 and 3 shows the awareness, attitude and practice of the cohort according to their age, sex and education levels.

### **Age:**

#### **• Knowledge**

As shown in table 1 subjects under 25 years of age were compared with over 25 years and were found to have more awareness (all values in %) of AIDS (82.4 vs 81.8), had less knowledge of its sexual transmission (64.7 vs 72.7) but more aware of its spread through blood transfusion (64.7 vs 57.6),

body piercing and tattoos (58.8 vs 51.5), knew more that AIDS is a preventable disease (64.7 vs 51.5), knew less about safe sex (47.1 vs 60.6), had more knowledge about incurability of AIDS (76.5 vs 63.6) and had less knowledge regarding family relatives affected by this lethal disease (23.5 vs 48.5). However the difference was found to be insignificant in all case ( $p > 0.05$ ).

#### **• Attitude**

Individuals under the age of 25 were relatively equally inclined to practice safe sex as individuals above age 25 (76.5 vs 75.8), were in less favour of restriction to one life partner (58.8 vs 72.7), favoured children education regarding AIDS (64.7 vs 63.6), wanted AIDS prevention to be promoted via electronic media (70.6 vs 60.6), showed positive attitude towards AIDS checkup (82.4 vs 75.8), wanted to improve their current knowledge about AIDS (70.6 vs 57.6), in less favour of blood screening (58.8 vs 72.7) and were not in favour of homosexuality (94.1 vs 97.0). However the difference was found to be insignificant in all case ( $p > 0.05$ ).

#### **• Practical**

As shown in table 1 individuals under the age of 25 practiced more safe sex (82.4 vs 69.7), less self screening (41.2 vs 60.6), partner screened for HIV (52.9 vs 54.5), use intra-venous drugs (5.9 vs 42.4), had more than one sexual partners (23.5 vs 9.1) and more body tattoos (47.1 vs 30.3) when compared with individuals over the age of 25 years. Individuals under the age of 25 year used intra-venous drugs less (5.9%) as compared with subjects over the age of 25 years (42.4%). The difference was found to be significant ( $p=0.004$ ).

### **Sex:**

#### **• Knowledge**

Male individuals when compared with female individuals (table 2) were found to have less awareness regarding AIDS (78.1 vs 88.9) but were more aware of its sexual (78.1 vs 55.6) and body piercing (56.3 vs 50.0) as modes of transmission than blood transfusion (56.3 vs 66.7). Males were less aware of AIDS being a preventable disease (46.9 vs 72.2), more aware of safe sex methods (62.5 vs 44.4), relatively equally aware of its incurability as females (65.6 vs 72.2) and more aware about any of their relatives affected by this lethal disease (46.9 vs 27.8). However, the difference in all variables was found to be insignificant ( $p > 0.05$ ).

**ORIGINAL ARTICLE**

**Table 1**

<b>AGE</b>							
Variable	AGE					Chi-square	p-value
	<25			>25			
<b>KNOWLEDGE</b>							
AIDS	yes	14	82.4%	27	81.8%	0.00	0.963
	no	3	17.6%	6	18.2%		
Sexual transmission	yes	11	64.7%	24	72.7%	0.34	0.560
	no	6	35.3%	9	27.3%		
Blood transfusion spread	yes	11	64.7%	19	57.6%	0.24	0.625
	no	6	35.3%	14	42.4%		
Piercing	yes	10	58.8%	17	51.5%	0.24	0.623
	no	7	41.2%	16	48.5%		
Prevention	yes	11	64.7%	17	51.5%	0.80	0.371
	no	6	35.3%	16	48.5%		
Safe sex	yes	8	47.1%	20	60.6%	0.83	0.361
	no	9	52.9%	13	39.4%		
Incurability	yes	13	76.5%	21	63.6%	0.87	0.350
	no	4	23.5%	12	36.4%		
Family relatives	yes	4	23.5%	16	48.5%	3.03	0.082
	no	13	76.5%	17	51.5%		
<b>ATTITUDE</b>							
Safe sex	yes	13	76.5%	25	75.8	0.00	0.955
	no	4	23.5%	8	24.2		
Restriction to life partner	yes	10	58.8%	24	72.7%	0.97	0.322
	no	7	41.2%	9	27.3%		
Child education	yes	11	64.7%	21	63.6%	0.00	0.940
	no	6	35.3%	12	36.4%		
Promote via media	yes	12	70.6	20	60.6%	0.49	0.483
	no	5	29.4	13	39.4%		
Regular checkup	yes	14	82.4%	25	75.8	0.29	0.589
	no	3	17.6%	8	24.2		
Knowledge	yes	12	70.6	19	57.6%	0.82	0.365
	no	5	29.4	14	42.4%		
Homosexuality	yes	1	5.9	1	3.0	0.22	0.635
	no	16	94.1	32	97.0		
Screening	yes	10	58.8%	24	72.7%	0.97	0.322
	no	7	41.2%	9	27.3%		
<b>PRACTICAL</b>							
Safe sex	yes	14	82.4%	23	69.7%	0.97	0.323
	no	3	17.6%	10	30.3%		
Self screening	yes	7	41.2%	20	60.6%	1.70	0.191
	no	10	58.8%	13	39.4%		
Partner screening for HIV	yes	9	52.9%	18	54.5%	0.01	0.194
	no	8	47.1%	15	45.5%		
IV Drug use	yes	1	5.9	14	42.4%	8.49	0.004
	no	16	94.1	19	57.6%		

More than one sexual partner	yes	4	23.5%	3	9.1%	1.84	0.175
	no	13	76.5%	30	90.9%		
Body tattoos	yes	8	47.1%	10	30.3%	1.34	0.246
	no	9	52.9%	23	69.7%		

**Table 2**

<b>Sex</b>							
Variable	Sex					Chi-square	p-value
	Male			Female			
<b>KNOWLEDGE</b>							
AIDS	yes	25	78.1%	16	88.9%	0.96	0.327
	no	7	21.9%	2	11.1%		
Sexual transmission	yes	25	78.1%	10	55.6%	2.73	0.098
	no	7	21.9%	8	44.4%		
Blood transfusion spread	yes	18	56.3%	12	66.7%	0.52	0.468
	no	14	43.7%	6	33.3%		
Piercing	yes	18	56.3%	9	50.0%	0.18	0.671
	no	14	43.7%	9	50.0%		
Prevention	yes	15	46.9%	13	72.2%	3.08	0.079
	no	17	53.1%	5	27.8%		
Safe sex	yes	20	62.5%	8	44.4%	1.52	0.217
	no	12	37.5%	10	55.6%		
Incurability	yes	21	65.6%	13	72.2%	0.23	0.629
	no	11	34.5%	5	27.8%		
Family relatives	yes	15	46.9%	5	27.8%	1.79	0.180
	no	17	53.1%	13	72.2%		
<b>ATTITUDE</b>							
Safe sex	yes	25	78.1%	13	72.2%	0.217	0.641
	no	7	21.9%	5	27.8%		
Restriction to life partner	yes	20	62.5%	14	77.8%	1.27	0.258
	no	12	37.5%	4	22.2%		
Child education	yes	23	71.9%	9	50.0%	2.36	0.124
	no	9	28.1%	9	50.0%		
Promote via media	yes	19	59.4%	13	72.2%	0.84	0.359
	no	13	40.6%	5	27.8%		
Regular checkup	yes	27	84.4%	12	66.7%	2.03	0.153
	no	5	15.6%	6	33.3%		
Knowledge	yes	19	59.4%	12	66.7%	0.26	0.609
	no	13	40.6%	6	33.3%		
Homosexuality	yes	1	3.1%	1	5.6%	0.17	0.680
	no	31	96.9%	17	94.4%		
Screening	yes	23	71.9%	11	61.1%	0.60	0.436
	no	9	28.1%	7	28.9%		
<b>PRACTICAL</b>							
Safe sex	yes	22	68.8%	15	83.3%	1.33	0.248
	no	10	31.2%	3	16.7%		
Self screening	yes	21	65.6%	6	33.3%	4.89	0.027
	no	11	34.4%	12	66.7%		
Partner screening for HIV	yes	18	56.3%	9	50.0%	0.181	0.671

	no	14	43.7%	9	50.0%		
IV Drug use	yes	12	37.5%	3	16.7%	2.52	0.112
	no	20	62.5%	15	83.3%		
More than one sexual partner	yes	5	15.6%	2	11.1%	0.20	0.654
	no	27	84.4%	16	88.9%		
Body tattoos	yes	5	15.6%	13	72.2%	16.33	0.000
	no	27	84.4%	5	27.8%		

**Table 3**

<b>EDUCATION</b>							
Variable	Education					Chi-square	p-value
	Under matric			matric			
<b>KNOWLEDGE</b>							
AIDS	yes	14	63.6%	27	96.4%	9.67	0.002
	no	8	36.4%	1	3.6%		
Sexual transmission	yes	13	59.1%	22	78.6%	2.23	0.136
	no	9	40.9%	6	21.4%		
Blood transfusion spread	yes	7	31.8%	23	82.1%	13.5	0.000
	no	15	68.2%	5	17.9%		
Piercing	yes	12	54.5%	15	53.6%	0.005	0.945
	no	10	45.5%	13	46.4%		
Prevention	yes	7	31.8%	21	75.0%	9.58	0.002
	no	15	68.2%	7	25.0%		
Safe sex	yes	11	50.0%	17	60.7%	0.57	0.449
	no	11	50.0%	11	39.3%		
Incurability	yes	12	54.5%	22	78.6%	3.27	0.07
	no	10	45.5%	6	21.4%		
Family relatives	yes	10	45.5%	10	35.7%	0.48	0.486
	no	12	54.5%	18	64.3%		
<b>ATTITUDE</b>							
Safe sex	yes	16	72.2%	22	78.6%	0.23	0.632
	no	6	27.8%	6	21.4%		
Restriction to life partner	yes	12	54.5%	22	78.6%	3.27	0.07
	no	10	45.5%	6	21.4%		
Child education	yes	14	63.6%	18	64.3%	.002	0.962
	no	8	36.4%	10	35.7%		
Promote via media	yes	11	50.0%	21	75.0%	3.35	0.067
	no	11	50.0%	7	25.0%		
Regular checkup	yes	16	72.2%	23	82.1%	0.63	0.426
	no	6	27.8%	5	17.9%		
Knowledge	yes	10	45.5%	21	75.0%	4.59	0.032
	no	12	54.5%	7	25.0%		
Homosexuality	yes	0	0.00%	2	7.1%	2.38	0.123
	no	22	100%	26	92.9%		
Screening	yes	14	63.6%	20	71.4%	0.34	0.558
	no	8	36.4%	8	28.6%		
<b>PRACTICAL</b>							
Safe sex	yes	18	81.8%	19	67.9%	1.27	0.258

	no	4	18.2%	9	32.1%		
Self screening	yes	12	54.5%	15	53.6%	0.005	0.945
	no	10	45.5%	13	46.4%		
Partner screening for HIV	yes	11	50.0%	16	57.1%	0.25	0.615
	no	11	50.0%	12	42.9%		
IV Drug use	yes	8	36.4%	7	25.0%	0.75	0.385
	no	14	63.6%	21	75.0%		
More than one sexual partner	yes	4	18.2%	3	10.7%	0.56	0.452
	no	18	81.8%	25	89.3%		
Body tattoos	yes	5	22.7%	13	46.4%	3.08	0.079
	no	17	77.3%	15	53.6%		

**• Attitude**

More male individuals (Table 2) preferred to have safe sex practice (78.1 vs 72.2) than females but less likely to be in favour of restriction to one life partner (62.5 vs 77.8). Males favoured children education of AIDS (71.9 vs 50.0), showed positive attitude towards promotion 59.4 vs 72.2), attaining knowledge regarding AIDS (59.4 vs 66.7) and regular check ups (84.4 vs 66.7). Male and female individuals however perceived homosexuality as not right (96.9 vs 94.4). Male individuals wanted blood screening for HIV (71.9 vs 61.1)

**• Practical**

Our study showed that male subjects were less likely to practice safe sex (68.8 vs 83.3) but more likely to have self screening (65.6 vs 33.3) and have partner screened (56.3 vs 50.0). Males practiced intra-venous drug used (37.5 vs 16.7), had more than one sexual partner (15.6 vs 11.1) and less body piercing (15.6 vs 72.2) as compared to females. Our results were significant for more male individuals having screening for HIV/AIDS (p=0.027) and much less number of males having body piercing and tattoos (p=0.00) than females.

**Education**

**• Knowledge**

Data as shown in Table 3 shows that individuals with under matriculation education when compared with individuals with higher education were found to be less aware of AIDS (63.6 vs 96.4), its sexual (59.1 vs 78.6), blood transfusion (31.8 vs 82.1), body piercing (54.5 vs 53.6) as modes of transmission and knew less about prevention (31.8 vs 75.0), safe sex (50.0 vs 60.7), incurability (54.5 vs 78.6) and awareness of affected family relatives (54.5 vs 64.3). There was statistically significant difference of less awareness regarding AIDS (p=0.002) and its preventability (p=0.002) in

individuals with under matriculation education as compared to individuals with higher education.

**• Attitude**

Individuals with under matriculation education were inclined to do safe sex (72.2 vs 78.6), in less favour of restriction to one life partner (54.5 vs 78.6), favoured child education about AIDS (63.6 vs 64.3), promote via media (50.0 vs 75.0), have less regular check ups (72.2 vs 82.1), less likely to seek knowledge regarding AIDS (45.5 vs 75.0), disagree strongly with homosexuality (100.0 vs 92.9) as compared to individuals with higher education. Under matriculation individuals were far less likely to seek knowledge regarding AIDS as compared to individuals with higher education. This difference was found to be statistically significant (p=0.032).

**• Practical**

Individuals with under matriculation education practiced more safe sex (81.8 vs 67.9), have screening for HIV (54.5 vs 53.6) and their partners (50.0 vs 57.1), used intra-venous drugs (36.4 vs 25.0), body piercing and tattoos (22.7 vs 46.4) and more likely to have more than one sexual partner (18.2 vs 10.7). Our results were however statistically insignificant in all cases.

**DISCUSSION**

Our study indicates the cohort under the age of 25 years were generally more aware of AIDS but were less aware of its modes of transmission and the importance of safe sex as compared to individuals aged over 25 years. These results are similar to other studies when comparing freshman and senior students (Hancock T et al, 1999) and when comparing knowledge and attitude among Iranian students (Tavoosi A et al, 2004). These results were however statistically insignificant. Our study

also showed that majority of the cohort was practicing safe sex (74%) irrespective of age differences.

Our study showed that there were relatively low level of awareness (54%) regarding risk factors and HIV spread associated with body piercing and tattoos. There was good knowledge about AIDS being fatal in all age groups. Our study showed positive attitudes of the cohort about safe sex (76%). Majority (68%) were seen in favour of restriction of life partners without any significant differences in age groups. Our study showed relatively positive attitude towards children education regarding AIDS (64%). People were generally in favour of gaining more knowledge regarding AIDS and more open towards have check up for screening. Our study showed a strong dislike for homosexuality in all age and sex groups (98%). Our study showed a greater intra-venous drug usage in older individuals as compared to younger individuals (<25 years old). These results are however contradictory to other studies with most showing teenagers as high risk for AIDS/HIV (Djoerban Z et al, 2000). There was a higher use of intra-venous drugs in males as compared to females (37.5 vs 16.7) however the difference was not significant. Females had more body piercings when compared with male individuals. The difference was highly significant.

People with under matriculation education were less aware of the concept of AIDS as compared to individuals with higher education. The difference was statistically significant. Under matriculation individuals were also seen to have less knowledge about the modes of transmission, risk factors and prevention of AIDS. Under-matriculation individuals were less likely to have partners screened for HIV. However, they were found to practice more safe sex. The study showed low levels of knowledge about any infected relatives in both education groups. People in both education groups however wanted to improve their knowledge regarding AIDS and promote awareness through media.

## CONCLUSIONS

The results of our study show generally good knowledge levels about AIDS and its modes of transmission like blood transfusion and unsafe sex in older age groups and higher education groups.

Males were found to have them selves screened for HIV more than females and have less body piercing than female individuals. People with low levels of education had relatively less information about the subject. The attitudes of the population regarding safe sex, restriction to life partner, and improvement of knowledge through multimedia were generally very good. People also showed willingness to educate their children early about the problem, majority were strongly against homosexuality. The practices of safe sex were observed in the population, there was willingness to checkup for AIDS. There was restriction to life partner in majority. Our study indicates that there is still need for launching definitive programmes to increase awareness and change people's attitudes regarding AIDS. Education should be increased to enhance the knowledge about AIDS.

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