

# Research in Pharmacy and Health Sciences

## Research Article

### A Study on Knowledge, Attitude, Awareness and Practice About HIV/AIDS among different age group of Karachi, Pakistan

Safia Mehmood, Sheema Zia, Nida Aziz, Omama Sajid

Department of Pharmacy Practice, Faculty of Pharmacy, Jinnah University for Women, Karachi, Pakistan

#### ABSTRACT

The AIDS is one of the most complicated health problems of the 21st century and it threatens the world population. AIDS spread at an alarming rate. This was a descriptive study to determine the knowledge, awareness, and practice about HIV among different age groups. The study carried out in Karachi, Pakistan during the period of January 2016-april 2016, in which 82 peoples are participated; 65 peoples having age in between 18-30, people's lies in 31-40 years, while only 4 peoples having age above 40. From which 91% peoples thought HIV is dangerous virus and 51% peoples having misconception that it cause AIDS on initial stage and does not have any effect on CD<sup>4+</sup>. Majority of peoples aware about transmission of AIDS through intercourse, and during pregnancy. But the study show the high level of misbelieve also in mode of transmission that HIV transmit through sweat, saliva etc. Majority of the peoples have knowledge that HIV-1 is the most common type found worldwide. Also large number of peoples have knowledge that HIV weak immune system by destroying CD<sup>4+</sup> and require long exposure to progress AIDS. Less than 15% of peoples strongly agree that AIDS is common in women. This misconception reflex the lack of knowledge and awareness in the HIV transmission and gender relation. Also majority of peoples thought that lack of knowledge is major barrier in the proper cure of disease. So increasing knowledge by awareness programs; sexual prevention; by starting national testing resources and curing poverty will cured AIDS in Pakistan. Newly drugs are introduced which can stop the progression of AIDS.

**Received:** 2-5- 2017

**Revised:** 29-5-2017

**Accepted:** 6-6-2017

**\*Correspondence to:**  
**Dr. Safia Mehmood,**  
**PharmD**

**Email:**  
[safi\\_mehmood@outlook.com](mailto:safi_mehmood@outlook.com)

**Funding:** Nil

**Competing Interests:**  
None

**Keywords:** knowledge, attitude, practice, perception, HIV/AIDS, Pakistan

#### INTRODUCTION:

HIV a human immune deficiency virus cause a syndrome known as AIDS (acquired immunodeficiency syndrome) which is started to spread rapidly since 1970 it occur due to deficiency in a immune system by effect CD<sup>4+</sup> cell [1]. CD<sup>4+</sup> playing an important role in immune system and due to low count of CD<sup>4+</sup> body cannot able to fight against diseases. A normal CD<sup>4+</sup> T-cell count as ranges greater than 800 cells per cubic millimeter. The two conditions that favored reaching a normal CD<sup>4+</sup> count were initiation of treatment within 12 months of seroconversion and having CD<sup>4+</sup> T-cell counts greater than 500 cells per cubic millimeter at the time of commencing ART(antiretroviral therapy) immune system can be recover more strongly if antiretroviral therapy start after the exposure of HIV these treatments do not fully act on another cell of the immune system, the dendritic cell, which takes up HIV

and spreads it to target CD<sup>4</sup> T lymphocytes. Mature dendritic cells are initiate an immune response by CD<sup>4</sup> T lymphocytes, but when they contain viruses, they interact with T lymphocytes causes the virus to be finished, thus increasing viral span. The protein that block the entrance of HIV could also enhance the entrance of other viruses. "Therefore, it show that how other infections might exploit this mechanism of dispersion [2].

Itself the virus is unusual basic mode of transmission is intercourse, breast feeding, blood transfusion, sharing of injection it is a very complex event [3]. The infected people are directly diagnose on serological basis [4]. The symptom of HIV include shortens of breath, fever, malaise, chills, fatigue and GIT discomfort, [5]. HIV infection can be in control by using advance treatment of antiretroviral therapy [6]. The spread of infection can be reduce by early therapy

of antiretroviral drug. HIV-1 can be detected by devices a simple enzyme immunoassay (EIA), western blot test, Polymerase chain reaction assays [7,8].

More than 20 different drugs are available today to help control HIV, all of them act by blocking the cycle that HIV follows to infect these CD<sup>4+</sup> T lymphocytes. These treatments do not fully act on another cell of the immune system. Mature dendritic cells are initiate an immune response by CD<sup>4+</sup> T lymphocytes, but when they contain viruses, they interact with T lymphocytes causes the virus to be finished, thus increasing viral span. Molecules appear on surface of HIV called gangliosides, which are trace by dendritic cells and are important for viral uptake. Another proteins located on the surface of dendritic cells, called Siglecs by binding to the gangliosides on the HIV surface higher quantity of Siglec-1 led to those dendritic cells capturing more HIV, which in turn allowed for enhanced transmission of HIV to CD<sup>4+</sup> T lymphocytes. By inhibiting the Siglec-1 protein dendritic cells lost their capacity to capture HIV and especially they also lost their ability to transfer HIV to CD<sup>4+</sup> T lymphocytes. So Siglec-1 is the molecule responsible for HIV entrance into the dendritic cells, and become a new therapeutic target." All pregnant women of HIV should be screening at regular interval [9].

#### METHODOLOGY:

A prospective study was conducted through online survey foam between professional and nonprofessional persons. The purpose of study to evaluate knowledge, awareness and practice about HIV. Data was collected by a literature survey and the final question are

composed of 12 question divided into 4 section knowledge, awareness, practice and barrier. This prospective study was conducted from 15 January to 25 April 2016 in Karachi, Pakistan. Questions are designed in such a way to check knowledge, awareness and practice about HIV among different age group peoples. We have analyzed our data through graph and table. The study protocol was approved by the ethical comity board of advance research department (BASR) of Jinnah University of women, Karachi department of pharmacy, Karachi, Pakistan.

#### RESULT:

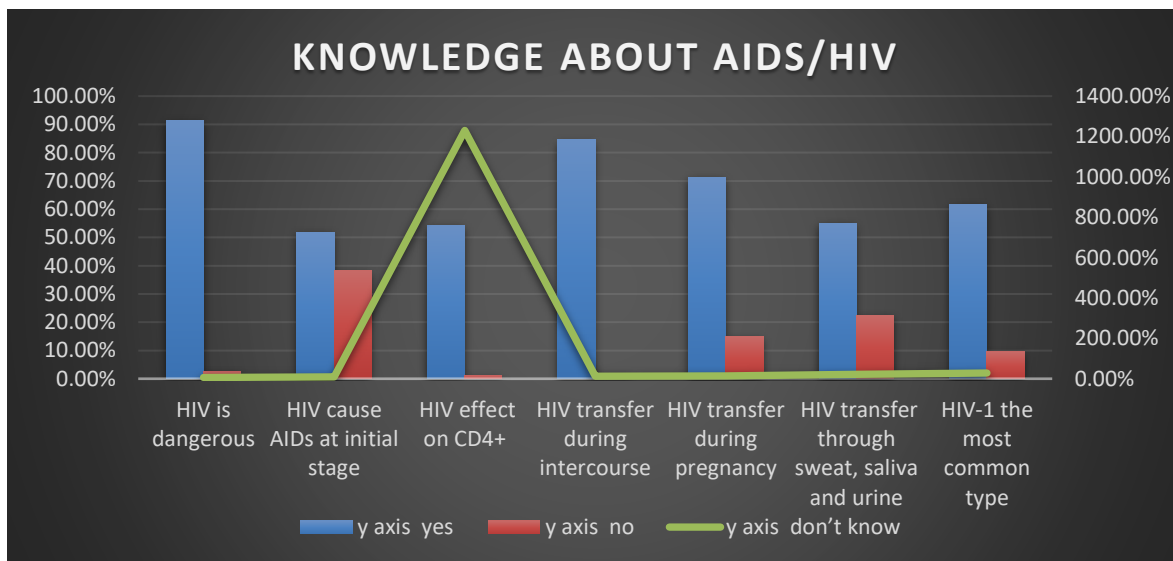
We conducted the survey based on knowledge, practice, and awareness in HIV. A significant number of people agreed that HIV is a dangerous disease and leads to AIDS with a age group of 18 to 30% in which 66.7 % are unmarried in which 55% people living in rural areas and 44% person living in urban areas and 38% people do not that either HIV cause AIDS at initial stage or not and 54% agreed that it effect CD4 and about 86% people have knowledge that HIV is transmitted during intercourse in which mostly are female compared to that about 53 % people said that it is transmitted through saliva , urine and 78% people agreed that pregnant women transmitted HIV to the fetus and 62% people agreed that HIV1 is the most common type in worldwide as compared to this 51 % people disagree that it is most common in urban people and 46.2% people agreed that long exposure of HIV leads to AIDS and about only 48.7% people agreed that its suppress the immune system and 37 % people disagree that it is common in women and about 37% agreed that it is occur due to lack of knowledge in people of Pakistan.

**Table 1: KNOWLEDGE ABOUT AIDS AMONG DIFFERENT AGE GROUP PEOPLES**

AGE	18-30	31-40	41-50	51-60	ABOVE 60
Q no. 1	HIV is a dangerous virus?				
Yes	62	7	4	2	0
No	2	0	0	0	0
Don't know	2	3	0	0	0
Q no. 2	HIV cause AIDs at initial stage				
Yes	32	4	1	2	1
No	26	4	1	0	0
Don't know	5	2	2	0	0
Q no. 3	HIV have any effect on CD <sup>4+</sup>				
Yes	42	0	2	2	1
No	2	0	0	0	0
Don't know	23	9	2	0	0
Q no. 4	HIV transfer during intercourse				

Yes	56	6	3	2	1
No	3	0	0	0	0
Don't know	5	4	1	0	0
Q no. 5	HIV transfer from mother to baby during pregnancy				
Yes	49	7	2	2	1
No	8	3	2	0	0
Don't know	4	1	0	0	0
Q no. 6	HIV transfer through sweat, saliva and urine				
Yes	37	3	2	2	0
No	16	2	1	0	1
Don't know	12	4	1	0	1
Q no. 7	HIV-1 the most common type found worldwide.				
Yes	38	6	3	2	0
No	9	0	0	0	0
Don't know	18	2	1	0	0

Figure 1: KNOWLEDGE ABOUT AIDS/HIV.



This is another way to show more complex information about the knowledge among peoples about AIDS. Participants have good information and knowledge about AIDS. But peak in grey line indicate that most of the participants have no knowledge about the effect of

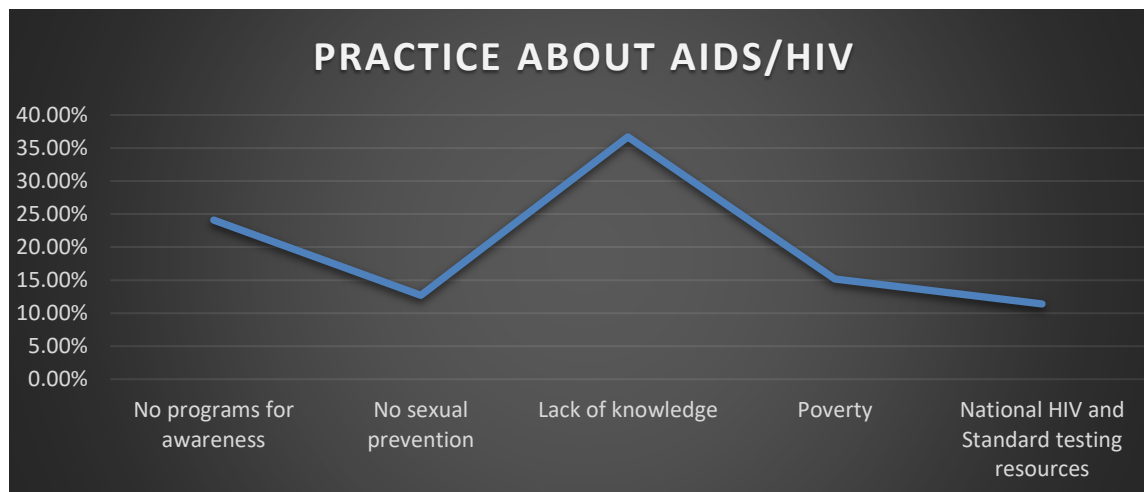
HIV on CD<sup>4+</sup> more than 50% of participants have basic knowledge about HIV/AIDS. Less than 40% participants have lack of knowledge.

Table 2: Practice about HIV among different age group peoples:

AGE	18-30	31-40	41-50	51-60	Above 60
No programs for awareness	14	2	1	1	0
No sexual prevention	8	0	1	0	1

Lack of knowledge	25	3	2	0	<b>0</b>
Poverty	10	1	0	1	<b>0</b>
National HIV and standard testing resources.	7	2	0	0	<b>0</b>

Figure 2: Practice about AIDS/HIV.



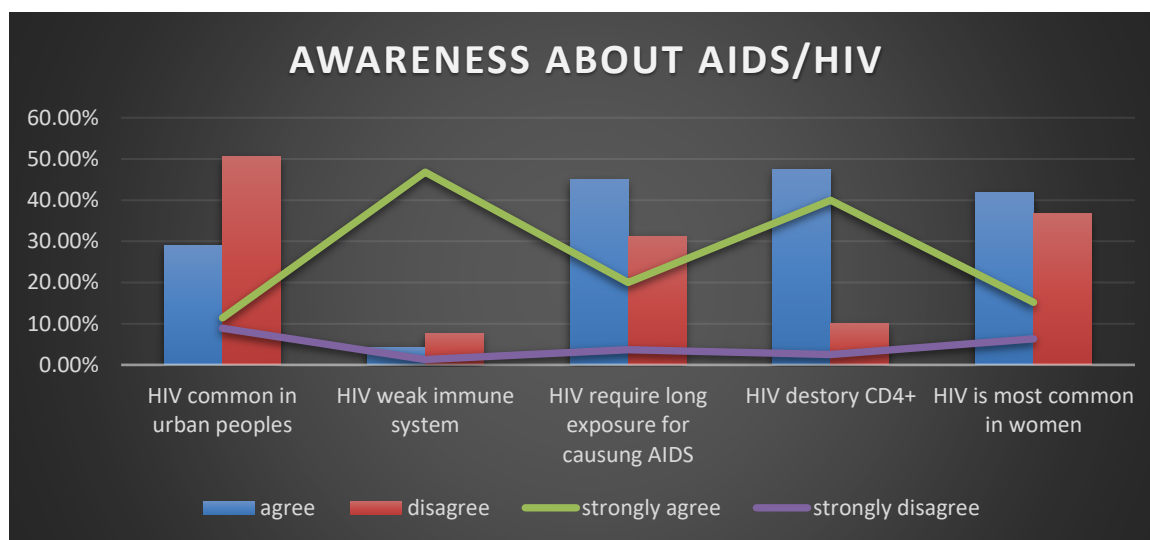
Complex table of practice among peoples about AIDS/HIV is precise in graph form. It is clearly seen by peak that majority of participants unite at same

cause of AIDS which is lack of knowledge and for decreasing cause, knowledge between peoples must be increase.

Table 3: Awareness about AIDS among different age group peoples:

AGE	18-30	31-40	41-50	51-60	Above 60
Q. no. 1 HIV is most common in urban peoples only?					
Agree	22	2	1	0	0
Disagree	27	3	3	1	0
Strongly agree	6	0	0	0	1
Strongly disagree	4	2	0	1	0
Q. no. 2 HIV Virus have proved to be dangerous that may weak immune system?					
Agree	27	2	2	0	0
Disagree	6	3	0	1	0
Strongly agree	29	4	2	0	1
Strongly disagree	2	0	0	1	0
Q. no. 3 After taking a long exposure or HIV progress AIDS usually 10-12years?					
Agree	31	6	0	0	0
Disagree	22	1	2	1	0
Strongly agree	12	1	2	0	0
Strongly disagree	1	0	0	0	1
Q. no. 4 HIV destroy CD4+ which leads to the destruction of immune system?					
Agree	34	3	1	0	0
Disagree	5	1	1	1	0
Strongly agree	25	4	2	0	1
Strongly disagree	1	1	0	1	0
Q. no. 5 AIDS is most common in women?					
Agree	27	2	3	1	0
Disagree	22	3	1	0	0
Strongly agree	9	3	0	0	1
strongly disagree	6	1	0	1	0

Figure 3: Awareness about AIDS/HIV.



By plotting graph it is clearly visible that less than 50% of participants have full awareness about AIDS/HIV while rest of the participants are confuse or not have sufficient awareness large % of participants (more than 40%) strongly agree that HIV weak immune system by destroying the CD4<sup>+</sup>. Only less proportion peoples fully aware that HIV require long exposure for causing AIDS and it is most common in women. Also few person know this fact that AIDS is common in urban and rural peoples in the same ratio. Awareness among people is less.

#### DISCUSSION:

The study based on the knowledge, awareness and practice of persons enrolled in different medical departments and allied health sciences about HIV or AIDS. We have discussed, the HIV (human immune virus) which suppressed the immune system of a person by attacking on CD4 cell and cause a disease, known as an AIDS. The disease is diagnosing by two test. First is screening test for antibodies against HIV. If this screening test turned positive then another test have been performed known as confirmatory test. Symptoms of the disease are swollen glands, diarrhea, pneumonia and sores of the mouth. There is no treatment and cure for AIDS. But in the articles there is antiretroviral therapy that control the amount of virus in body by monitoring the CD4 count. IN the initiation of treatment CD4+T-cell counts greater than 500cells per cubic millimeter at the time of antiretroviral therapy. In another article there is found that the targets of HIV are WBC'S called CD4T-lymphocytes. Mature dendritic cells are activate by an immune response of CD4 T-lymphocytes. The virus interact with T-lymphocytes cause the virus to be finished. Siglec is the protein present in dendritic cell. In the laboratory researchers mixed the virus with dendritic cell and found that the higher quantity of

siglec-1 led to those dendritic cell capturing more HIV which in turn allowed for enhanced transmission of HIV. By inhibiting Siglec-1 protein, dendritic cells lost their capacity to capture HIV and its transmission. Prevention for HIV is to avoid used needles, blood transfusion the results indicate that the persons signified an insufficient level of knowledge about HIV/AIDS. Most of the people have sufficient knowledge about mosquito bites but not the transmission of disease. A previous study indicate that some people had a misconception about HIV that it is transmitted through mosquito bites. IN this study a significant number of participants had knew about AIDS that it is caused by HIV by sharing bathroom with infected person. In our study knowledge about transmission of HIV/AIDS from mother to children during pregnancy and from unsecure sex was high. Participants knew that there is no medication available for treating AIDS, currently medications design which reduce the severity of the infection and its complications but unsuccessful to treat the disease. The study shows that the participants were unaware that there is sufficient therapy recommended by FDA comprises Nucleoside Reverse Transcriptase Inhibitor, Non-Nucleoside Analogue and Protease Inhibitor. This shows that the study participants had enough knowledge about HIV/AIDS transmission.

#### CONCLUSION:

This study precise that the persons who are belonging to different medical professions have awareness about transmission of disease and its treatment. The participants have good awareness about AIDS and large number of peoples know that HIV is a dangerous virus. Only 51.9% have agreed that HIV cause AIDS at initial stage and 54.3% peoples agreed that HIV have effect on CD4+ while 84.6% have agreed that

HIV transfer during intercourse. 71.3% participants have awareness that HIV transfer from mother to baby during pregnancy and little number of peoples aware that HIV transfer through saliva, sweat and urine. Big ratio of the peoples thought that HIV is more common in urban peoples and also common in women. If the curriculum provide related education about HIV/AIDS can increase their awareness about the transmission of disease. Public education dismiss the misconception about HIV/AIDS.

#### REFERENCE:

1. Whiteside, Alan. HIV/AIDS: a very short introduction. Vol. 174. Oxford University Press, 2008.
2. Cooper DA, Tindall B, Wilson EJ, Imrie AA, Penny R. Characterization of T lymphocyte responses during primary infection with human immunodeficiency virus. *J Infect Dis.* 1988;889–896,
3. Alan W. HIV/AIDS: a very short introduction. 2008; Vol. 174. Oxford University Press.
4. Michel L, Mach B. Identification of HIV-infected seronegative individuals by a direct diagnostic test based on hybridisation to amplified viral DNA. *The Lancet* 332.8608 (1988): 418-421.
5. Holzemer, William L., et al. Validation of the Sign and Symptom Check-List for persons with HIV disease (SSC-HIV). *J Advanced Nursing.* 1999; 30(5): 1041-1049.
6. Nelsen A., et al. Intention to adhere to HIV treatment: a patient-centred predictor of antiretroviral adherence. *HIV Medicine.* 2013;14(8): 472-480.
7. Homayoon F, et al. Loss of human immunodeficiency virus type 1 (HIV-I) antibodies with evidence of viral infection in asymptomatic homosexual men: a report from the Multicenter AIDS Cohort Study. *Annals Internal Med.* 1988;108(6): 785-790.
8. ElKalmi RM, Al-Shami AK, Alkoudmani RM, Al-Syed T, Al-Lela OQ, Patel I. Knowledge, Attitudes and Risk Perceptions towards Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome (HIV/AIDS) Among Health Sciences Students in a Public University, Malaysia. *J Pharm Pract Community Med.* 2015;1(1):24-9.
9. Branson, Bernard M., et al. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *J National Med Asso.* 2008; 100: 131-147.