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## HIV awareness in Pakistan: A survey-based study

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### ABSTRACT

**Objective:** To know the awareness level of Pakistani population about AIDS.

**Methods:** An online survey was conducted in Pakistan with the help of a questionnaire formulated by experts to record the awareness level of common people about HIV infection. The responses were collected and screened by the team of National Academy of Young Scientists, Pakistan.

**Results:** Among the 580 participants of the survey, majorities were male, in the age group of 20–30 years and were living in urban areas. More than 80% of responders did not ever screen themselves for HIV and close to 40% were not aware that where to go for screening. Although, majority of the respondents knew about the nature of disease, they were not fully aware about different tests, treatment, duration of infection and vaccination. According to participants, television and internet were major source of information about AIDS and this disease can be prevented in Pakistan through public awareness.

**Conclusions:** Since majority of the respondents were not fully aware about the disease and its mode of transmission, there should be print and electronic media campaigns as well as workshops and seminars to educate the common public. In addition, a national level prevalence study will be very helpful to know the exact prevalence of HIV in Pakistan and its major routes of transmission.

## 1. Introduction

AIDS is a chronic disease in which immune system becomes very weak and unable to protect the body from bacterial, viral and fungal infections[1]. HIV spreads mainly by vertical and horizontal transfer through contaminated blood, its products and other body fluids. It does not spread through air or casual contacts (hugging, shaking hands). The spread of HIV is more in homosexuals than in heterosexual population[2-4].

Globally, 33.4 million people are currently suffering from AIDS. In 1981, the first case of the disease was reported and up-till now more than 25 million people have lost their lives

due to AIDS. In Asian countries, the prevalence of HIV is comparatively less. Despite great efforts by print and electronic media, majority of younger generation is unaware about the disease. The first case of AIDS in Pakistan was reported in Lahore in 1987[5,6]. In 2002, there were 1913 reported cases of AIDS and the number increased to 85 000 till 2005.

In 2005–2006, 9% of the observed drug addicts who used to take drugs through injections were found to have HIV positive reports, this ratio increased to 15.8% in 2006–2007 whereas in 2007–2008 it was exceeded to 20% in Pakistan. In 2009, 97 400 cases were estimated and 6 000 new cases were reported in 2010[7]. The most basic mode of AIDS transmission in Pakistan is heterosexuality, which is 52.55%, while through contaminated blood and blood products it is estimated to be 11.73%[8]. Due to increase in the number of new cases, Pakistan has moved from a “low prevalence-high risk” to a “concentrated epidemic” state[9]. Pakistan is more vulnerable to this disease due to the increasing level of poverty, low female literacy rate,

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low level of condom use, lack of awareness among the health care workers and blooming commercial sex industry. Awareness programs about HIV prevention are not widely spread among young generation who are at higher risk (The Express Tribune Report, 2011).

In the present study, we have tried to analyze the understanding of people of Pakistan about HIV/AIDS. In addition, this study will also provide evidence to government and non-government institutes to further stop the spread of HIV infection in Pakistan.

## 2. Materials and methods

A questionnaire was prepared by experts working in the area of virology and human biology that consisted of personal and technical questions related to the subject *e.g.*, a section on education of respondents, age, awareness about AIDS, *etc.* and online survey was conducted. The responses were collected by the team of National Academy of Young Scientists, Pakistan. The survey was conducted from 30th November, 2012 to 20th December, 2012.

Inclusion criteria: respondents who were willing to participate. Exclusion criteria: outliers were dropped (insufficient or wrong information) along with those people who were hesitant to answer.

## 3. Results

Among all the responders, 580 surveys were shortlisted to prepare the results, which were completely filled with sufficient information.

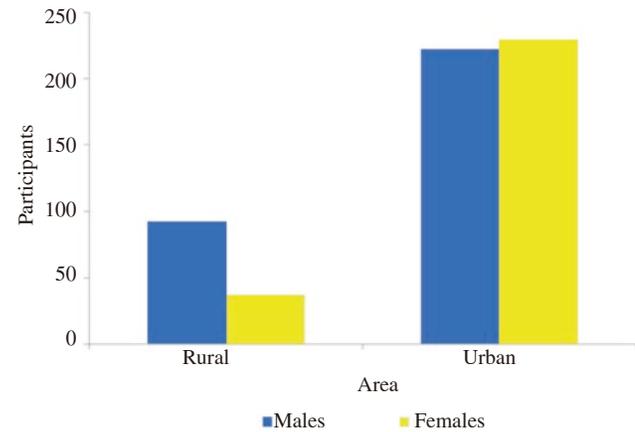
### 3.1. Age and gender

There were 54% male and 46% female among 580 responders of the survey. In the age group of 10–20 years, 7.0% were female and 6.7% were male; while in the age group of 30–40 years, 0.1% were female and 5.3% were male. Majority of the participants belong to the age group 20–30 years, of which 38.0% were female and 42.0% were male.

### 3.2. Residential status

It was observed from the responses that 80.3% of the participants never went for diagnosis of HIV besides that the 77.7% were living in urban areas as shown in Figure 1. Majority of both male and female respondents were from urban areas,

while compared to females, more males were from rural areas.



**Figure 1.** Residential status of respondents.

### 3.3. Education

The results showed that 32% of the participants were students of bachelor's degree, 31% had more than 16 years of education, and 27% were doing masters or equivalent to masters and 3% were having education up to matriculation. Most of the respondents of survey were highly qualified (having 16 or more than 16 years of education).

### 3.4. Awareness related to HIV/AIDS

When question was asked that if there is any vaccine for HIV, majority of respondents (54.0%) replied that there is no vaccine, yet good number of participants (23.0%) still believed that vaccine for HIV is available, while 22.0% were not sure that whether vaccine is available or not. Majority of the respondents (96.2%) said that there is no one in their family or friends who is suffering from AIDS and just 22 respondents said that they know somebody in their family or friends suffering from HIV infection. Majority of participants replied that they have some understanding about AIDS and when we asked that if there is cure for AIDS, mostly respondents said no (48.6%), while 37.0% believed that there is cure for AIDS and 14.3% were not sure about it. On a question from mother to fetal transmission chances, 76.2% replied that there are chances, while 7.4% said that it cannot be transmitted from mother to child while 16.3% were not aware about it. Most respondents were aware about the nature of disease agent and 94.6% replied that it is virus, while 1.0% said it is bacteria and 4.3% were not sure. In reply to question, that have you ever screened yourself for HIV, 80.3% said no, while 19.6% said that they have screened themselves for HIV. Most respondents (61.7%) were aware that from where they can screen themselves for HIV, while 38.2% were not sure.

**Table 1**

Summary of important questions asked about HIV/AIDS awareness and percentage of responses.

Questions and options	Frequency of responders	Percentage
Is there vaccine for HIV?		
Yes	136	23.0%
No	314	54.0%
Don't know	130	22.0%
Anyone in family or friends suffering from HIV		
Yes	22	3.7%
No	558	96.2%
Knowledge about AIDS		
Yes	545	93.9%
No	35	6.03%
Cure for AIDS		
Yes	215	37.0%
No	282	48.6%
Don't know	83	14.3%
Difference between HIV positive and AIDS		
No difference	113	19.4%
Will get the disease	193	33.2%
Will not get the disease	31	5.3%
May or may not get the disease	136	23.4%
Don't know	117	20.1%
Chances of transmission from infected mother to fetus		
Yes	442	76.2%
No	43	7.4%
Don't know	95	16.3%
Nature of HIV		
Virus	549	94.6%
Bacteria	6	1.0%
Don't know	25	4.3%
Ever screened for HIV		
Yes	114	19.6%
No	466	80.3%
Do you know where to get tested for HIV?		
Yes	358	61.7%
No	222	38.2%

In a response to a technical question about transmission of HIV, 95.0%, 72.0% and 79.0% responded that it is transmitted through sexual contact, sharing of needles and transfusion of contaminated blood respectively, while 35.0% believed that it can be transmitted through exchange of saliva, 14.0% believed sharing utensils can transmit the virus and only 3% believed that it can also be transmitted by physical contacts (shaking hands and hugging). Regarding AIDS prevention, 87.0%, 74.0%, 71.0%, and 52.0% responded that the disease can be prevented by providing proper AIDS awareness, avoiding sexual contacts with AIDS patients, proper use and disposal of needles and use of condoms, respectively, while 4.0% people were not sure and only 1.0% thought it cannot be prevented. When we asked that how you came to know about HIV/AIDS, 57.0%, 49.0%, 47.0%, 36.0% and 31.0% responded through television, internet, school, newspaper and health care professionals, respectively, while 9.0% shared that they came to know about it through family and radio. On inquiring that after infection how long a person can

live, 44.0% were not sure, while 19.0% said 0–5 years, 18.0% said between 5–10 years and 8.0% thought that they can live between 10–15 years. Table 1 summarizes some questions which were asked and percentage responses to those questions.

#### 4. Discussion

There is a gradual increase in the number of cases and patients with HIV infection in Pakistan, which is an alarming situation[7]. Majority of the respondents who participated in the survey had already heard about HIV through television and internet, which are the major sources of information in this modern world. Majority of respondents were from urban areas of Pakistan[10-12]. Since the survey was carried online by the team of National Academy of Young Scientists (Pakistan), majority of the participants were from urban areas as urban areas have more internet access in Pakistan compared to villages. Most respondents were male, who shared their opinions about AIDS and this is due to the reason that in Pakistan males have more freedom of expression and more excess to computer usage[10]. Despite of this fact, the number of female respondents was quite high in the survey.

Although, majority of the respondents were aware of HIV infection and nature of disease, they did not get themselves screen for HIV, as people in Pakistan feel that being an Islamic Republic there are less chances of spread of HIV. According to teachings of Islam, premarital sex, extra-marital relation and homosexuality are not allowed and this could be the reason that majority of people did not screen themselves for HIV, but population should realize that there are many other mode of transmission of HIV[1]. In addition, hepatitis B and C are more prevalent in Pakistan, so most people screen them for hepatitis, compared to HIV[13]. At least, there should be screening of high risk groups like intravenous drug users, homosexuals, sex workers, children of infected parents and health care workers[14].

According to this survey, most of the respondents knew about HIV and agent of infection but were not fully aware about different mode of transmission of HIV and its vaccine. It is the duty of government and non-government institutions to spread complete awareness of the disease to educate people and especially the youngsters. Even at school level, children should be educated about different mode of HIV transmission and all the preventive measures. If students are made aware in schools, it will not only give them information about the disease and its preventive measures but will also change their attitude and behavior[15]. General public should be made more aware about the disease through electronic media as this is easily available

to rural as well as urban population of Pakistan. Like many other countries (USA, UK, South Africa), workshops should be organized to educate people about the safe sex practices, blood transfusions, use of condoms and other ways of spreading of HIV infection[1]. Mostly people were not aware about length of HIV infection and majority of people responded that they do not know the exact length of infection. Normally, a person survives more than 10 years after HIV infection, but it also depends on the age of the person that when he/she acquired infection. In addition, modern therapies have increased the life span of the infected person and even the life expectancy of the population suffering with HIV[16,17].

Best possible way to control further spread of HIV infection in Pakistan is proper education and awareness about the disease among the general public. This can be done through electronic and print media as well as by arranging educational seminars at different levels. Easy and cheap availability of antiviral treatment should be made available to HIV positive patients and they should be properly guided and educated about the disease and its possible routes of transmission. In addition, the general attitude of public towards HIV positive patients should be improved through awareness in society. People should not hesitate from getting themselves screened for HIV (especially, high risk groups) as this disease knows no boundaries or social status. All the prevalence data available so far is based on regional or hospital based studies, so a national level HIV prevalence study can be very helpful to know the exact prevalence of HIV in Pakistan and its major route of transmission.

### Conflict of interest statement

We declare that we have no conflict of interest.

### Acknowledgments

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