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## Research Article

### COMPARATIVE EVALUATION OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS HIV/AIDS IN HIV SEROPOSITIVE AND HEALTHY INDIVIDUALS

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#### ABSTRACT

**Background:** Acquired immune deficiency syndrome (AIDS), caused by HIV is a serious threat to human society. There has been no effective cure for the disease and it is considered to be the leading cause of death. Insufficient knowledge and misconceptions have made tackling of AIDS a challenge. Therefore, assessing the awareness in healthy individuals and HIV infected patients makes the disease a point of prime concern.

**Objectives:** To compare the knowledge of and attitude towards HIV/AIDS in HIV seropositive and healthy individuals.

**Materials and Methods:** The study comprised of healthy individuals and HIV seropositive patients 250 in each group in the age range of 15-65 years from Lucknow. A self structured questionnaire was used to assess the knowledge, attitude and practice towards HIV/AIDS in both the groups after their consent.

**Results:** Among the study group, the healthy individuals had higher knowledge, positive attitude and knew the right practices towards HIV/AIDS as compared to infected individuals.

**Conclusion:** Peer educational programs related to healthy sexual practices and right attitudes should be developed. Government and Health educators should provide educational campaigns and media especially for HIV infected individuals.

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#### INTRODUCTION

AIDS when first emerged, no one foresaw how it would change many million lives across the world. There was no idea of what it caused and how to prevent it (Haridra V, 2008).

AIDS was first recognised in United States (1981). In 1983, Human Immunodeficiency Virus (HIV) was isolated from a patient with lymphadenopathy and by 1984, it was clearly demonstrated to be the causative agent (Fauci SA and Lane HC, 2005). Nearly 40 million people across the globe are affected with HIV/AIDS, with approximately 1600 new cases being reported everyday (Hiremath SS, 2013). The first case of HIV in India was detected in 1986 among Commercial Sex Workers (CSW) in Tamil Nadu Singh (SK *et al*, 2013). It is estimated that there are about 5.134 million HIV infected individuals in India (Singh A *et al*, 2012). Uttar Pradesh has an estimated population of 196 million with HIV prevalence of

less than 1% (HIV Sentinel Surveillance and HIV Estimation, 2006).

AIDS being an infectious disease lacks curative treatment; the only option to halt its progression is to increase the awareness. Widespread ignorance, poor information and misconceptions are responsible for social stigma and discrimination. Understanding about the knowledge, attitude and practices about HIV/AIDS among the infected and the general public will help us formulate strategies for prevention, treatment and improving compliance to treatment (Meena LP *et al*, 2013). Moreover, to bridge the gap between HIV patients and healthy individuals, it is necessary to assess the awareness among the two groups.

#### MATERIALS AND METHODS

**Study Design:** The present epidemiological study was conducted in Lucknow, Uttar Pradesh. Post ethical clearance and written consent, random sampling was done for healthy

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individuals, and HIV seropositive patients registered with the ART centre after which questionnaires were distributed.

**Sample selection:** The study sample included 500 individuals from both genders in the 15-65year age group. Random sampling was done for 250 healthy individuals (controls), and the remaining 250 HIV seropositive patients (cases).

**Data Collection:** A pre-tested self administered questionnaire was distributed which comprised of questions related to knowledge, attitude and practices (KAP) towards HIV/AIDS. Additional set of questions were asked to HIV patients. The KAP responses were noted in "yes/no". Discrete (categorical) data were summarized in number and % and compared by chi-square ( $\chi^2$ ) test. The age of two independent groups were compared by Student's t test. A two-sided ( $\alpha=2$ ) p value less than 0.05 ( $p<0.05$ ) was considered statistically significant. Analyses were performed on SPSS version 17.0.

## RESULTS

Among the 500 samples evaluated, the age of controls and cases ranged from 17 to 60 years and 15 to 60 years respectively, with mean ( $\pm$  SD)  $35.12 \pm 13.29$  years and  $35.93 \pm 9.40$  years.

**Knowledge:** Table 1 explains the frequency (%) of correct knowledge- to know about HIV/AIDS (85.6% vs. 63.2%), to know difference between HIV and AIDS (64.8% vs. 28.0%), AIDS is a infectious disease (59.6% vs. 32.4%), AIDS is fatal (70.4% vs. 52.4%), there are signs and symptoms for AIDS (65.6% vs. 40.0%), it affect oral cavity first (43.6% vs. 26.8%) and can a healthy looking person be HIV positive (76.4% vs. 36.0%)- which lowered significantly in cases as compared to controls.

Further, the frequency of correct knowledge about how HIV spreads and if there are tests for AIDS also lowered significantly in cases as compared to controls ( $p<0.001$ ).

**Table 1** showing frequency distribution of knowledge towards HIV/AIDS between the two groups

Knowledge	Controls (n=250) (%)	Cases (n=250) (%)	$\chi^2$ value (DF=1)	p value
Know about HIV/AIDS	214 (85.6)	158 (63.2)	32.93	<0.001
Know the difference between HIV/AIDS	162 (64.8)	70 (28.0)	68.07	<0.001
Is AIDS an infectious disease?	149 (59.6)	81 (32.4)	37.23	<0.001
Is AIDS fatal?	176 (70.4)	131 (52.4)	17.09	<0.001
Are there signs and symptoms for AIDS?	164 (65.6)	100 (40.0)	32.87	<0.001
Can it affect oral cavity first?	109 (43.6)	67 (26.8)	15.47	<0.001
Can a healthy looking person be a HIV positive?	191 (76.4)	90 (36.0)	82.88	<0.001
Are you worried of getting HIV?	64 (25.6)	NA	-	-
Do you know how HIV spreads?	209 (83.6)	136 (54.4)	49.83	<0.001
Does HIV spread by unprotected sex?	200 (80.0)	112 (44.8)	66.01	<0.001
Does HIV spread by used injection needles?	196 (78.4)	128 (51.2)	40.54	<0.001
Does HIV spread by pregnant mother to unborn child?	166 (74.4)	117 (46.8)	39.88	<0.001
Does HIV spread by mosquito bite?	34 (13.6)	44 (17.6)	1.52	0.218
Does HIV spread by sharing meals with infected person?	24 (9.6)	34 (13.6)	1.95	0.163
Does HIV spread by unscreened blood transfusion?	164 (65.6)	109 (43.6)	24.41	<0.001
Does HIV spread by shaking hands with infected person?	12 (4.8)	13 (5.2)	0.04	0.837
Does HIV spread by talking to infected person?	19 (7.6)	18 (7.2)	0.03	0.864
Does HIV spread by kissing to infected person?	47 (18.8)	72 (28.8)	8.89	0.009
Does HIV spread by multiple sexual partners?	182 (72.8)	121 (48.4)	31.17	<0.001
Is AIDS a curable disease?	42 (16.8)	92 (36.8)	25.49	<0.001
Is AIDS cured by traditional/spiritual means?	17 (6.8)	31 (12.4)	4.52	0.034
Is AIDS cured by medicines/medical doctors?	62 (24.8)	97 (38.8)	11.30	0.001
Is there any test for AIDS?	202 (80.8)	133 (53.2)	43.07	<0.001
Do you know about ELISA?	NA	37 (14.8%)	-	-

NA- not applicable

**Table 2** showing frequency distribution of attitude towards HIV/AIDS between the two groups

Attitude	Controls (n=250) (%)	Cases (n=250) (%)	$\chi^2$ value (DF=1)	p value
AIDS patients should be isolated	108 (43.2)	67 (26.8)	14.78	<0.001
AIDS patient should be allowed to attend school/college	192 (76.8)	128 (51.2)	35.56	<0.001
AIDS patient should be allowed to continue in the job	194 (77.6)	127 (50.8)	39.06	<0.001
Sex education be done in schools/colleges	202 (80.8)	94 (37.6)	96.58	<0.001
Has change of status being positive any alert you better	NA	196 (78.4)	-	-

NA- not applicable

**Table 3** showing frequency distribution of practice towards HIV/AIDS between the two groups

Practice	Controls (n=250) (%)	Cases (n=250) (%)	$\chi^2$ value (DF=1)	p value
Latex condoms prevents HIV/AIDS	195 (78.0)	107 (42.8)	64.75	<0.001
Prior blood screening done for the fear of acquiring the disease	29 (11.6)	47 (18.8)	5.03	0.025
Have ever discussed about AIDS with parents or relatives	122 (48.8)	66 (26.4)	26.73	<0.001
Doing any social effort to improve awareness among others	NA	41 (16.4)	-	-
Attending any counseling centre	NA	61 (24.4)	-	-

NA- not applicable

Frequency of incorrect knowledge that HIV/AIDS can spread by kissing an infected person, AIDS being a curable disease were significantly higher among cases. Knowledge about HIV spread through mosquitoes & shaking of hands was low among both groups; did not differ statistically.

**Attitude:** Table 2 shows the correct attitudes i.e. AIDS patients should be isolated, should be allowed to attend school, continue with the job and sex education be provided in schools; lowered significantly in cases as compared to controls ( $p < 0.001$ ).

**Practice:** Table 3 shows the correct practices i.e. use of latex condoms to prevent HIV/AIDS (78.0% vs. 42.8%) and discussion about AIDS with parents/relatives; which lowered significantly in cases as compared to controls. However, cases underwent prior blood screening for fear of acquiring the disease; which was significantly high ( $p = 0.025$ ).

## DISCUSSION

AIDS is the most destructive epidemic in recorded history. Uttar Pradesh has an estimated population of 196 million with an HIV prevalence of less than 1%; making it a low prevalence but highly vulnerable province (HIV Sentinel Surveillance and HIV Estimation, 2006). To the best of our knowledge, this study is unique where awareness among healthy individuals and HIV patients were assessed notably in Lucknow where only few studies have been documented among the infected.

In the present study 85.6% controls and 63.2% cases had correct knowledge about the disease; findings are in accordance to [Udigiri R et al, 2011](#) and [Reddy CB et al, 2013](#) for healthy population and [Meena LP et al, 2013](#) for cases. The low level of awareness in our study group may be probably due to the fact that most of the patients were illiterate and belonged to low socioeconomic status where avenues of education were unaffordable.

The knowledge of difference between HIV and AIDS was 28% in cases whereas 64.8% in controls. Our findings were in contrast with the reported findings of [Solat S et al, 2012](#).

59.6% controls and 32.4% cases in our study agreed that AIDS is an infectious disease. These findings were similar with reported studies ([Bansal RK, 1994](#), [Benjamin AI and Zachairah P, 1997](#), [Singh SK et al, 2007](#), [Singh S, 2002](#)).

70.4% controls thought that AIDS is a fatal disease as compared to 52.4% cases; the findings were in contrast to [Goni A and Rahman M, 2012](#). The awareness about the signs and symptoms in controls was 65.6% and 40% in cases which was high in comparison to the findings of [Singh A and Jain S, 2009](#). This underlines the need of HIV/AIDS awareness and prevention campaigns in the lower strata of society in Lucknow.

Only 43.6% controls and 26.8% cases believed that AIDS can affect oral cavity first; Our findings for Control Group was in contrast to [Patil PB et al, 2011](#). [Kahabuka FK et al, 2007](#) reported that 89.3 % of HIV seropositive patients were aware that symptoms for HIV/AIDS are first seen in oral cavity; in contrast to our findings. The low awareness in our study population can be attributed to the overall reduced dental health and poor health practices in Lucknow.

In the present study 36% of cases and 76.4% controls were aware that individuals who look healthy can also be HIV positive. Our findings among controls correlated with those of [Alene GD et al, 2004](#) but the findings among cases were very low as compared to the reported findings of [Olowookere SA et al, 2012](#).

Among controls, 25.6% were actually worried about contracting HIV. This fear may be the result incomplete knowledge and stigma of AIDS which still exists among people. [Mahin JM et al, 2010](#) in their study among family members of people living with HIV/AIDS found that 35% percent were worried about being infected.

The frequency of correct knowledge about the mode of HIV spread lowered significantly in cases (54.4%) as compared to controls (83.6%) which were in contrast to findings of [Chauhan T et al, 2013](#).

The awareness of HIV/AIDS spread through unprotected sex was 80.0% in controls and 44.8% in cases; which reiterated the reported literature of [Singh SK et al, 2007](#), [Meena LP et al, 2013](#), [Chauhan T et al, 2013](#), [Malleshappa K et al, 2012](#). 78.4% controls in the present study knew that HIV spreads by the reuse of injection needles as compared to cases (51.2%). Our findings amongst HIV patients showed variations; whereas in Controls it strongly favored the reported findings of [Shewta C et al, 2011](#) and [Yadav SB et al, 2011](#).

The correct knowledge about the spreading of HIV from mother to child was 74.4% in controls and 46.8% in cases, the findings were in contrast to [Chauhan T et al, 2013](#) who reported that 4.9 % HIV seronegative and 7% HIV seropositive individuals were aware about the fact.

In the present study, majority of people in both the groups were aware that AIDS does not spread by mosquito bite. Nevertheless, 13.6% of controls and 17.6% cases still had this misconception because mass media has limitation in establishing two way communications to clear up misunderstandings ([Tadese A et al, 2013](#)). The frequency of incorrect knowledge that HIV spreads by sharing meals with HIV Seropositive patients were low and found to be similar in both groups. Our findings were in favor with the reported literature ([Singh SK et al, 2007](#) and [Nagdeo NV et al, 2010](#)). Both groups, in the present study had correct knowledge that HIV doesn't spread by shaking hands with infected patients which favored the findings of reported studies ([Selcuk K et al, 2005](#), [Bhalla S et al, 2005](#) and [Pramanik S et al, 2006](#)).

The correct knowledge of HIV/AIDS spread by unscreened blood transfusion was 65.6% in controls and 43.6% in cases. Our findings for control group were in accordance with those of [Singh SK et al, 2007](#) and [Reddy CB et al, 2013](#); whereas for cases the findings were in contrast to [Meena LP et al, 2013](#).

In the present study, both groups believed that talking to an infected person will not spread the disease. However 18.8% controls and 28.8% cases believed that HIV can spread by kissing an infected person. Similar observations were reported by [Malleshappa K et al, 2012](#) and [Aggarwal A et al, 2012](#).

The knowledge about the spread of HIV through multiple sex partners were 72.8% in controls and 48.4% in cases. Our

findings were in accordance with previously reported research of Singh SK et al, 2007 and Shewta C et al, 2011.

In the present study, 16.8% controls believed that AIDS is curable as compared to 36.8% cases. The findings of Aggarwal A et al, 2012 and Unnikrishnan B et al, 2010 supported our findings amongst controls. Meena LP et al, 2013 revealed that 35.3% AIDS patients and 47.5% of general population believed that there is complete cure for AIDS. A negligently low number in both the groups of our study felt that AIDS can be cured by traditional/spiritual means.

The awareness about the tests available for diagnosis of HIV was 80.8% in controls and 53.2% in cases. The low level of awareness among AIDS patients suggest the need to increase proper interventions so that more people identify risk taking behaviors and make informed health decisions.

14.8 % cases in our study knew about ELISA. Although rapid testing should leave a positive impact on HIV infected patients the awareness was low due to difficulty in perceiving the technical name of the test.

43.2% controls believe that HIV/AIDS patients should be kept away from the society in comparison to cases (26.8%). Our findings in controls were in accordance with the findings of Sobhan K et al, 2004 but in contrast to Malleshappa K et al, 2012. 76.8% Controls believed that HIV/AIDS patients should be allowed to attend school/college as compared to 51.2% Cases. Similar findings were reported by Unnikrishnan B et al, 2010. 77.6% controls believed that AIDS patients should be allowed to continue in their jobs as compared to 50.8% cases. The findings amongst healthy group were higher in reports by Pramanik S et al, 2009. We believe that stigmatization would make people hesitant to continue working with healthy individuals. Further it can result in people living with HIV being shunned by the community, thereby not letting them to attend offices.

80.8% controls believe that sex education should be a part of curricula in schools as compared to 37.6% cases. Pramanik S et al, 2006 stated that 18.2% adolescents in their study felt that sex education should only be given to those who are going to be married while 27.6 % adolescents believe that sex education should be restricted to home. The present study also revealed that AIDS patients had agreed that their change of status being positive has made them alert and conscious.

78.0% controls and 42.8% cases in this study believed that latex condoms can prevent HIV/AIDS; our findings was in contrast to Chauhan T et al, 2013 who reported that only 15.7% seropositives and 21.4% seronegatives had knowledge about condom as a means of prevention. This indicates that the financial constraints in the lower strata of the society could be redeemed as the reason for not using protection. Moreover, people were shy and have wrong notions related to condoms. More easily available and economical options should be provided to the public to practice safer sexual habits.

In the present study, the prior blood screening done for fear of acquiring the disease was significantly higher in cases (18.8%) as compared to controls (11.6%) correlating with the findings of Chauhan T et al, 2013 who has reported that 22% of seronegatives as compared to 16% of seropositives agreed to get screened before marriage. Compulsory blood screening

prior to marriage or at specific intervals will prove efficacious in reducing the number of HIV cases.

48.8% controls in the present study agreed that they have discussed about the disease with their parents/ relatives in comparison to 26.4% Cases. Our findings for controls were in accordance with the findings of Basir G et al, 2003. Ajayi B et al, 2013 in their study revealed that 61 % of people living with HIV/AIDS in Nigeria had discussed with a confidante about their HIV status while 58% HIV patients had told their partners. Fear and guilt of having contracted the virus perhaps kept the patients away from openly discussing their doubts on HIV (Pallikadavath S et al, 2006). India is a country where discussing sex is a taboo, unless the society opens up to freely discussing such topics, stigma to AIDS will remain.

24.4% of cases in the present study agreed that they attended counseling centres for HIV/AIDS which was nearly in accordance with the findings of Chauhan T et al, 2013. This variation may be attributable to one's health belief and health seeking behavior, social networks, income, perceived health status and severity of the disease. Fear of positive results and stigma were the reasons for not attending Voluntary Counseling Testing services. 16.4% HIV patients agreed that they are now doing social efforts to improve awareness among others. This indicates that despite of knowing the disaster caused by this deadly disease, HIV individuals are still ignorant about the disease.

## CONCLUSION

Higher awareness was observed in healthy individuals when compared to HIV seropositive patients among the population of Lucknow. A series of approaches is needed especially among HIV seropositive individuals including interventions that focus on psychological patterns, behavioral skills and dynamics of sexual interactions and relationships. More role-play is needed from the government/administration to launch various information, education and communication (IEC) campaigns/workshops to halt the spread of the disease.

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