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Research Article

GENDER BASED COMPARISON OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS HIV/AIDS IN HIV-SEROPOSITIVE AND HEALTHY INDIVIDUALS

Ankita Singh[1]., Jiji George[2]., Gadiputi Sreedhar[3] and Vaibhav Vashishta[4]

[1,2,3]Department of Oral Pathology and Microbiology, Babu Banarasi Das College of Dental Sciences, Lucknow

[4]Department of Orthodontics and Dentofacial Orthopedics, Sardar Patel Post Graduate Institute of Dental and Medical Sciences, Lucknow

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ABSTRACT

Background: Acquired immune deficiency syndrome (AIDS) is a pandemic disease caused by HIV (Human immunodeficiency virus) for which there is no proven cure. Poverty, illiteracy, and ignorance, leads to lack of correct knowledge, attitude and practice (KAP) towards the disease. Awareness is the key to prevention; so in the current scenario, assessment of the awareness levels among both genders in HIV-infected and healthy individuals are essential.

Objectives: To compare the knowledge of and attitude towards HIV/AIDS amongst HIV-infected and healthy individuals of both genders.

Materials and Methods: The present study comprised of 500 individuals in the 15-65 year age group belonging to Lucknow. Random sampling was done for 250 healthy individuals (134 females and 116 males), and the remaining 250 HIV seropositives (115 females and 135 males) were taken from ART (Antiretroviral therapy) centre. After written consent, a self-structured questionnaire was distributed to assess the KAP response.

Results: In both groups, males were more aware, had more acceptance and positive attitude towards people living with HIV/AIDS than females.

Conclusion: Comprehensive awareness which can lead to attitudinal and behavioral changes in the society towards safe sexual practices should be encouraged to fight against HIV/AIDS. It would possibly be more effective to provide separate educational packages about HIV/AIDS for men and women; with a special focus on women.

INTRODUCTION

The first case of HIV/AIDS was reported in 1981 in US (Tan X, 2007). Since then it has been the cause of mortality making it one of the most destructive epidemics in recorded history. The high frequency of sexually transmitted diseases (STDs) act synergistically to further propel the epidemic in many areas of the low and middle-income countries largely due to poverty, illiteracy and socio-cultural practices (Awuba J and Gloria M, 2007).

AIDS was first reported in India in 1986 at Chennai among sex workers (Simoes EA *et al*, 1987). In 1987, the first case of HIV infection was identified in Uttar Pradesh (AIDS epidemic update, 2007). The states of northern India including Uttar Pradesh have recorded <1% antenatal women and <5% high-risk groups to have been infected with HIV (Wal N *et al*, 2012). Women are more vulnerable for infection than men due to unprotected sexual intercourse, their low-quality living status, unawareness in sex, low literacy levels, poor economic independence, unemployment and poverty thereby making them sell sex (Hazarika I, 2007). Owing to low literacy levels, awareness remains poor in India. Therefore, it becomes necessary to educate people so that they can protect themselves from being infected (Yadav SB *et al*, 2011). With the aforementioned background, the present study was taken up.

MATERIALS AND METHODS

Study Design

The present epidemiological study was conducted in Lucknow, Uttar Pradesh. Random sampling was done amongst healthy individuals and HIV seropositive patients of both genders registered in ART centre; for which questionnaires were distributed.

Corresponding author: **Ankita Singh*
Department of Oral Pathology and Microbiology, Babu Banarasi Das College of Dental Sciences, Lucknow

Sample Selection/ Size

The study sample comprised of 500 individuals from both genders between the age group of 15-65 years. 250 healthy individuals/controls (134 females, 116 males), and 250 cases (115 females, 135 males) which included HIV seropositive patients were selected.

Data Collection

A pre-tested self-administered questionnaire was distributed to the participants. It comprised of questions related to KAP response related to HIV/AIDS but an additional set of questions were asked from HIV patients. The KAP responses were noted as "yes" or "no". Discrete (categorical) data were summarized in numbers and percentage; later compared by chi-square (χ^2) test. The age of two independent groups was compared by Student's t-test. A two-sided (α=2) p-value less than 0.05 ($p<0.05$) was considered statistically significant. Analyses were performed on SPSS version 17.0.

RESULTS

250 cases and 250 controls were evaluated. The age of controls and cases ranged from 17 to 60 yrs and 15 to 60 yrs respectively, with mean (± SD) 35.12 ± 13.29 yrs and 35.93 ± 9.40 yrs, respectively. There were 134 females (53.6%) and 116 males (46.4%) in the control group while among cases there were 115 (46.0%) and 135 (54.0%), respectively.

Knowledge: Table 1 explains gender wise distribution of knowledge towards HIV/AIDS of the two groups. The frequency (%) of correct knowledge among males of both groups was higher as compared to females. Further, the frequency (%) of correct knowledge- to know about HIV/AIDS, know the difference between HIV/AIDS, AIDS being an infectious and fatal disease, if HIV/AIDS can affect oral cavity first and if a healthy-looking person can be HIV positive were found significantly ($p<0.001$) different and low in cases as compared to controls of both the genders.

The frequency of correct knowledge on whether there are signs and symptoms of AIDS was significantly higher in males among controls but in cases, females showed significant p-value. Females were more worried than males among controls of contacting the disease. The frequency of correct knowledge- to know how HIV spreads and if there are tests for it also were significantly low ($p<0.001$) in females of both the groups. However, seropositive females showed a higher frequency of knowledge about ELISA. Also, the frequency (%) of incorrect knowledge that HIV spread by mosquito bite, sharing meals, shaking hands, kissing and talking to an infected person, were similar between the genders of both groups. In contrast, the frequency (%) of perception of knowledge that AIDS is a curable disease, cured by traditional/spiritual means, medicine/medical doctors were significantly ($p<0.05$ or $p<0.01$ or $p<0.001$) higher in cases as compared to controls with infected males having higher knowledge.

Attitude: Table 2 explains that males in both the groups have a higher frequency (%) of correct attitude regarding HIV/AIDS as compared to females. Also, among cases males were found to be more alert since the time their HIV Status was tested positive.

Practice: Table 3 explains that the frequencies (%) of correct practices were higher among males of both groups as compared to females. The frequency of blood screening being done for the fear of acquiring the disease was found to be higher among the female controls and among males in cases. The practice of being socially helpful towards the cause of improving HIV awareness and attending counseling centers was more among seropositive males.

DISCUSSION

The global problem of HIV/AIDS has expanded uncontrollably in the developing countries contributing to 95% of world's total HIV-infected population and 90% of mortality (Singh SK *et al*, 2007).

Table 1 showing gender wise distribution of knowledge towards HIV/AIDS of two groups

Knowledge	Controls (n=250)		Cases (n=250)		χ^2 value (DF=3)	p value
	Females	Males	Females	Males		
Know about HIV/AIDS	112 (83.6)	102 (87.9)	70 (60.9)	88 (65.2)	34.15	<0.001
Know the difference between HIV/AIDS	76 (56.7)	86 (74.1)	29 (25.2)	41 (30.4)	76.32	<0.001
Is AIDS an infectious disease?	78 (58.2)	71 (61.2)	33 (28.7)	48 (35.6)	38.63	<0.001
Is AIDS fatal?	84 (62.7)	92 (79.3)	51 (44.3)	80 (59.3)	30.16	<0.001
Are there signs and symptoms for AIDS?	84 (62.7)	80 (69.0)	49 (42.6)	51 (37.8)	34.44	<0.001
Can it affect oral cavity first?	52 (38.8)	57 (49.1)	32 (27.8)	35 (25.9)	18.48	<0.001
Can a healthy looking person be a HIV positive?	96 (71.6)	95 (81.9)	39 (33.9)	51 (37.8)	85.92	<0.001
Are you worried of getting HIV?	36 (26.9)	28 (24.1)	NA	NA	0.24	0.622
Do you know how HIV spreads?	108 (80.6)	101 (87.1)	52 (45.2)	84 (62.2)	59.44	<0.001
Does HIV spread by unprotected sex?	101 (75.4)	99 (85.3)	45 (39.1)	67 (49.6)	71.56	<0.001
Does HIV spread by used injections?	100 (74.6)	96 (82.8)	50 (43.5)	78 (57.8)	47.91	<0.001
Does HIV spread by pregnant mother to unborn child?	93 (69.4)	93 (80.2)	44 (38.3)	73 (54.1)	49.40	<0.001
Does HIV spread by mosquito bite?	22 (16.4)	12 (10.3)	15 (13.0)	29 (21.5)	6.62	0.085
Does HIV spread by sharing meals with infected person?	14 (10.4)	10 (8.6)	14 (12.2)	20 (14.8)	2.58	0.462
Does HIV spread by unscreened blood transfusion?	86 (64.2)	78 (67.2)	45 (39.1)	64 (47.4)	26.36	<0.001
Does HIV spread by shaking hands with infected person?	10 (7.5)	2 (1.7)	6 (5.2)	7 (5.2)	4.35	0.226
Does HIV spread by talking to infected person?	14 (10.4)	5 (4.3)	7 (6.1)	11 (8.1)	3.83	0.280
Does HIV spread by kissing to infected person?	26 (19.4)	21 (18.1)	31 (27.0)	41 (30.4)	7.35	0.062
Does HIV spread by multiple sexual partners?	94 (70.1)	88 (75.9)	46 (40.0)	75 (55.6)	38.31	<0.001
Is AIDS a curable disease?	24 (17.9)	18 (15.5)	33 (28.7)	59 (43.7)	32.80	<0.001
Is AIDS cured by traditional/spiritual means?	4 (3.0)	7 (6.0)	14 (12.2)	20 (14.8)	14.15	0.003
Is AIDS cured by medicines/medical doctors?	35 (26.1)	27 (23.3)	34 (29.6)	63 (46.7)	19.90	<0.001
Is there any test for AIDS?	102 (76.1)	100 (86.2)	51 (44.3)	82 (60.7)	53.48	<0.001
Do you know about ELISA?	NA	NA	19 (16.5)	18 (13.3)	0.50	0.479

NA- not applicable

Table 2 showing gender wise distribution of attitude towards HIV/AIDS of two groups

Attitude	Controls (n=250)		Cases (n=250)		χ^2 value (DF=3)	p value
	Females	Males	Females	Males		
AIDS patients should be isolated	59 (44.0)	49 (42.2)	42 (36.5)	25 (18.5)	23.71	<0.001
AIDS patient should allowed to attend school/college	95 (70.9)	97 (83.6)	51 (44.3)	77 (57.0)	44.27	<0.001
AIDS patient should allowed to attend continue in the job	96 (71.6)	98 (84.5)	51 (44.3)	76 (56.3)	47.38	<0.001
Sex education be done in schools/colleges	102 (76.1)	100 (86.2)	36 (31.3)	58 (43.0)	102.70	<0.001
Has change of status being positive any alert you better	NA	NA	82 (71.3)	114 (84.4)	6.33	0.012

NA- not applicable

Table 3 showing gender wise distribution of practice towards HIV/AIDS of two groups

Practice	Controls (n=250)		Cases (n=250)		χ^2 value (DF=3)	p value
	Females	Males	Females	Males		
Latex condoms prevents HIV/AIDS	98 (73.1)	97 (83.6)	45 (39.1)	62 (45.9)	68.81	<0.001
Prior blood screening done for fear of acquiring the disease	25 (18.7)	4 (3.4)	17 (14.8)	30 (22.2)	18.85	<0.001
Have ever discussed about AIDS with parents or relatives	54 (40.3)	68 (58.6)	23 (20.0)	43 (31.9)	39.35	<0.001
Doing any social effort to improve awareness among others	NA	NA	16 (13.9)	25 (18.5)	0.96	0.327
Attending any counseling centre	NA	NA	17 (14.8)	44 (32.6)	10.68	0.001

NA- not applicable

The fact that India is a low-income country with a sizable large young population, low literacy rate and an increasing level of urbanization contributes to India's vulnerability for disease transmission (Chauhan T *et al*, 2013). Therefore, it becomes necessary to educate people so that they can protect themselves from being infected (Yadav SB *et al*, 2011). To the best of our knowledge, this study is exceptional in comparing gender specific differences among HIV-infected patients and healthy population of Lucknow.

In the present study, 87.9% males and 88.6 % females among controls and 65.2% males and 60.9% females among cases had correct knowledge about HIV/AIDS which were similar to the findings of Sudha RT *et al*, 2005 who has explained that the gender difference in the awareness can be attributed to the low literacy rate among women.

On comparing the frequency of correct knowledge for the following questions; i.e, to know the difference between HIV/AIDS (74.1% males/56.1% females in controls; 30.4% males/25.2 % females in cases), AIDS being an infectious disease (61.2% males/58.2% females controls; 35.6% males/28.7% females cases), AIDS being a fatal disease (79.3% males/62.7% females controls; 59.3% male/44.3% female cases), if HIV can affect oral cavity(49.1% males/38.8% females in controls; 25.9% males/27.8% females in cases), if a healthy-looking person can be HIV-positive (81.9% males/71.6% females in controls; 37.8% males/33.9% females in cases) the overall percentage of knowledge in the present study were low in females as compared to males in both the groups. The above said findings in our study were in favor with the reported findings of Srivastava A *et al*, 2011, Shiferaw Y *et al*, 2011 and Fraim NL, 2012.

In our study, on being asked if there are signs and symptoms of AIDS we found a significantly high percentage of correct knowledge among males (69.0% males / 62.7% females) of the control group but among cases, females (42.6%) had more knowledge than males (37.8%). Our findings were similar to those of Srivastava A *et al*, 2011 but in contrast to Fraim NL, 2012.

24.1% males and 26.9% females in the control group were worried about contracting the disease and it was in accordance with the reported findings of Rai Y *et al*, 2009.

The percentage of correct knowledge about- mode of transmission (87.1% males/80.6% females in controls; 62.2% males/45.2 % females in cases) and spread by unprotected sex , already used injection needles, infected pregnant mother to unborn child, unscreened blood transfusion, multiple sexual partners- was low in females of both the groups. This indicates that knowledge of females on HIV/AIDS transmission is not comprehensive to protect them from the risk of the infection and there is an immense need to implement gender-based sex education regarding STIs, safe sex options and contraceptives in India (Deb S *et al*, 2004). The findings of our study were in favor with the reported findings of Thanavanh B *et al*, 2013 and Oljira L *et al*, 2013.

The knowledge that HIV spreads by mosquito bite, sharing meals, shaking hands, talking or kissing an infected person were found to be similar among gender of both the groups. Misconceptions about the transmission of the disease are probably due to reflections about integrated health education targeted at more than one disease. But this hypothesis needs to be further investigated Naing CM *et al*, 2010. Correcting misconceptions should be focused upon along with imparting correct knowledge.

In the present study, the frequency of correct knowledge to know if AIDS is curable and if it is cured by traditional/spiritual means or cured by medicines/medical doctors was higher in both genders among cases as compared to controls. Among cases, males had higher knowledge. The poor knowledge among females could be due to poor literacy and reduced access to education material Pallikadavath S *et al*, 2006. Our findings were in accordance with the findings of Srivastava A *et al*, 2011. This gender specific variation in knowledge may be due to the fact that in India, males are more open in discussing sexual experiences with peers than females.

The frequency of correct knowledge if there is any test for AIDS was higher in males (86.2% males/76.1% females in controls; 60.7% males/44.3% females in cases) of both the groups and in accordance to the study done by Oljira L *et al*, 2013. The frequency of correct knowledge on the question if the cases know about ELISA, females (16.5%) were reported to have more knowledge when compared to males (13.3%). This may be due to the fact that once infected, females become more proactive than males in gathering knowledge about the disease.

The present study showed that the frequency of positive attitude i.e; if AIDS patients should not be isolated from the society (42.2% males/44.0% females in controls; 18.5% males/36.5% females in cases), should be allowed to attend school/college(83.6% males/70.9% females in controls; 57.0% males/44.3% females cases), should be allowed to continue in the job (84.5% males/71.6% females; 56.3% males/44.3% females) and if there should be inclusion of sex education in schools/colleges (86.2% males/76.1% females in controls; 43.0% males/31.3% females in cases) were found to be significantly higher in males of both controls and cases. This was in accordance with the study of Shiferaw Y *et al*, 2011. Rai Y *et al*, 2009 stated that in traditional Indian culture, sex and sexuality are not openly discussed. Having incorrect knowledge is more dangerous than having no knowledge about the disease. Alleviation of the misconceptions in general population is important because if not addressed, a phobia may get created in the messages that may stigmatize the disease to such an extent that would result in discrimination of HIV/AIDS patients. Pramanik S *et al*, 2006 stated that individuals may hesitate to interact with persons who are known to have HIV because it is contagious, life-threatening and presently incurable.

Cases were asked if they were more alert since their HIV Status changed to positive- 84.4% males and 71.3% females answered in the affirmative. This points to the fact that in the retrospective, had they been educated earlier about the disease, they would have been more cautious about keeping themselves safe.

On comparing the frequency of correct knowledge on the prevention of HIV/AIDS, it was found that the correct practice on the role of latex condoms in the prevention of HIV/AIDS was significantly higher in males (83.6% males/73.1% females controls; 45.9% males/39.1% females cases) of both the groups. This reveals the fact that in the case of women, there is an additional complexity of gender relations which limits their capability to negotiate condom use even when awareness of AIDS is substantial. When combined with dominant views of male sexuality in which men are seen to "need" sex, the opportunities for women to either refuse sex or negotiate safe sex are constrained (Wilton, T, Aggleton P, 1991). Our findings were in correlation with the reported findings of Shiferaw Y *et al*, 2011, Oljira L, 2013, Tadese A and Menasbo B, 2013. The frequency of blood screening being done for the fear of acquiring the disease was found to be higher in female controls (18.7% females/3.4% males); our findings were in favor of the findings of Shiferaw Y *et al*, 2011.

Among cases, males (22.2%) showed the higher practice of blood screening for fear of acquiring HIV infection when compared to females (14.8%) in our study; the reported findings of Cherutich P *et al*, 2012 were in contrast to our results.

In the present study, the practice of discussion about AIDS with parents or relatives were found to be higher in males of both the groups which highlights the fact that Indian society with its patriarchal culture, has still not evolved to the 21st century where females are shy and consider sex and related topics as taboo to be discussed in public.

The present study showed that among cases, the practice of doing a social effort to improve HIV awareness among others was noted to be below average but more in males (18.5%) when compared to females (13.9%) and also the practice of attending of counseling centers were significantly higher in males (32.6%) when compared to females (14.8%). Fear of positive results, stigma, and partner refusal are probable reasons for not attending VCT (Voluntary counseling and testing) services among females, therefore we suggest initiation of sex education at an early age for female children as the female child attains puberty much before male.

Further, the present institutional based intervention also focuses upon the spread of HIV/AIDS awareness by the students through regular camps/screening programs in villages, rural schools and other centers of education. Youth rallies, street plays, exhibitions, skits, workshops highlighting the consequences of the disease by way of folk art and media should be organized in various social areas (shopping malls, hospitals, railways stations etc) where all strata can be focused upon.

CONCLUSION

Awareness about HIV/AIDS among males in both healthy and HIV-infected group were found to be more and followed right practices as compared to females. Government, as well as Non-Government agencies, should introduce more counseling and training centres/campaigns especially for females. Well implemented educational programmes about the disease may increase the likelihood of protection against HIV infection. Also, promoting equality among both the gender and addressing the denial and discrimination may act as a barrier between HIV/AIDS risk.

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