International Journal of Sciences & Applied Research

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HUMAN IMMUNODEFICIENCY VIRUS (HIV) PREVALENCE IN SEXUALLY TRANSMITTED DISEASES (STDs) IN TRAVELLERS OF AHMEDABAD AND ITS VICINITY

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ABSTRACT

The human immunodeficiency virus (HIV) is a lentivirus (a subgroup of retrovirus) that causes HIV infection and acquired immunodeficiency syndrome (AIDS) (Douek et al., 2009). AIDS is a condition in humans in which progressive failure of immune system allows life-threatening opportunistic infections and cancers to thrive. In the present study carried out on 942 patients with various sexually transmitted diseases 65 patients were found to be seropositive for HIV. Out of these 42 were males (64.61%) while 23 were females (35.38%) which are lower than Burzin et al. (2006) from Ahmedabad reported 77.51% males and 22.49% females found seropositive for HIV. This might be due to less no. of patients in our study. Large number of cases in males in comparison to females is explained from the fact that in females the social stigma and discrimination prevents the women to seek help of STD clinic facility, which in turn contribute higher cases in males. Hence, our study support the males are affected than the opposite sex. Among 65 HIV patients, herpes Progenitalis is the commonest STD with 28 cases (43.07%), followed by Syphilis (18.45%), Mixed VDs (12.3%), Molluscum contagiosum (7.69%), Gonorrhoea (6.15%), Chancroid (4.61%), Condyloma acuminate (3.07%), Granuloma Inguinale (1.53%), Lymphogranuloma venereum (1.53%) and Nongonococcal urethritis (1.53%) indicating that HIV is co-supplemented with STDs and such STD patients are high risk of HIV Seropositivity.

Keyword: HIV, AIDS, STD, Mixed VDs, Lentivirus, Retrovirus

INTRODUCTION

India has the third largest HIV epidemic in the world. In 2013, HIV prevalence in India was an estimated 0.3%. This figure is small compared to most other middle-income countries but because of India's huge population (1.2 billion) this equates to 2.1 million people living with HIV. In the same year, a projected 130,000 people died from AIDS-related illnesses.

HIV prevalence in India varies geographically. The five states with the chief HIV prevalence (Nagaland, Mizoram, Manipur, Andhra Pradesh and Karnataka) are in the south or east of the nation (NACO, 2014). HIV prevalence rate in Gujarat has showed a declining trend from 0.48% in 2004 to 0.33% in 2011 is greater than national prevalence. The total number of people living HIV/AIDS in Gujarat is estimated at 1.27 Lakhs. Of all HIV infection, 38% are among women. The number of new HIV infections (Incidence of HIV) in 2011 estimated 6,455 while AIDS related deaths were 9,511 in the state (GSACS, 2014). Moreover, Gujarat state stands in moderate HIV prevalent category. Shilpee et al. (2010) reported 10% males and 10% females were fond positive for HIV. Another study by Harsh et al. (2013) from Ahmedabad reported 68.3% males and 31.7% females were found seropositive for HIV. Studies by

Gharami et al. (1999), Pondicherry and Solanki et al. (2003), Palival et al. (2003), Kaur and Ahuja (2003) and Burzin et al. (2006) documented 11.7%, 13%, 12.4%, 14% and 11.17% of cases of HIV patients. It is very important to conduct and survey showing prevalence and distribution of STDs in population of Gujarat and its vicinity as such diseases increase in our state affecting the health status. Hence, this study was proposed in regard to demographic, clinical and socio-economic trends in population of Gujarat state. In the present study carried out on 942 patients with various sexually transmitted diseases 65 patients were found to be seropositive for HIV which was 3rd higher type of STDs. Out of these 42 were males (64.61%) while 23 were females (35.38%).

MATERIALS AND METHODS

A number of 942 patients were analyzed who attend the Sexually transmitted disease (STD) Clinic or Suraksha Clinic of Civil Hospital Ahmedabad having complaint of genital ulcers, genital discharge or genital growths were studied in detail. These patients were interviewed according to standard Proforma which contained details about the demography-age, sex, education, occupation, marital status, socioeconomic status, domicile of the patients and other details. This work also approved by Department Internal Human Ethical Committee (IHEC) project No: HEC-01.

Details were also taken regarding sexual activities of the patients i.e. heterosexual, bisexual, homosexual or other exposures. Information regarding the number of partners and whether they are of high risk activity (commercial sex workers and persons having multiple homosexual and heterosexual partners) was noted in detail. Information was also obtained regarding the last high risk exposure (Other than spouse or regular partner). The patients were also questioned about past history of genital ulcers, warts or discharges. Information regarding the personal history of the patient like history of alcohol or drug abuse, tobacco chewing, smoking or travelling job was taken into account.

A detail clinical examination of the patient was done for various STDs like herpes progenitalis, genital warts etc. Examination of the external genatalia, perianal and anal region, skin and oral mucosa were also done. Examinations of body lesion were carried out to rule out Primary and secondary syphilis.

The patients after clinically diagnosed as having sexually transmitted diseases (STDs) were then advised to give blood to perform following tests. Approximately 5 ml of venous blood was aspirated and the following tests were performed. Rapid Plasma Reagin (RPR- Carbogen, Tulip Diagnostics, Goa) test was done to rule out syphilis and confirmed with the Treponema pallidum hemagglitination assay (TPHA).

Blood specimens were obtained and sera tested for anti HIV antibody using NACO guidelines. First ELISA was performed using Recombigen HIV-1/HIV-2 EIA kit (Enzaids by Span Diagnostics, Ltd, Surat) and sera positive by first ELISA were retested by Immunocomb method and also by Rapid Tridot method.

The patients for HIV were counselled and depending on the signs of HIV illness (fever, weight loss, lymphadenopathy, and diarrhoea) were subjected to CD4 cell count (using Fluorescent activated cell sorter (FACS) machine) investigation to know the immune status of the patients. Depending on the CD4 counts the patients were referred to HIV medicine from where they are advised about initiating antiretroviral therapy (ART).

The patients were counselled with the help of counsellor appointed for STD clinic about the disease, its modes of acquisition, transmission, knowledge regarding safe sexual practices

(condom usage), and information about abstinence of sexual activity until subsidence of the symptoms. These patients were also taught about the use of condoms and were also provided freely. These patients were later advised to come for a follow up visit after a week to see the response of treatment given and also to see the report of RPR and HIV tests. The patients were persuaded to bring their partners on the follow up visit, so that they can also be clinically diagnosed and if necessary tested for STDs including HIV and also counselled.

RESULTS

A total of 65 were included in our study. 42 were males (64.61%) while 23 were females (35.38%) (Fig 1). In the present study HIV prevalence in our study is very high in Ahmedabad viz. Kalapinagar (12.31%), Civil (4.62%), Vadaj (3.08%), etc. (Table 1). The patients 22 belonged to the age group of 25-34 years (33.8%) had high incidence of HIV followed by 45-54 years 14 (21.5%), 15-24 years 12 (18.5%) and 35-44 years 7 (10.8%). Five patients were in the age group of 55-64 years (7.7%). Only 2 patients were from the paediatric age group 0-14 years (3.1%) and 3 patients from the age group of 65 and above (4.6%) (Fig 2).

Most of the patients were illiterates (47.7%), followed by primary education (21.5%), higher secondary education was completed by 13.8% of the cases and high school education (10.8%), only 4.6% were graduates and 1.5% were post graduates (Fig 3). Majority of the patients were Labourers (27.7%), followed by Housewives (12.3%), unemployed (9.2%), CFSWs (7.7%), Drivers (7.7%), Diamond worker (7.7%), Students (6.2%), servants (4.6%), Security (4.6%).Skilled workers (3.1%), Service class (3.1%), Factory workers (3.1%), Business workers (1.5%) and Farmers (1.5%) (Fig 4). Out of 65 cases of HIV, 20 were married (30.8%) and 19 were unmarried (29.2%), followed by Staying away 10 (15.4%), Widow/Widower 7 (10.8%), Divorced 6 (9.2%) and Remarried 3 (4.6%) (Fig 5).

In the present study, out of 42 male patients, 22 (52.4%) had exposure with commercial female sex workers followed by exposure with stranger 5 (11.9%), exposure with known person 4 (9.5%), Bisexual 1 (2.4%), exposure with spouse only 8 (19.0%) and homosexual 2 (4.8%) were noted (Fig 6). Among 23 female patients, majority of them 8 (34.8%) strongly denied history of exposure outside marriage. 10 females reported of having exposure with CFSW with clients (43.5%) and 3 females reported of having exposed from infected spouse (13.0%). One female was of having exposure with known person (4.3%) and abuses (4.3%) (Fig 7).

In 65 HIV patients, herpes Progenitalis is the commonest STD with 28 cases (43.07%), followed by Syphilis (18.45%), Mixed VDs (12.3%), Molluscum contagiosum (7.69%), Gonorrhoea (6.15%), Chancroid (4.61%), Condyloma acuminate (3.07%), Granuloma Inguinale (1.53%), Lymphogranuloma venereum (1.53%) and Nongonococcal urethritis (1.53%) (Fig 8).

Out of total 942 patients with various sexually transmitted diseases, 65 patients were coinfected with HIV. The Seroprevalence of HIV in the present study was 6.89% with prevalence of 4.45% in males and 2.44% in females (Fig 9).

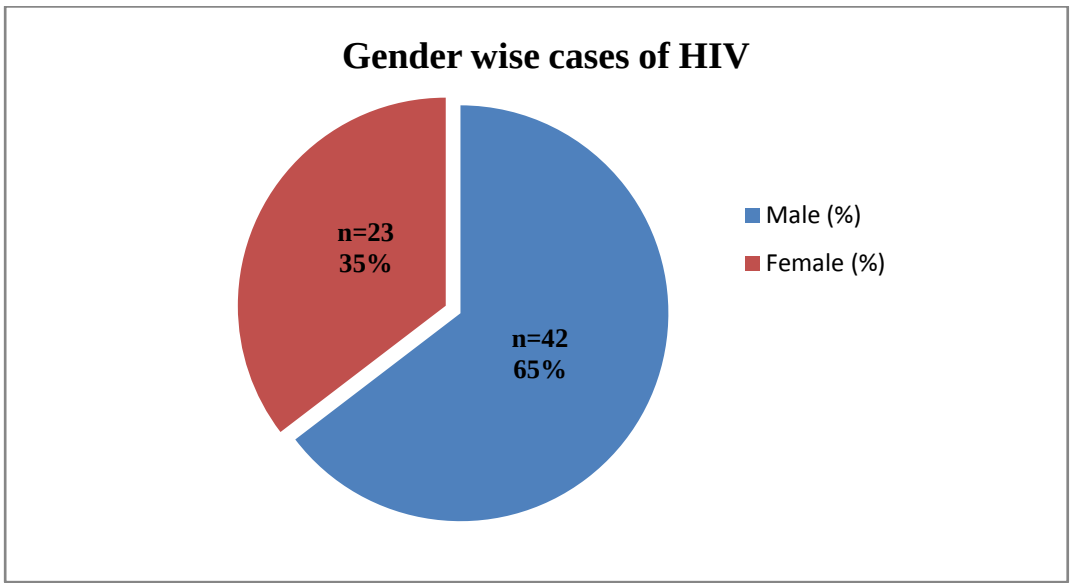

Fig 1: Gender wise cases of HIV

Table 1: HIV cases in population of Ahmedabad / Gujarat and its vicinity

Sr. No.	Area	Total no. of case	Percentage (%)
01	Kalapinagar	8	12.31
02	Vadaj	2	3.08
03	CTM	1	1.54
04	Rakhiyal	1	1.54
05	Asarwa	2	3.08
06	Civil	3	4.62
07	Dillidarwaja	1	1.54
08	Vastral	1	1.54
09	Amraiwadi	1	1.54
10	Odhav	2	3.08
11	Vatva	1	1.54
12	Meghaninagar	1	1.54
13	Sarkhej	2	3.08
14	Laldarwaja/Shahpur	1	1.54
15	Sardar nagar	1	1.54
16	Chandkheda	1	1.54
17	Juhapura/Vejalpur	0	0.00
18	Sabarmati	0	0.00
19	Chamanpura	0	0.00
20	Bapunagar	0	0.00
21	Gomtipur	0	0.00
22	Prahladnagar	0	0.00
23	Paldi	0	0.00
24	shahibag	0	0.00
25	Memco	0	0.00
26	Chandlodiya	0	0.00
27	Saraspur	0	0.00
28	Naroda	0	0.00
29	Ambawadi	0	0.00
30	Saijpur bogha	0	0.00
31	Jivraj park	0	0.00

32	Ishanpur	0	0.00
33	Kubernagar	2	3.08
34	Gatlodiya	2	3.08
35	Thakkar nagar	1	1.54
36	Kathwada	1	1.54
37	Narol	1	1.54
38	Gandhinagar	3	4.62
39	Kalol	2	3.08
40	Mansha	2	3.08
41	Dehgam	1	1.54
42	Mehsana	1	1.54
43	Kalol	0	0.00
44	Sabarkantha	0	0.00
45	Banashakantha	0	0.00
46	Vadodara	0	0.00
47	Amreli	0	0.00
48	Junagadh	0	0.00
49	Surat	0	0.00
50	Kheda	0	0.00
51	Daskroi	0	0.00
52	Rajasthan	5	7.69
53	Madhya Pradesh	2	3.08
54	Uttar Pradesh	0	0.00
55	Traveller	13	20.00
Total		**65**	**100**

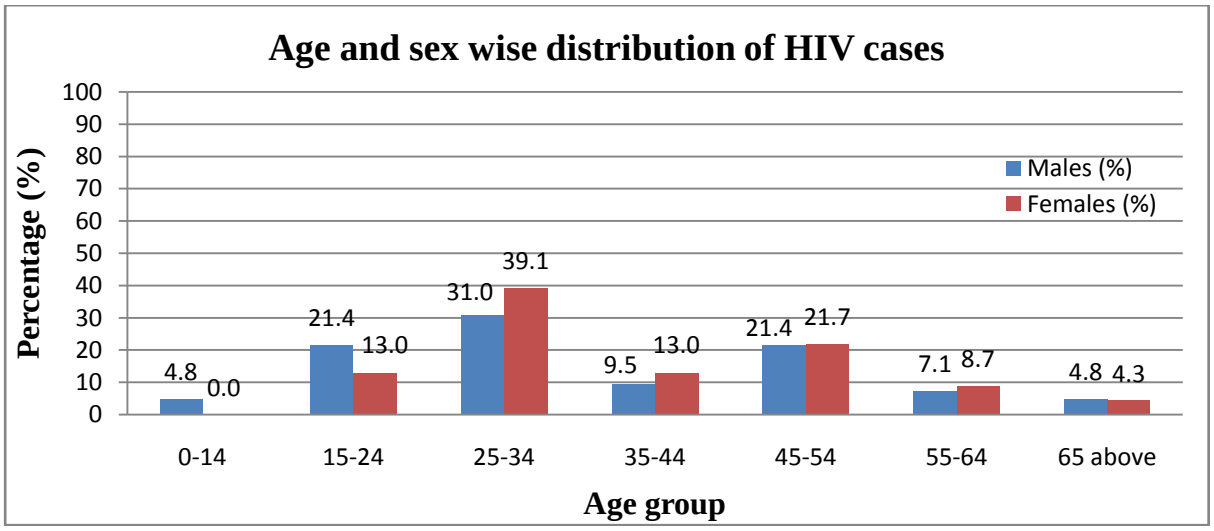

Fig 2: Age and sex wise distribution of HIV cases

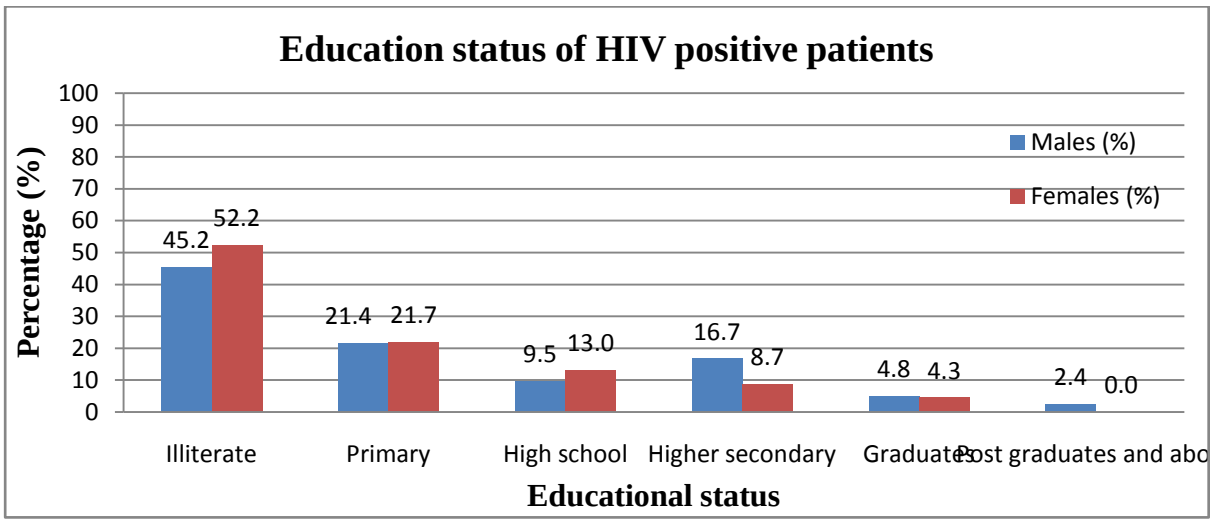

Fig 3: Education status of HIV positive patients

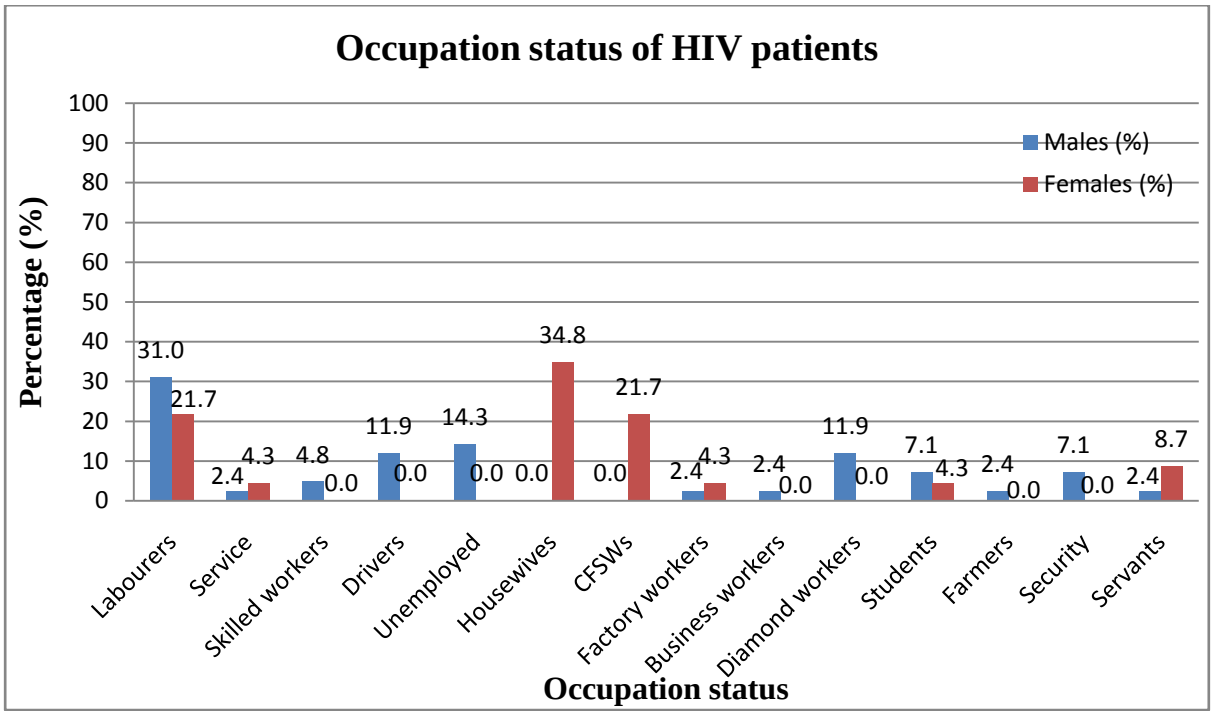

Fig 4: Occupation status of HIV patients

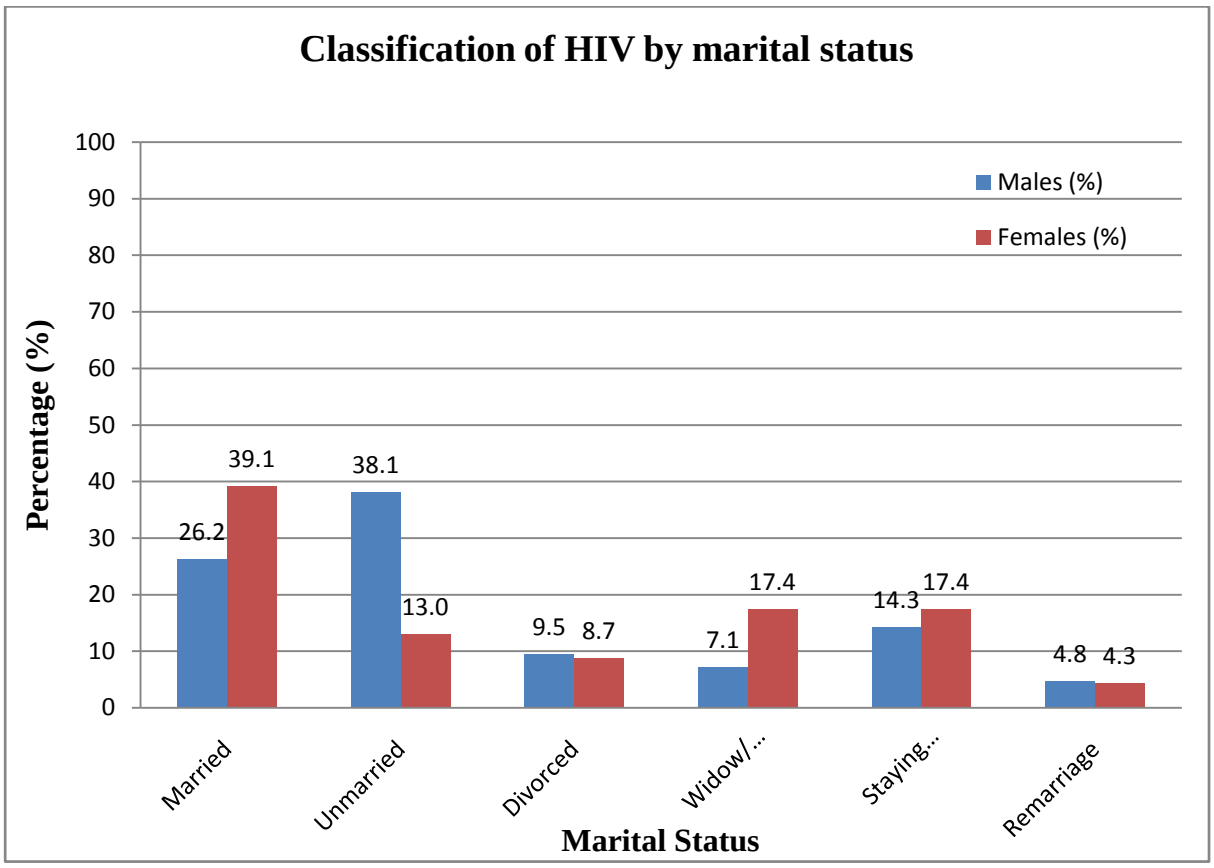

Fig 5: Classification of HIV by marital status

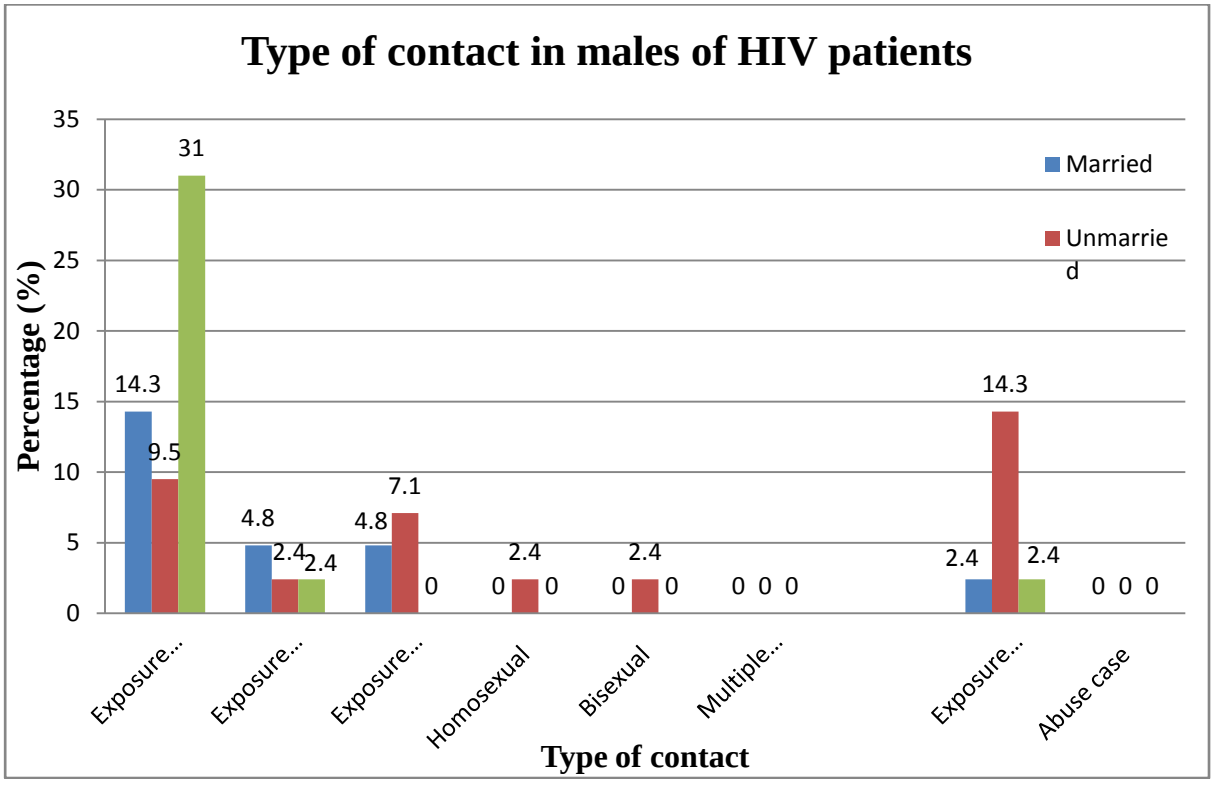

Fig 6: Type of contact in males of HIV patients

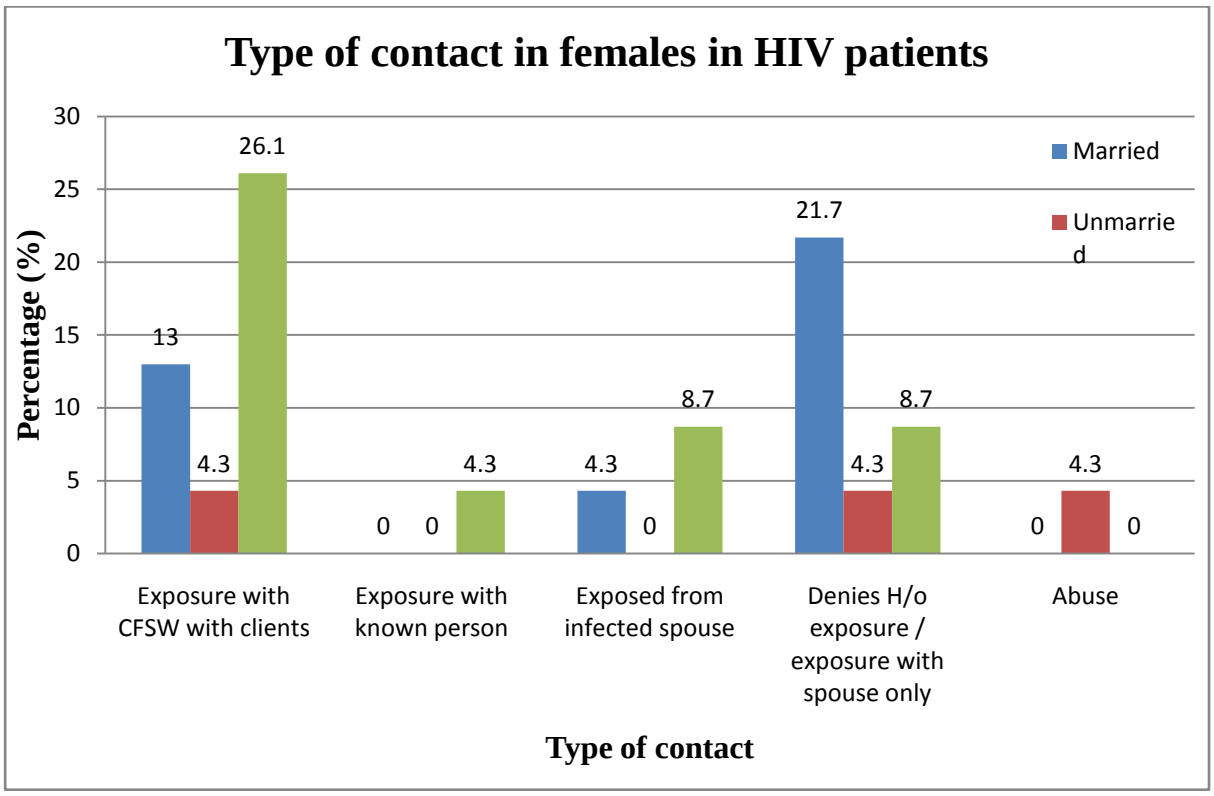

Fig 7: Type of contact in females in HIV patients

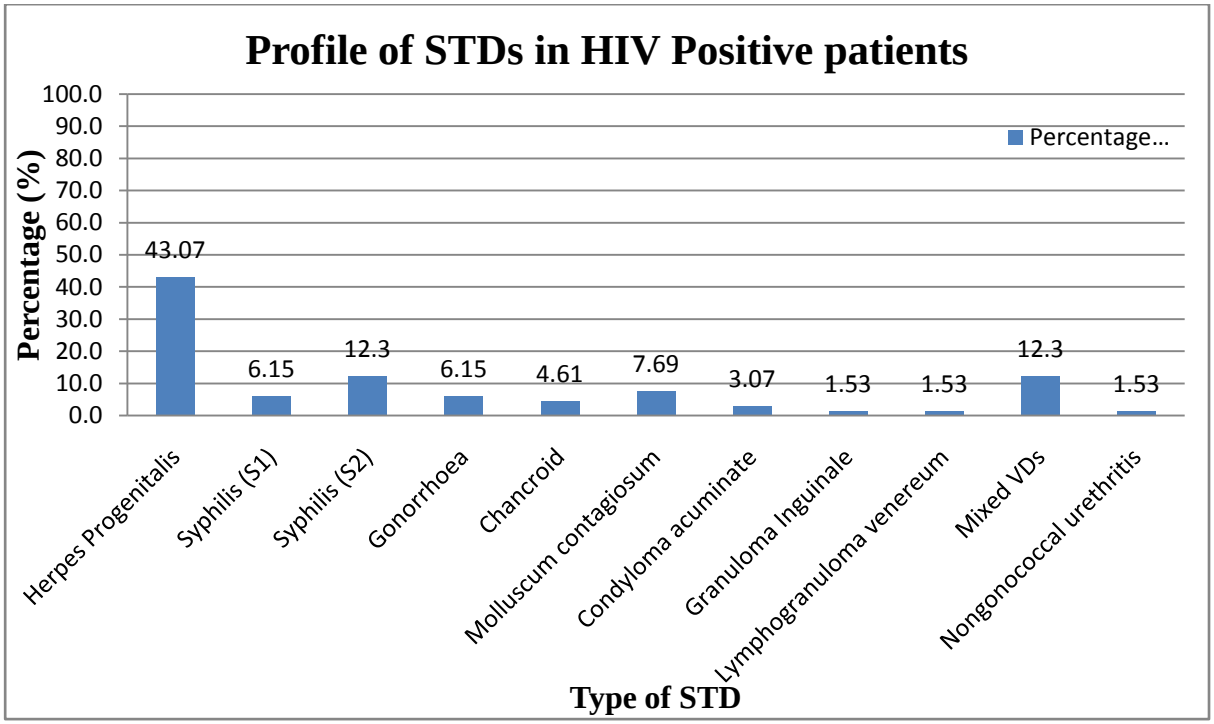

Fig 8: Profile of STDs in HIV Positive patients

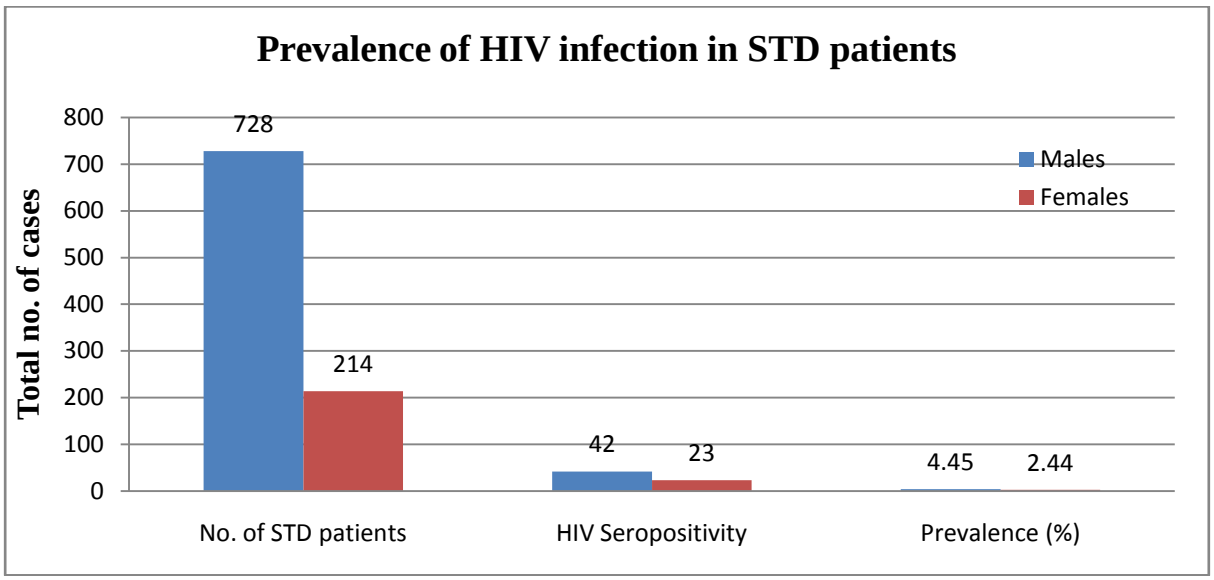

Fig 9: Prevalence of HIV infection in STD patients

DISCUSSION

In the present study carried out on 942 patients with various sexually transmitted diseases 65 patients were found to be seropositive for HIV which was 3rd higher type of STDs. Out of these 42 were males (64.61%) while 23 were females (35.38%) which are lower than Burzin et al. (2006) from Ahmedabad reported 77.51% males and 22.49% females found seropositive for HIV. This might be due to less no. of patients in our study. However, males are more affected as that of earlier studies from Ahmedabad (Kavina, 2006). Shilpee et al. (2010) reported 10% males and 10% females were fond positive for HIV which lowers than present study. Another study by Harsh et al. (2013) from Ahmedabad reported 68.3% males and 31.7% females were found seropositive for HIV is compare to our present study. Large number of cases in males in comparison to females is explained from the fact that in females the social stigma and discrimination prevents the women to seek help of STD clinic facility, which in turn contribute higher cases in males. Hence, our study support the males are affected than the opposite sex.

Age group wise majority of HIV positive patients were in the age group of 25-34 years (33.8%), followed by 45-54 years (21.5%), 15-24 years (18.5%) and 35-44 years (10.8%). Five patients were in the age group of 55-64 years (7.7%). Only 2 patients were from the paediatric age group 0-14 years (3.1%) and 3 patients from the age group of 65 and above (4.6%). Majority of the HIV positive patients (52.3%) belonged to age group of 15-34 years in our study. This is similar to the study by Mendiratta et al. (2004) who reported maximum patients in the range of 15-34 years.

Among 65 HIV patients, herpes Progenitalis is the commonest STD with 28 cases (43.07%), followed by Syphilis (18.45%), Mixed VDs (12.3%), Molluscum contagiosum (7.69%), Gonorrhoea (6.15%), Chancroid (4.61%), Condyloma acuminate (3.07%), Granuloma Inguinale (1.53%), Lymphogranuloma venereum (1.53%) and Nongonococcal urethritis (1.53%) indicating that HIV is co-supplemented with STDs and such STD patients are high risk of HIV Seropositivity.

Study by Burzin et al. (2006) documented 35.89% of Herpes progenitalis, mixed VDs 22%, Syphilis (14.36%), Condyloma acuminate (11%), Molluscum contagiosum (7.66%), Chancroid (4.78%), Gonorrhoea (2.87%) and Nongonococcal urethritis (0.48%) of cases infected with HIV.

Out of total 942 patients with various sexually transmitted diseases, 65 patients were coinfected with HIV. The Seroprevalence of HIV in the present study was 6.89% with prevalence of 4.45% in males and 2.44% in females which is lower than Gharami et al. (1999), Pondicherry and Solanki et al. (2003), Palival et al. (2003), Kaur and Ahuja (2003) and Burzin et al. (2006) documented 11.7%, 13%, 12.4%, 14% and 11.17% of cases.

In a study by Pedhambkar et al. (2001) from Mumbai reported 31.18% of HIV seropositive cases which is higher than present study.

CONCLUSIONS

Out of total 942 patients with various sexually transmitted diseases, 65 patients were coinfected with HIV. The Seroprevalence of HIV in the present study was 6.89% with prevalence of 4.45% in males and 2.44% in females.

Thus, these epidemiological studies of STDs provide distribution, incidence and proper diagnosis of the disease. Accordingly the treatment of it is suggested to the sufferer. Among all types of STDs. Gujarat population have high incidence of Herpes progenitalis, Syphilis and HIV in our study. The data also revealed the factors related to age, education, occupation and sex. The ratio from male to female was 3:2 in HIV patients. This kind of study has a significant value for epidemiological survey, diagnosis and prevention of STDs including HIV.

ACKNOWLEDGEMENT

Sincere thanks to Maulana Azad National Fellowship (MANF), University Grants Commission (UGC), New Delhi for the financial support to this research work.

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