

# CASE STUDIES

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## PATTERN AND CLINICAL PRESENTATION OF STDs AMONG HIV POSITIVE AND NEGATIVE INDIVIDUALS AT A RURAL REFERRAL CENTRE

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**INTRODUCTION:** Globally the majority of human immunodeficiency virus (HIV) epidemic is through heterosexual transmission; The complex interaction between STD and the HIV has been demonstrated in many epidemiological, in vitro and clinical studies over the last number of years. Classic STD could facilitate HIV 1 transmission by increasing either the infectiousness of the index case, the susceptibility of the partner, or both.

### AIMS AND OBJECTIVES: The present study was undertaken to assess the following

- A) Prevalence of STDs
- B) Comparison among HIV positive and negative individuals.

**MATERIALS AND METHODS:** It was a descriptive study in which all patients who attended the Dermatology and Venereology outpatient department were screened for STDs infection. The study was conducted in the month of May to June 2007 at IRT- Perundurai Medical College hospital, Perundurai. Detailed history including age , sex, socio economic status, occupation, marital status, sexual history, history of presenting illness, past history (previous STDs, smoking, ganja addict, alcohol, IVDU) were elicited. Patients were subjected to thorough clinical examination.

The clinical diagnosis of STDs was supplemented with necessary laboratory procedures as and when required. In the study, subject sera were collected after informed written consent. Ethical committee clearance was obtained to conduct this study. All the serum samples are tested for HBsAg and anti-HCV antibodies by immuno chromatographic (rapid test) assay. These patients were also tested for RPR (serological test for syphilis) and ELISA for HIV (after pre test counseling) at Integrated Counseling and Testing Centre (ICTC). Testing for syphilis done by RAPID PLASMA REAGIN card using kits of CARBOGEN [Tulip diagnostics (p) LTD, Goa ]

### RESULTS:

1. Total number of the patients who attended the Skin and STDs OP from May to June 2007 = 4273
2. Total number of the patients with H/O exposure = 146
3. Total number of the patients enrolled in the study after informed written consent = 130

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4. Total number of the patients screened for serology of HBV/HCV/ SYPHILIS/HIV = 130

Results were tabulated as follows

### 1. Sex distribution

**Table no: 5.1 sex distribution in the study group (n=130)**

Majority of the study subjects were males (n=102). Rest of the study group were females (n=28).

### 2. Age group distribution

**Table no: 5.2 age group distribution of the study group (n=130)**

Age group in years	Total NO.	Percentage (%)
15-19	5	3.85
20-24	11	8.46
25-29	17	13.07
30-34	25	19.23
35-39	32	24.62
40-44	18	13.85
45-49	12	9.23
50-54	4	3.08
55-59	3	2.31
Sex	Total No	Percentage (%)
Male	102	78.5
Female	28	21.5
60-64	2	1.54
65-69	1	0.77

Most of the patients in the study group belonged to the age group of 35-39 years (n=32) followed by 30-34 years (n=25) . The youngest and the oldest patient encountered in the study was aged 18 and 66 respectively.

### 3. OCCUPATION TABLE NO: 5.3 OCCUPATION OF THE PATIENTS IN THE STUDY GROUP (n=130)

Occupation	Total No.	Percentage(%)
Driver/Transport worker	31	23.85
Daily wage laborers	25	19.23
Skilled/ semi skilled workers	22	16.92
Weaver	15	11.54
Home maker	13	10.00
Farmer	7	5.38
Student	5	3.85
Tailor	5	3.85
Salesman	3	2.31
Painter	2	1.51
Business men	1	0.77
Unemployed	1	0.77
Hotel worker	1	0.77

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Commonest occupation of the group was Drivers/Transport (n=31) followed by daily wage laborers skilled / semi skilled workers, weavers etc.,

## 4. Socio economic status

**Table no: 5.4 socio economic status of the patients in the study group (n=130)**

Socio economic status	Total No.	Percentage (%)
High	1	0.77
Moderate	20	15.38
low	109	83.85

Majority of our patients belonged to low socio economic status (n=109) followed by moderate and high socio economic status.

## 5. Marital status

**Table no: 5.5 marital status of the patients in the study Group (n=130)**

Marital status	Total No.	Percentage(%)
Married	91	70
Unmarried	39	30

Marital status	HIV		NON HIV	
	Male	Female	Male	Female
Married	50	21	16	4
unmarried	18	1	18	2

Majority of the patients in the study group were married (n=91). Among the married (n=91) there were 5 widows (HIV positive women who lost their husband due to AIDS ) and 2 remained single [divorcees (1 HIV,1 Non HIV)].

Among the women , 25 were housewives. Among the unmarried women in the study group (n=3), 2 were CSWS/ 1 deserted.

## 6. Sexual History

**Table no: 5.6 sexual history of the patients in the study group (n=130)**

Contacts	Total No.	Percentage (%)
EMC	90	69.23
EMC/PMC	68	52.30
PMC	49	37.69

Among the unmarried patients 27 had exposure to commercial sex workers, rest of them had contact unprotected with known partner (lovers, kept mistress, co-workers). Among the married persons 49 reported pre marital contacts, 90 reported extra marital contacts and 68 having both.

Hetero sexual route was observed to be the most common mode of acquiring STDs. MSMW [bisexuality (n=6)] and MSM [homosexuality (n=5)] were also observed in this study.

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## 7. Personal history

**Table no: 5.7 personal history of the study subjects (n=130)**

Personal habits	Total No.	Percentage (%)
Alcoholism	81	62.31
Smoking	79	60.77
Ganja addict	1	0.77
IVDU	0	0

Nearly 2/3<sup>rd</sup> of the patients in the study group were found to be indulging in alcohol and smoking. They have taken alcohol regularly or irregularly. Both habits were found in 58.46 % (n=76) of the study subjects. Among the females, one woman was having practice of alcohol intake alone and other was having both the habits of alcohol and smoking. Both were commercial sex workers. One male in the study group has ganja addiction. None of the study subjects were Intravenous Drug Addicts.

## 8. Past history

**Table no: 5.8 past history of the STDs in the study group (n=130)**

Past history	Total No.	Percentage (%)
Present	47	36.15
Absent	83	63.85

47 patients in the study group reported H/O STDs in the past, 34 were males and 13 were females. Majority of them (n=25) reported genital ulcerative diseases. 11 of them reported H/O genital discharge and 5 H/O of warts.

## 9. Presenting complaints

**Tablet no:5.9 complaints of the patients in the study subjects (n=130)**

Complaints	Total no.	Percentage (%)
Cough with expectoration	32	24.62
Genital ulcer	24	18.46
For check up	15	11.54
Itching in genitalia	10	7.69
Abdominal pain	10	7.69
Diarrohea	10	7.69
Loss of weight	9	6.92
Genital growth	8	6.15
Itching all over the body	8	6.15
Genital discharge	7	5.38
Dysuria	7	5.38
Fever	7	5.38
Burning micturition	6	4.61
Itching in groin	6	4.61
Headache	6	4.61
Swelling in the neck	6	4.61

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Loss of appetite	5	3.85
Weakness of face	3	2.31
Genital pain	3	2.31
Pain during swallowing	2	1.54
Mouth ulcers	2	1.54
Discoloration of genitalia	1	0.77
Unable to retract the prepuce	1	0.77
Skin rash	1	0.77
Abdomen distension	1	0.77
Fits	1	0.77

The most common complaint observed in the study group was cough with expectoration (n=32). The most common symptom pertaining to STDs. noticed was genital ulcer, followed by growth, discharge, dysuria and burning micturition. A noticeable number of patients (n=15) has no symptoms. The other common symptoms were generalized and localized itching, diarrhea, fever, abdominal pain etc.,

### 10. Pattern of STIs in the study group

**Table no.5.10 pattern of STIs in the study group table ( n=130)**

Disease	Total no	Male	Female	Percentage(%)
Genital herpes	37	31	6	28.46
Genital candidiasis	14	8	6	10.76
Genital warts	11	8	3	8.46
Scabies	10	10	0	7.69
Tinea cruris	9	9	0	6.92
Non specific urethritis	7	6	1	5.38
Syphilis	6	4	2	4.61
Molluscum contagiosum	5	4	1	3.85
Trichomonas Vulvo Vaginalis	5	0	5	3.85
Hepatitis - B	5	5	0	3.85
Non candidal balanitis	4	4	0	3.08
Chancroid	3	2	1	2.31
Non Specific genital ulcer	3	2	1	2.31
Non gonococcal urethritis	3	2	1	2.31
Bacterial vaginosis	3	0	3	2.31
Pediculosis pubis	2	2	0	1.54
Hepatitis - C	1	1	0	0.77
Gonorrhea	1	1	0	0.77

Among the study subjects (n=130), eight were found to be free of any venereal diseases (7 males,1 female).

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## 11. Results of investigations in the study group

**Table no: 5.11 - a rapid plasma reagin (rpr) reactivity (n=105)**

Serological test for syphilis - RPR	Total No.	Percentage (%)
Reactive	6	4.61
Non -reactive	124	95.39

Among the study subjects (n=130), RPR was found to be reactive in 6 (4.61%) cases and non - reactive in 124 (95.39%) patients.

**Table no: 5.11 - b prevalence of hiv infections (n= 105)**

ELISA for HIV antibodies	Total No.	Percentage (%)
Positive	90	69.23
Negative	40	30.77

Among the study subjects screened for HIV antibodies (n=130) , HIV (ELISA) was found to be positive in 90 (69.23%) cases. 40 patients (30.77%) had no HIV antibodies in their serum by ELISA test.

**Table no: 5.11-c prevalence of anti-HCV antibodies (n=130)**

Anti-HCV antibodies	Total No.	Percentage(%)
Positive	1	0.77
Negative	129	99.23

Among the study subjects (n=130) , anti-HCV antibodies were detected in 1 case.129 patients (99.23%) had no anti-HCV antibodies in their serum by ICR assay.

**Table no: 5.11-d prevalence of HBs ag (n=130)**

HBs Ag (ICR)	Total No.	Percentage(%)
Positive	5	3.85
Negative	125	96.15

Among the study subjects (n=130), HBs Ag was present in 5 (3.85%) cases and it was negative in 125 (96.15%) patients .

**Table no: 5.11-e organisms isolated in urine culture among the study group with symptoms**

Organisms	Total No.
N. gonorrhoea	1
Escherichia coli	1
Klebsiella spp.	1
Staphylococcus aureus	1

No organisms were isolated in 7 cases (5.38%). They were labeled as non specific urethritis.

## 12. Distribution of infections among hiv positive individuals in the study group

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**Table no: 5.12 distribution of infections among hiv positive individuals in the study group (n=90)**

Infections	Total no.	Percentage (%)
Genital herpes	30	33.33
Genital candidiasis	10	11.11
Genital warts	7	7.77
Tinea cruris	5	5.55
Molluscum contagiosum	4	4.44
Trichomonas Vulvo Vaginalis	4	4.44
Hepatitis - B	4	4.44
Scabies	2	2.22
Non specific urethritis	2	2.22
Syphilis	2	2.22
Chancroid	2	2.22
Non Specific genital ulcer	2	2.22
Non gonococcal urethritis	1	1.11
Bacterial Vaginosis	1	1.11
Pediculosis pubis	1	1.11
Hepatitis - C	1	1.11

### 13. Comparison of infections in hiv(n=90) and non hiv(n=40) patients

**Table no: 5.13**

Infection	HIV	Percentage (%)	Non-HIV	Percentage (%)
Genital herpes	30	33.33	7	17.5
Genital candidiasis	10	11.11	4	10
Genital Warts	7	7.77	4	10
Tinea cruris	5	5.55	4	10
Non candidal balanitis	0	0	4	10
Hepatitis B	4	4.44	1	2.5
Molluscum contagiosum	4	4.44	1	2.5
Trichomoniasis	4	4.44	1	2.5
Scabies	2	2.22	8	20
Non specific urethritis	2	2.22	5	12.5
Syphilis	2	2.22	4	10
Chancroid	2	2.22	1	2.5
Non Specific genital ulcer	2	2.22	1	2.5
Non gonococcal urethritis	1	1.11	2	5
Bacterial Vaginosis	1	1.11	2	5
Hepatitis - C	4	4.44	1	2.5
Gonorrhea	0	0	1	2.5

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### 14. concomitant infections in hiv patients (n=90)

table no: 5.14

CONCOMITANT INFECTION	TOTAL NO	PERCENTAGE (%)
HIV + Genital Herpes	30	33.33
HIV + Genital Candidiasis	10	11.11
HIV+ Genital warts	7	7.77
HIV + Molluscum contagiosum	4	4.44
HIV + Trichomoniasis	4	4.44
HIV + Hepatitis B	4	4.44
HIV + Scabies	2	2.22
HV + Non specific urethritis	2	2.22
HIV + Syphilis	2	2.22
HIV + Chancroid	2	2.22
HIV + Non Specific genital ulcer	2	2.22
HIV + Non gonococcal urethritis	1	1.11
HIV + Bacterial vaginosis	1	1.11
HIV + Pediculosis pubis	1	1.11
HIV + Hepatitis - C	1	1.11

### 15. Concomitant infections in the non-hiv individuals (n=40)

Table no: 5.15

concomitant infection	total no	percentage (%)
Balanoposthosis + chancroid	1	2.5
Balanoposthosis + scabies	1	2.5
Chancroid + Scabies	1	2.5
Candidal balanitis + genital warts	1	2.5
Genital herpes + Non specific urethritis	1	2.5
Pelvic inflammatory disease + Non specific urethritis	1	2.5

**DISCUSSION:** In the study, 102 were males, 28 were females.

Majority of the patients were in the age group of 35-39 followed by 30-34 (mean age = 37 ) and that of female 18 – 47 years (mean age = 33 years). The mean age of the entire study population was 35 years.

Most of patients in the study are at an unusually high risk of contracting STI due to migrating of the profession.

Majority of the patients belonged to lower socio economic state, representing rural area. Significant low educational status seen in our study could be the reason for unawareness of



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mode of transmission and preventive measures for STDs. Majority of the patients in their study group were married. One – third of patients in the study were unmarried. The latter group forms an important risk group for acquiring STDs including HIV infection as they are exposed to high risk sexual behavior.

Heterosexuality was the predominant sexual behaviour followed by bisexuality and homosexuality. In the present study, the incidence of bisexual orientation was higher compared to those who were only homosexuals. Which is a cause of concern as more often these bisexual males are married and they carry an increased risk of transmitting infection to their spouse. (High risk sexual behaviours but low risk perception). History of promiscuity was elicited in all males in the study. Among them , majority gave the history of exposure to female commercial sexual worker. Friends, relatives and co-workers were the next possible source of infection. The usage of condoms among them was either irregular or absent.

Majority of the married women (n=25) denied history of pre marital or extra marital contacts. Most of the married women blamed their husband for the source of infection. This stresses the fact that innocent housewives were infected by their promiscuous husbands.

Two women (female CSWS) gave H/O exposure with multiple males. None of them were found to be practice safe sex. Two-thirds of the individuals did not use condoms despite half of them knowing their protective action..

Genital ulcer was the most commonest previous STDs noted. Genital infections particularly ulcerative diseases are associated with increased sexual transmission of HIV.

Majority of the patients in the study group were found to be practicing smoking or alcoholism or both. Alcoholism can act as an independent risk factor in the development of STI. 15 patients reported only for check up. But they were also found to have one or more infections. Hence it is important to screen and treat such asymptomatic cases to prevent sequences.

A good number of patients presented with various genitourinary symptoms on their own and few of them with their partner(s). This increase in number of self referral by these patients could be as a result of campaigns conducted for generating awareness.

Genital herpes was the most common STIs [(n = 37), 33.3%]] similar study in India by Ambhore et al<sup>110</sup> noted. Among the viral STDs, genital warts (n=11) was the next commonest, followed equally by Molluscum contagiosum (n=5) and Hepatitis B (n=5). Antibodies to HCV was seen only in 1 patient.

Among the bacterial STDs observed in the study group, Non specific urethritis (n=7) was the commonest, followed by syphilis (n=6), balanitis (n=4) , chancroid (n=3), non specific genital ulcer (n=3) , non gonococcal urethritis (n=3) , bacterial vaginosis (n=3) and gonococcal urethritis (n=1). Giant (extra genital) lesions due to breaking down of inflammatory chancroid was noted in 2 cases ( HIV positive 1 male, HIV Negative 1 female). The third HIV positive male case with chancroid showed poor response to antibiotics (possibility of mixed infections). Hence to detect co-infections special techniques like multiplex PCR should be employed. E. Coli, Klebsiella, staphylococcus were the microbes isolated in urine culture & sensitivity showing multi drug resistance in the study population. Non specific urethritis & Non gonococcal urethritis were seen more in males than females. Poor genital hygiene was noted among them.

Among the parasitic infections in the study populations, Scabies was the commonest (n=10), followed by Trichomoniasis (n=%) and Pediculosis pubis (n=2). Itching, the classical symptom was not found in HIV cases with scabies. We have not encountered Norwegian type.

Genital candidiasis was the commonest fungal infection (n=14) followed by dermatophytosis of the groin (n=9).

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The prevalence of RPR reactivity was 4.61% (n=6). Latent syphilis (n=3), malignant annular syphilide (n=2) and early syphilis (n=1) were the stages of luetic disease seen in this study. The types of secondary syphilis noted were annular (usually noticed in late secondary times) and malignant pustular syphilides (more commonly reported in HIV in recent times). The prevalence rate of syphilis in the developing countries is between 3-19<sup>109</sup>. No serological abnormalities were observed in this study. The classical STDs like lymphogranuloma venereum and granuloma inguinale were not observed.

In our study, we have found HBs Ag in 3.85% (n=5) which is on par or lower with Indian studies<sup>110</sup>. Hence routine screening of all the STD attendees for HBs Ag is recommended.

Of the total 130 sera tested, anti-HCV antibodies were detected in one patient (0.77%). The other sera (n=129) were negative for anti HCV antibodies. Antibodies to HCV were present in 0.64% of STD patients in a study by Tungatkar et al<sup>110</sup>. at national institute of virology, Pune, which is on par with our study. From North India, a sero prevalence of 0.8% has been reported from STD patients<sup>107</sup>. 4 out of 5 HBV infected individuals were found to be co-infected with HIV. The person with antibodies to HCV was also found to be HIV positive.

HBV with HCV coexistence as reported in other studies is not found in this study. In our study, all isolated cases with HBV/HCV infection were found to be males. Therefore, it is suggested that screening for all HBs Ag positive cases should be done for HCV infection also, so that coinfection should be treated to reduce morbidity and mortality.

In the study group the prevalence of HIV was 69.23 % (n=90) which is relatively higher than other Indian studies. This could be due to referral of cases to our tertiary care centre which is equipped with multi disciplinary team.

Among the HIV positive patients in this study group, viral STDs [genital herpes (n=30) / warts (n=7) / Hepatitis-B (n=4) / Molluscum contagiosum (n=4) / Hepatitis-C (n=1) ] were found to be more common than bacterial STDs. In the recent times, genital warts have been observed as the newly emerging viral STDs after genital herpes. Most of the STIs presented with classical presentations, course and therapeutic response to the conventional treatment.

Atypical forms (chronicity / extensive anogenital / recurrent / non healing / slow healing / granulomatous / with severe secondary infection / mixed venereal infection) of HSV-II were observed in this study.

Molluscum contagiosum (numerous lesions / extragenital), warts (extensive / with secondary infection / ulceration / hemorrhage / recalcitrant to treatment ) were found among HIV subjects in this study group.

Non specific urethritis [2 (HIV) vs. 5(non HIV)] , Syphilis [2(HIV) vs. 4 (non HIV) ] , Scabies [2(HIV) vs. 8(non HIV)], Bacterial vaginosis [1(HIV) vs. 2 (non HIV) ] were found in non HIV subjects more than HIV .

Prevalence of genital candidiasis [Balanitis in males and vulvovaginitis in females] was equal in both [HIV(11.11%) / non HIV( 10%)] study groups. Prevalence of other STDs like chancroid , non specific genital ulcer , pediculosis pubis were almost equal in both groups. Gonococcal urethritis was found in a non HIV, unmarried male. Balanitis (bacterial )/ Gonococcal urethritis were found only in non HIV study subjects. Patients with STDs in HIV were found to be more symptomatic leading to late diagnosis and more duration of therapy with costly drugs. However we did not encounter any genital malignancy.

Co-infections (mixed infections) with two or more organisms occurred in significant percentage of study group.

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**CONCLUSION:** The present study concludes that there was a high prevalence of STDs in both HIV and NON HIV study population. The sexually promiscuous persons (SPPs) and the STD clinic attendees act as high risk groups as well as bridge population in transmitting the infection to general population.

Among HIV subjects, lack of knowledge, unwillingness to use barrier due to the myths & misconceptions, and their continual inappropriate high risk sexual behaviour predispose them to acquire and transmit STDs

Co-infections and viral STDs (herpes, warts, molluscum contagiosum HBV& HCV) were found common among HIV patients in the study population. Bacterial STDs like syphilis, chancroid and gonorrhoea were showing low prevalence in this study. This could be multifactorial (decline in STD patients in OPD / Syndromic management / awareness about condoms / wide spread use of antibacterials / modified presentation due to partial treatment). There is no significant difference of STDs among married and unmarried individuals. Atypical clinical presentation / Persistent / recurrent STDs / mixed venereal diseases / poorly responding / non responding STDs were seen among HIV subjects. There is a changing pattern of STIs from bacterial to viral in both HIV and non HIV subjects with exposure.

Barrier precautions along with behaviour interventions seems to be prudent approach in preventing STIs among high risk groups attending STD clinic.

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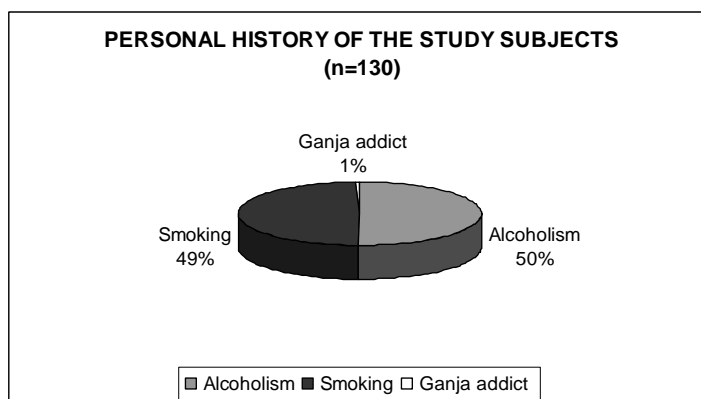
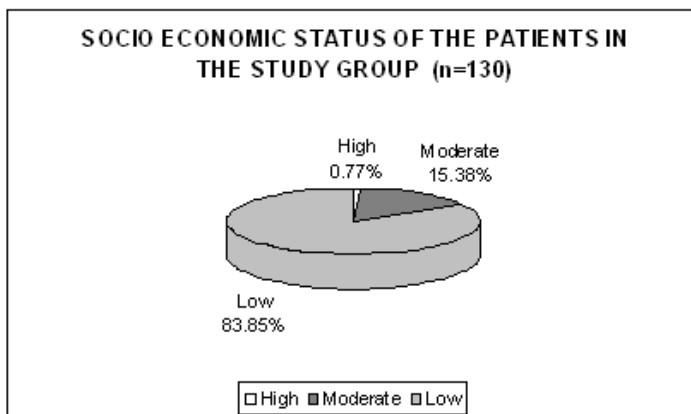
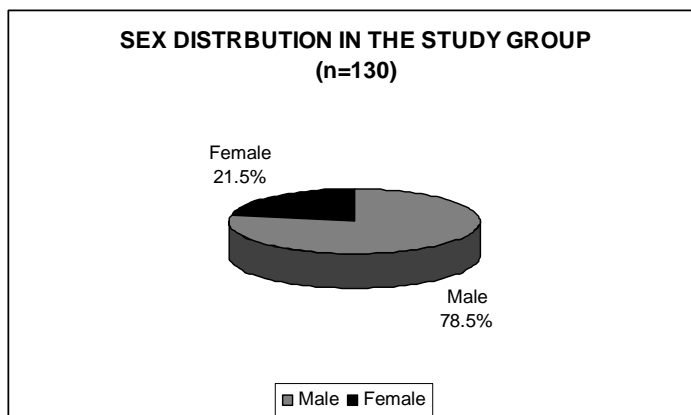
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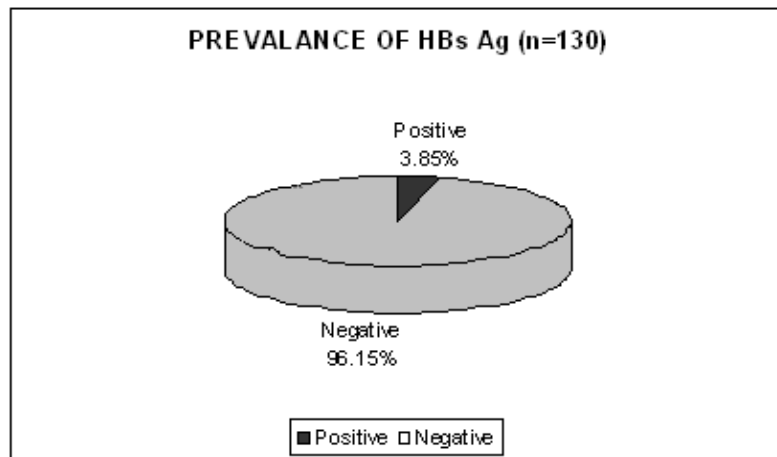
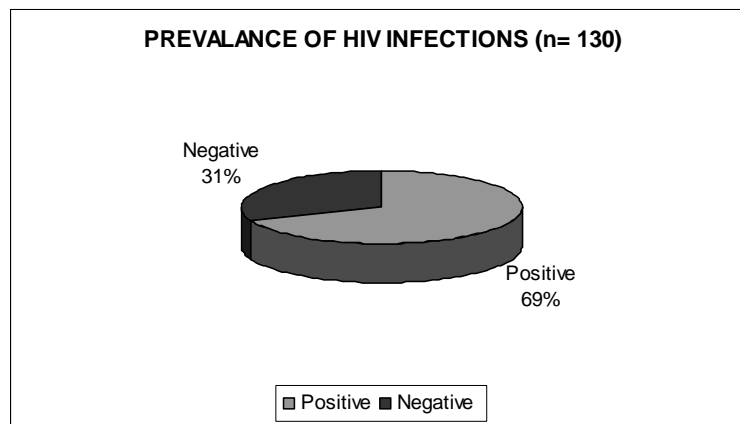
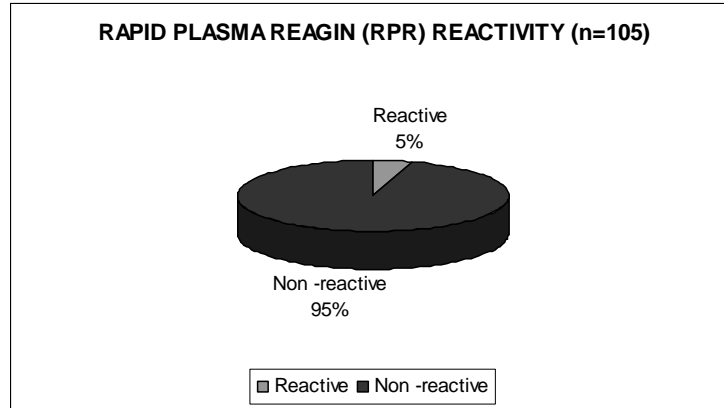
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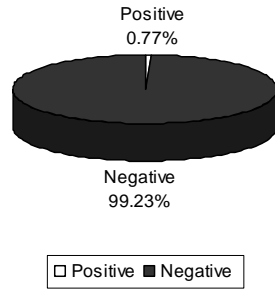
# CASE STUDIES

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# CASE STUDIES

PREVALANCE OF Anti-HCV ANTIBODIES (n=130)



MARITAL STATUS OF THE PATIENTS IN THE STUDY GROUP (n=130)



Balanoposthitis



chancroid



Condyloma acuminata



Extensive herpes with secondary infection in HIV positive fe

## CASE STUDIES

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Extensive tinea with molluscum contagiosum in HIV



Extra genital molluscum contagiosum in HIV



Genital warts in HIV



Molluscum contagiosum



Nonspecific genital ulcer



Pediculosis pubis

## CASE STUDIES

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Recurrent, extensive genital herpes in a HIV positive female



Scabies with secondary infection



Scabies



Tinea cruris with herpes genitalis in HIV



Wart in perineum in MSM