

Changing Trends of STIs/HIV/AIDS: An Overview

Dr. Manju Bala
Senior Microbiologist

Regional STD Teaching, Training & Research Centre
VMMC & Safdarjung Hospital, New Delhi

INTRODUCTION

- **STDs have emerged from 5 classical diseases to a multiplicity of conditions today**
- **Increasing world wide incidence – may be because of better diagnostic facilities or other factors**
- **Ulcerative and non ulcerative STDs are prevalent & constitute major public health problem in India.**

INTRODUCTION contd...

- **Profile of STIs variable depending upon socioeconomic, geographic and environmental factors in different parts of the country.**
- **Routine surveillance not carried out in India and estimation of total incidence/prevalence difficult.**
- **Determination of knowledge, attitude and practice regarding STI/HIV are important for assessment of the control programme**
- **Tremendous increase of interest in STIs because of their proven role in facilitation of HIV infection**

Regional STD Teaching Training & Research Centre

The Centre situated at VMMC & Safdarjang Hospital catering to Delhi & its neighbouring states

The main functions are:-

- **Clinical and aetiological based management of STIs & test of cure of STIs in both sexes**
- **Teaching & Training through regular training courses and workshops**
- **Epidemiological surveillance of STIs & HIV infection, both hospital and community based with laboratory support**
- **Research**

Common STDs, etiological agents & diagnostic facilities

Ulcerative STDs

1. Syphilis
(*T. pallidum*)
2. Chancroid (*H. ducreyi*)
3. Donovanosis
(*C. granulomatis*)
4. Herpes
(HSV-2)
5. L.G.V.
(*C. trachomatis* L1-L3)

Diagnostic Tests

DF, VDRL, TPHA
& FTA/ABS

Smear & culture

Tissue smear

Ulcer smear & IgM

ELISA/Herpes antigen

Antigen Detection
(DFA & ELISA)

Common STDs, etiological agents & diagnostic facilities contd...

Non-Ulcerative STDs

1. **Gonorrhoea**
(*N. gonorrhoeae*)
2. **N.G.U., M.P.C.**
(*C. trachomatis* D-K)
3. **Vaginitis & N.G.U.**
(*T. vaginalis*,
Candida albicans &
Ureaplasma urealyticum)
4. **Bacterial Vaginosis**
(*G. vaginalis* &
other anaerobes)

Diagnostic Tests

**Smear, culture,
antimicrobial susceptibility**

**Antigen Detection
(DFA & ELISA)**

**Wet mount, Direct Smear &
culture**

antimicrobial susceptibility

**Direct vaginal smear,
whiff test, pH test**

Other etiological agents of STDs

1. HIV

AIDS

2. HBV & HCV

Hepatitis

3. HPV

**Genital Warts &
Cervical cancer**

**4. Molluscum
contagiosum**

Tumours

5. Phthirus pubis

**Sarcoptes scabiei
pyoderma**

Changing Trends of STIs/HIV/AIDS in VMMC & Safdarjung Hospital, New Delhi

Determination of STD Profile in STD Clinic, Safdarjung Hospital

- **A total of 98,122 new STD attendees over 18 years (1990-2007)**
- **Both male and female cases- diagnosis of STDs based on clinical/& laboratory confirmation**

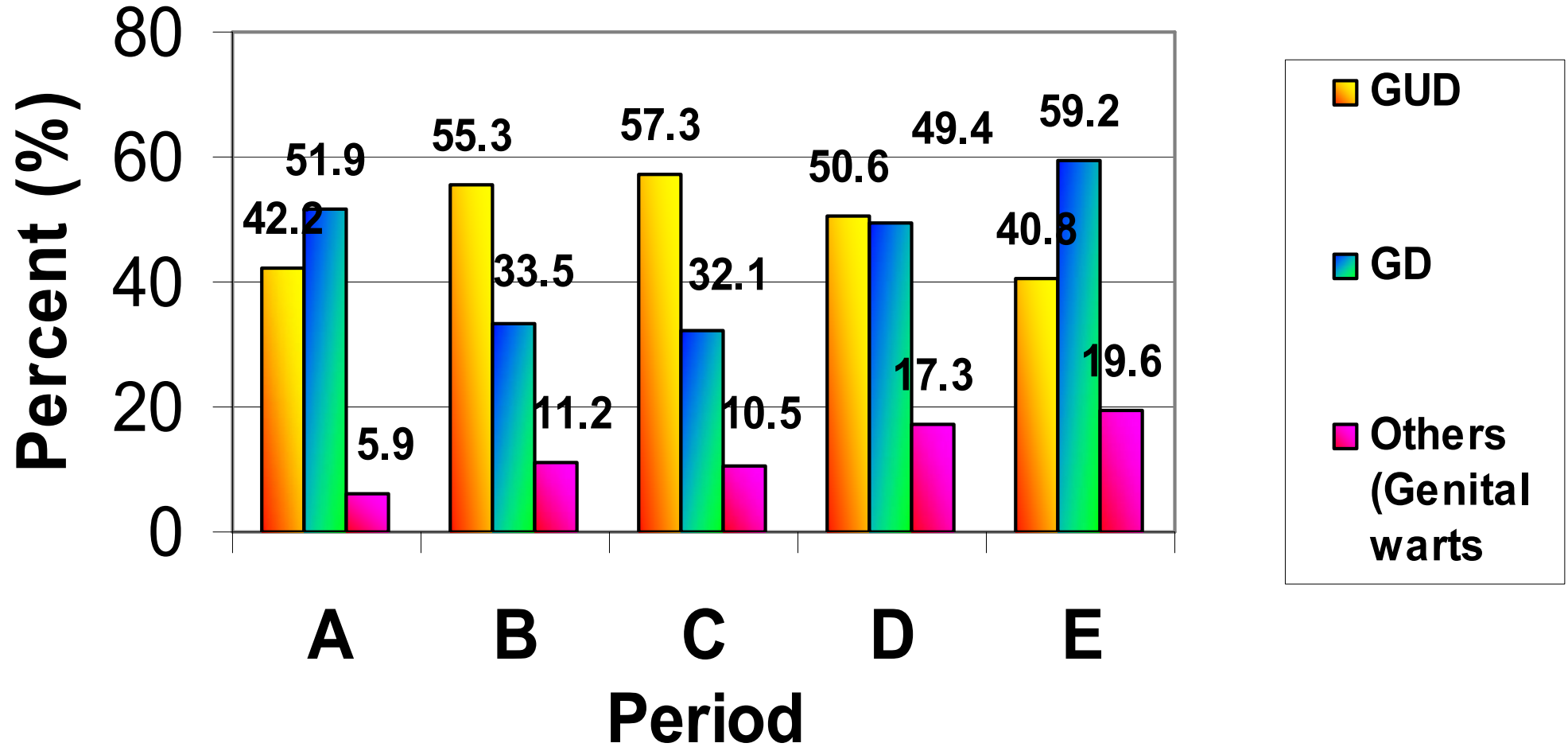
Incidence of STDs at different periods

Period	Total new attendees (n)	Total new STD cases (n)	Incidence of STD (%)
1990-1993 (A)	19,462	4126	21.2
1994-1997 (B)	16,659	3437	20.6
1998-2001 (C)	22,438	3111	13.9
2002-2005 (D)	26,479	2667	10.1
2006-2007 (E)	13,084	1259	9.6
Total	98,122	14,600	14.9

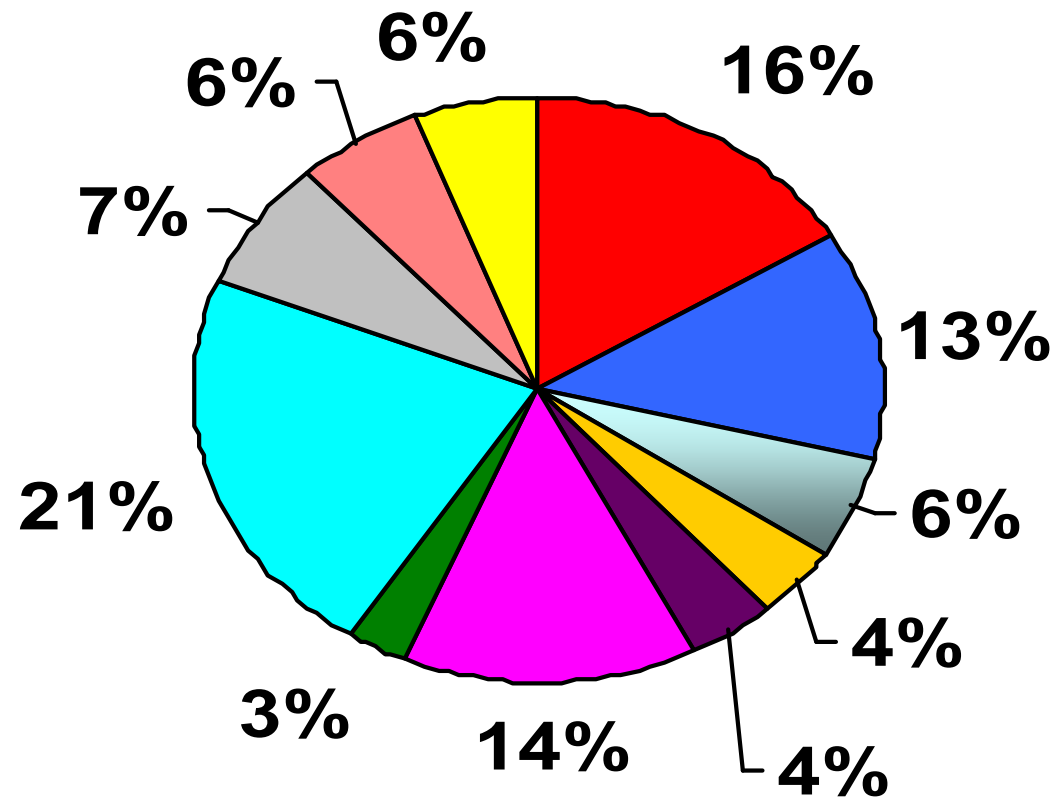
M:F Ratio in STD & HIV cases

	M:F Ratio				
	A	B	C	D	E
All Classical STDs with Herpes & GW	17:1	10:1	5:1	3.7:1	3.1:1
Syphilis	3.1:1	2.8:1	2.4:1	1.8:1	1.1:1
HIV Seropositives	3.6:1	2.9:1	3:1	2.7:1	2.2:1

Distribution of STD cases

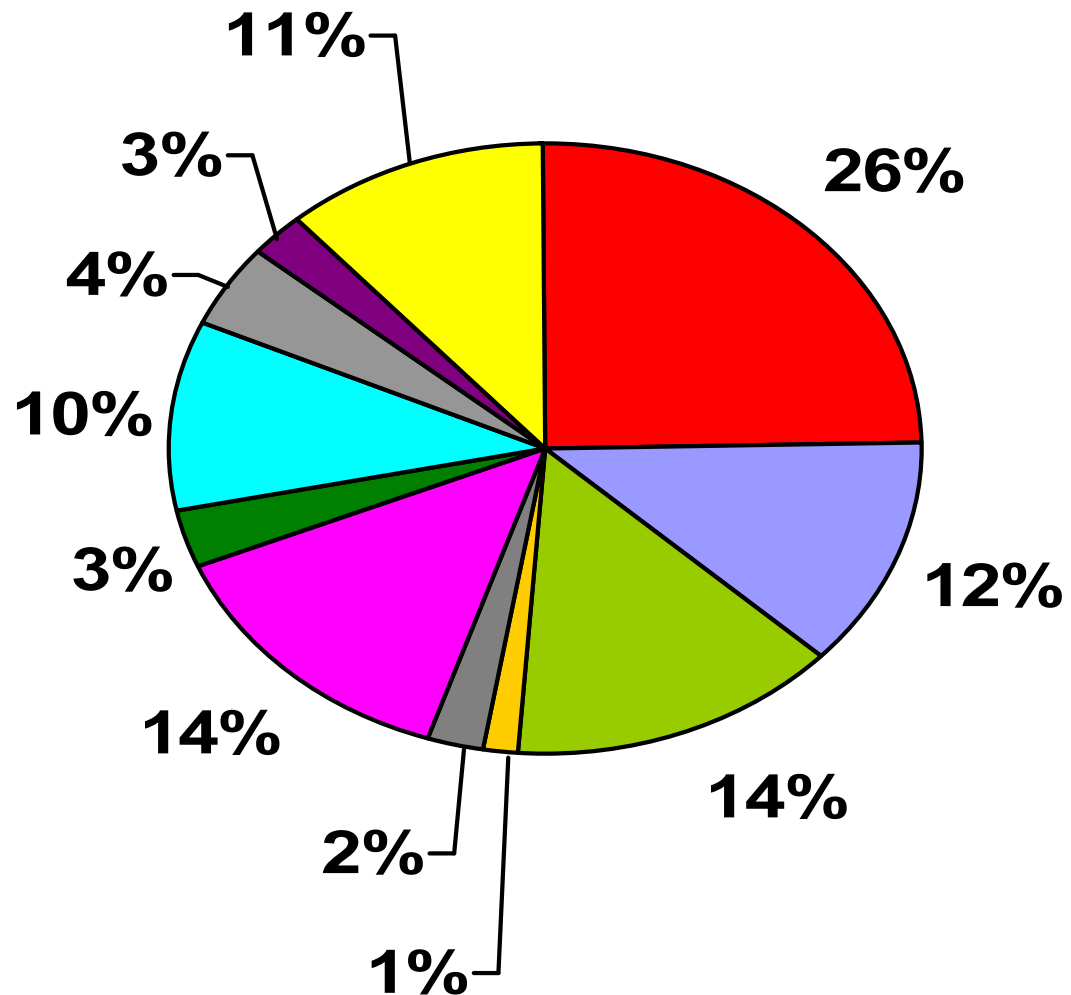


Profile of STDs (A)



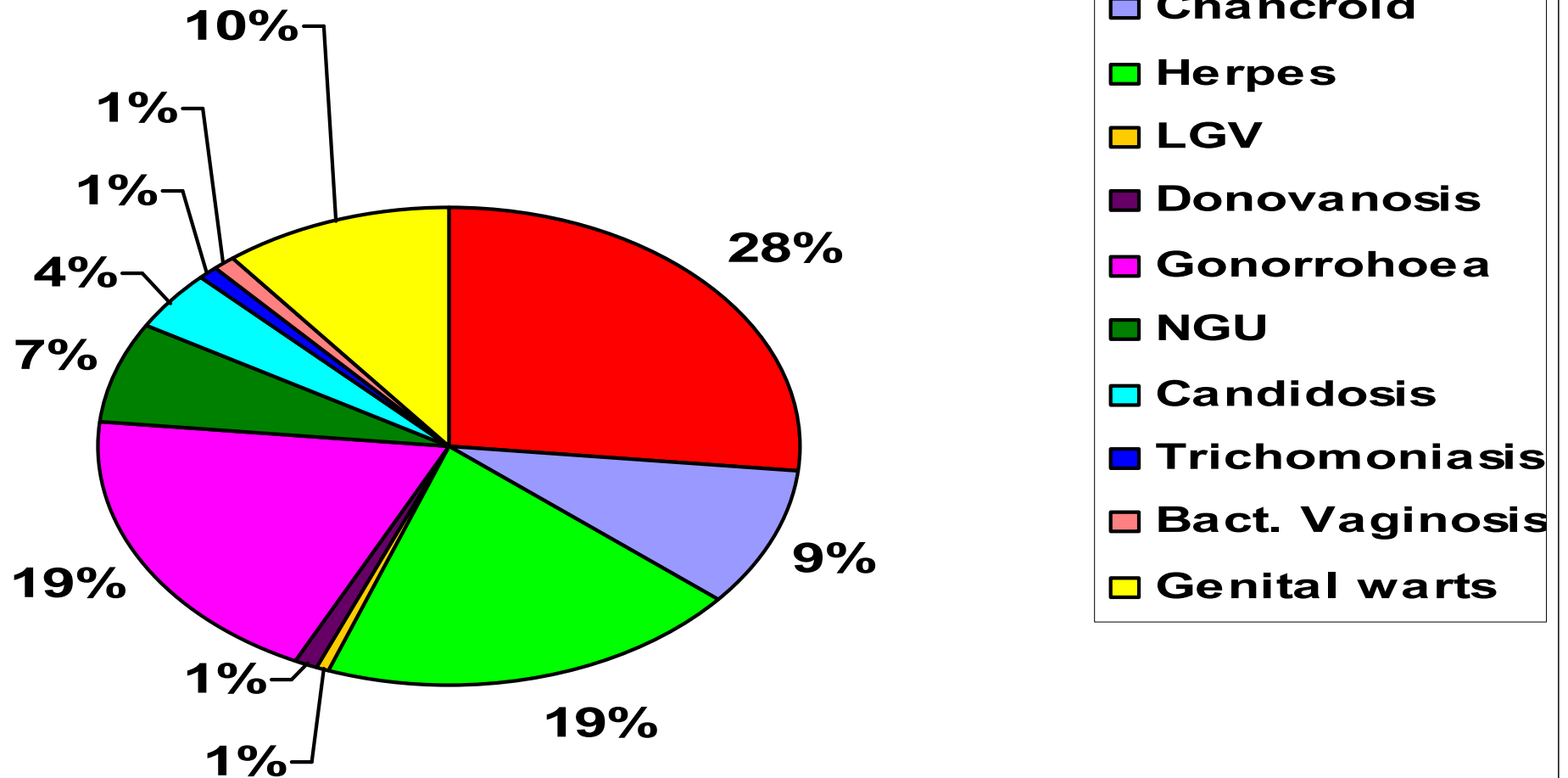
- Syphilis
- Chancroid
- Herpes
- LGV
- Donovanosis
- Gonorrhoea
- NGU
- Candidosis
- Trichomoniasis
- Bact. Vaginosis
- Genital warts

Profile of STDs (B)

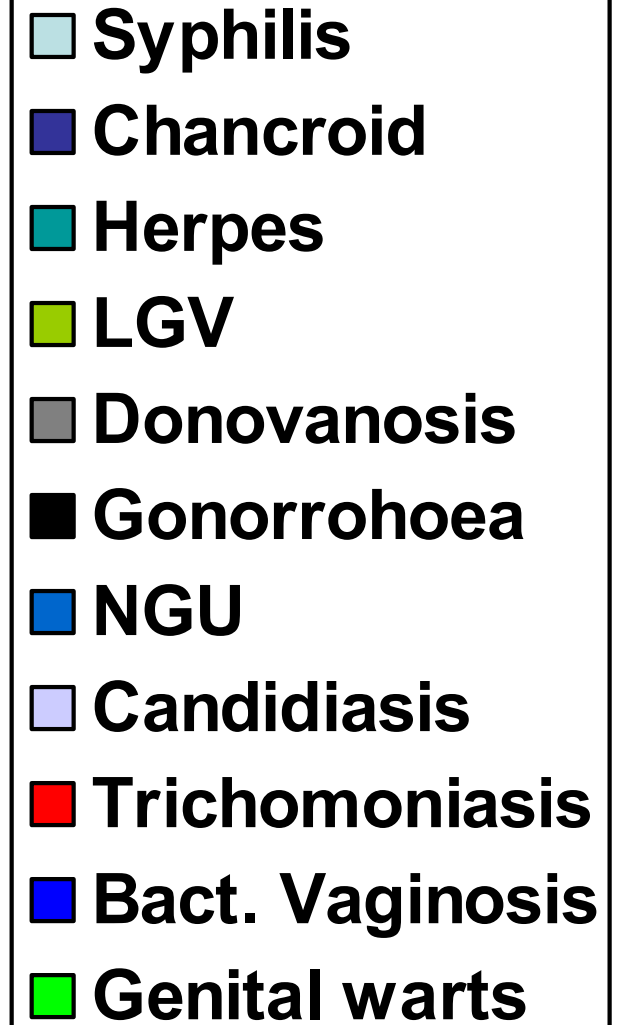
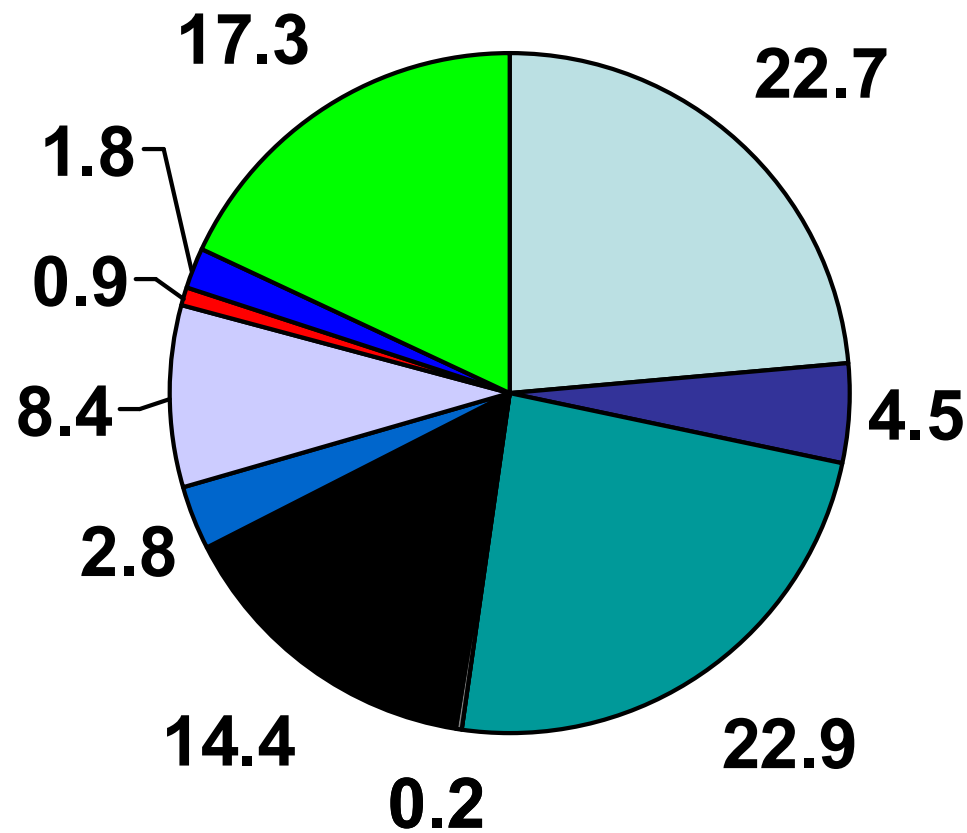


- Syphilis
- Chancroid
- Herpes
- LGV
- Donovanosis
- Gonorrhoea
- NGU
- Candidosis
- Trichomoniasis
- Bact. Vaginosis
- Genital warts

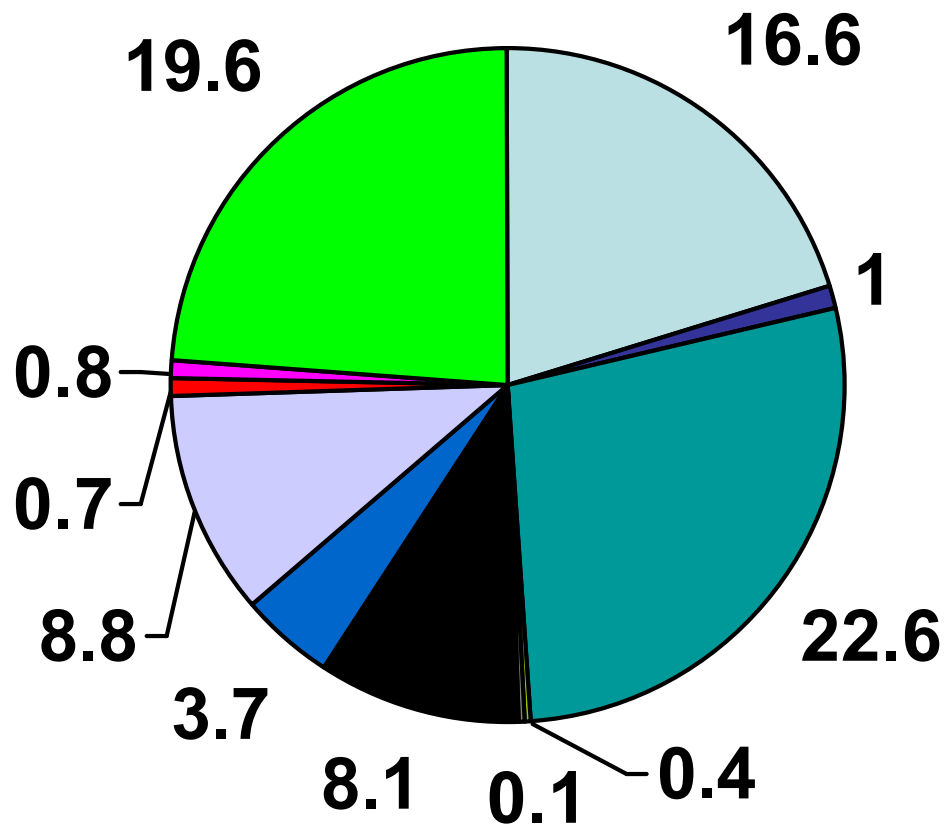
Profile of STDs (C)



Profile of STDs (D)

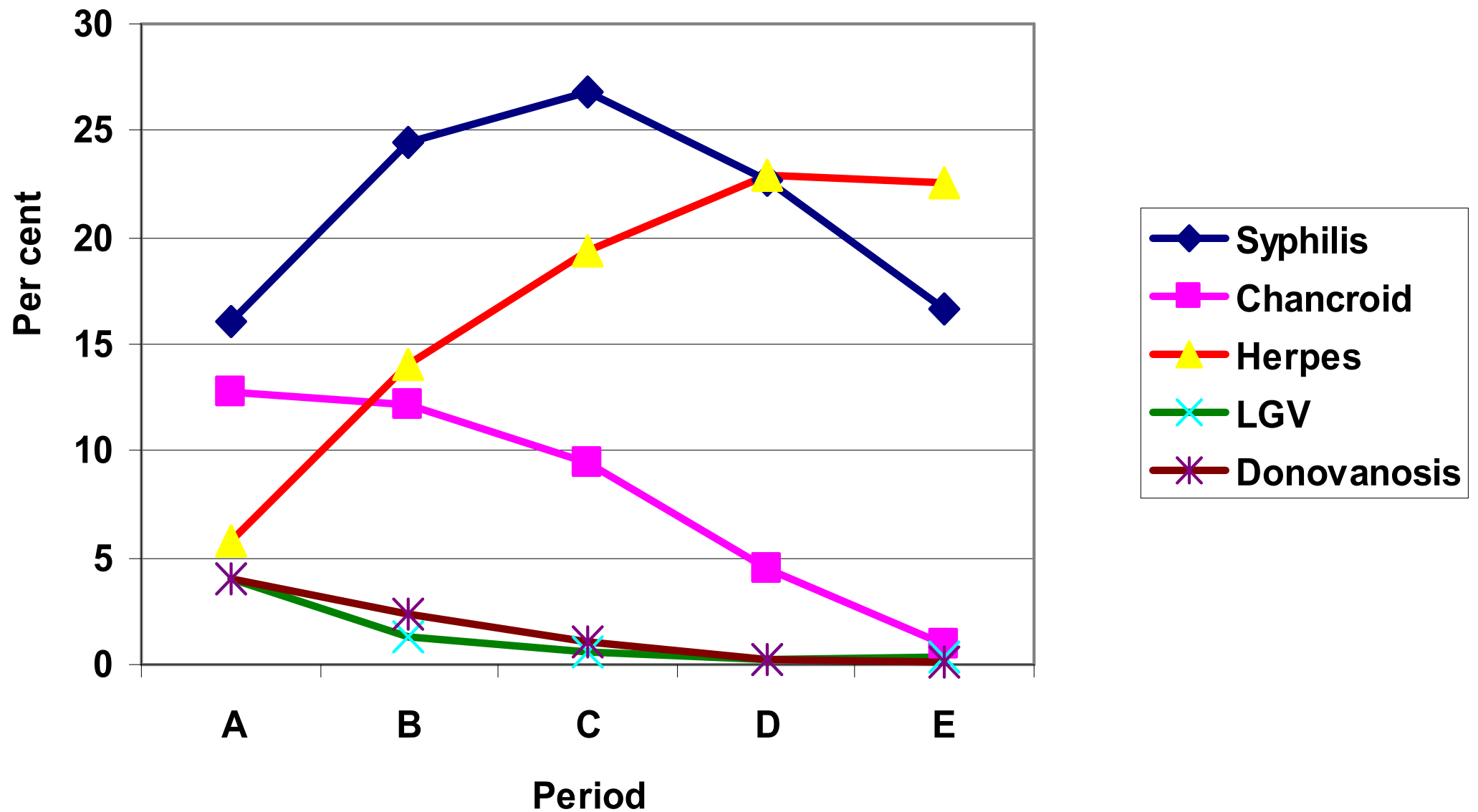


Profile of STDs (E)

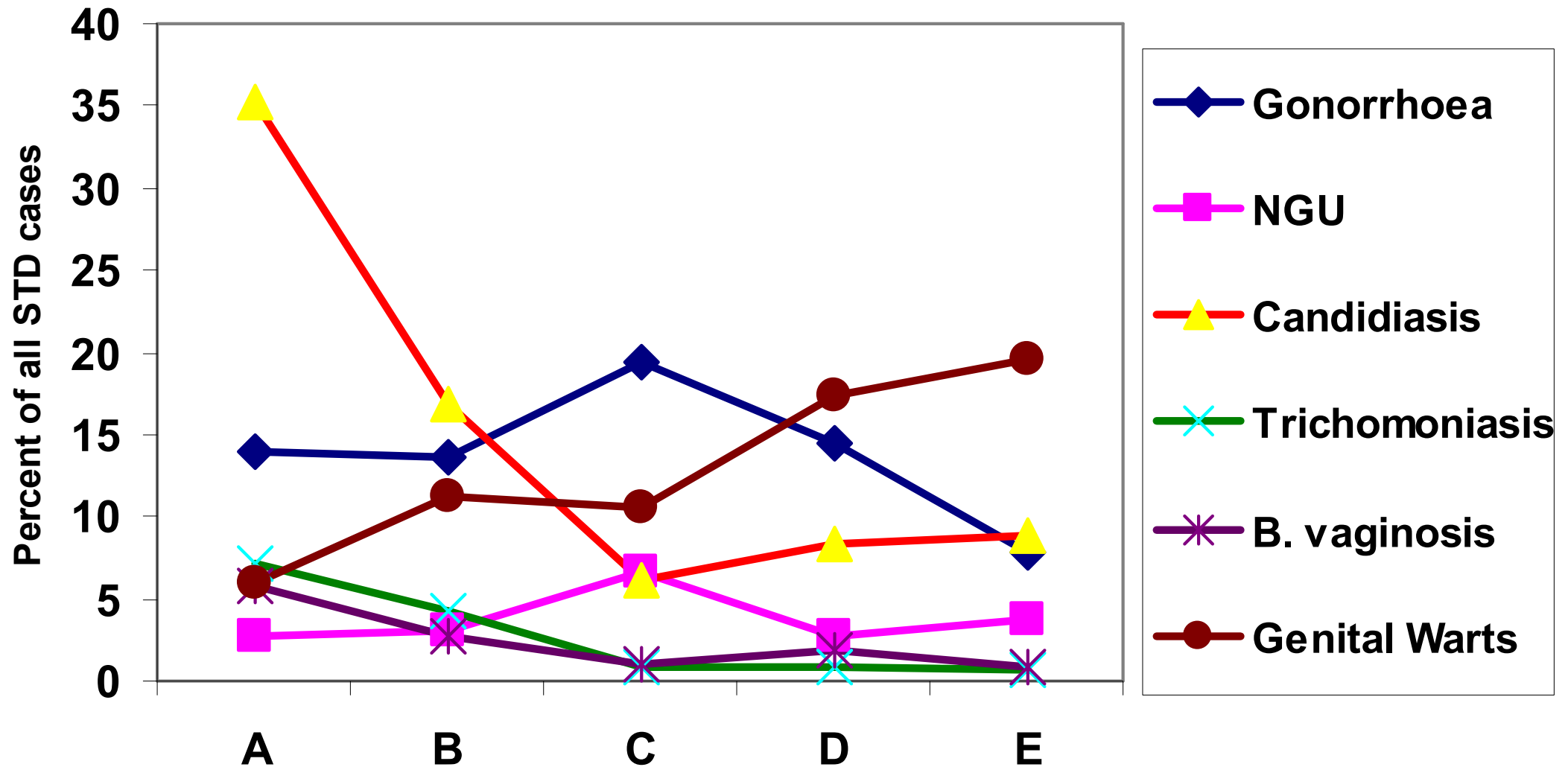


- Syphilis
- Chancroid
- Herpes
- LGV
- Donovanosis
- Gonorrhoea
- NGU
- Candidiasis
- Trichomoniasis
- Bact. Vaginosis
- Genital warts

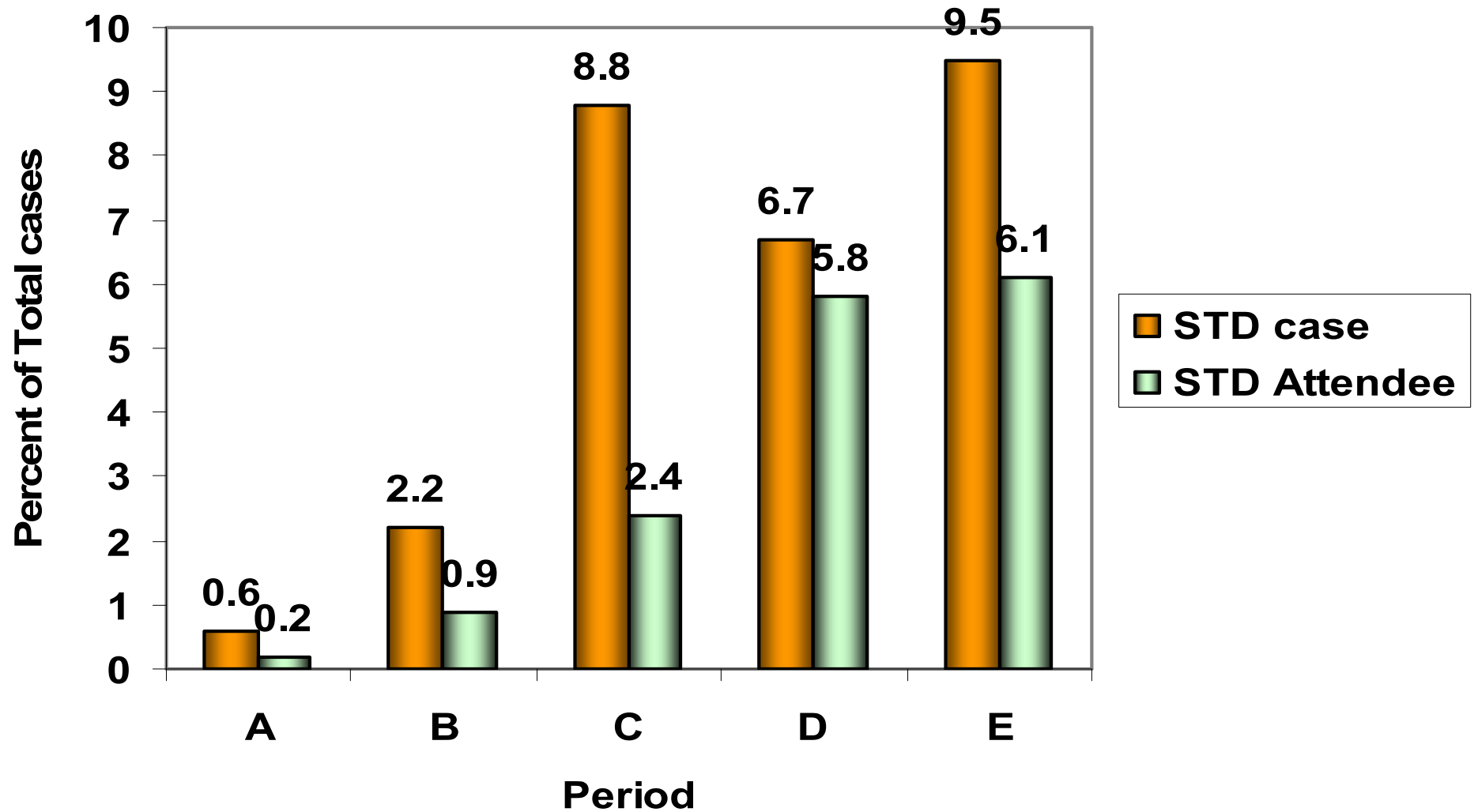
Changing Trend of Profile of Genital Ulcers



Changing trend of profile of Nonulcerative STDs



HIV Seropositivity in STD Attendees



STD & HIV Association

- **Increasing association of different stages of syphilis, primary, secondary or latent, either singly or with some other STD with HIV sero positivity over the years**
- **Association of HIV with genital discharge cases decreased , while increasingly patients presented with HIV and other minor STDs like Herpes, genital warts, Molluscum etc.and also multiple STDs (two or more).**

Prevalence of STIs/HIV/AIDS in community

- **The community based study on RTI/STI/HIV in 8 zones of Delhi in women catering to urban and rural areas of East, West, North & South Delhi.**
- **26 months (March 2002 to April 2004).**

Study population and Categories

Women between the ages of 18-70 yrs. attending the clinics in these 8 areas were divided into 4 groups-

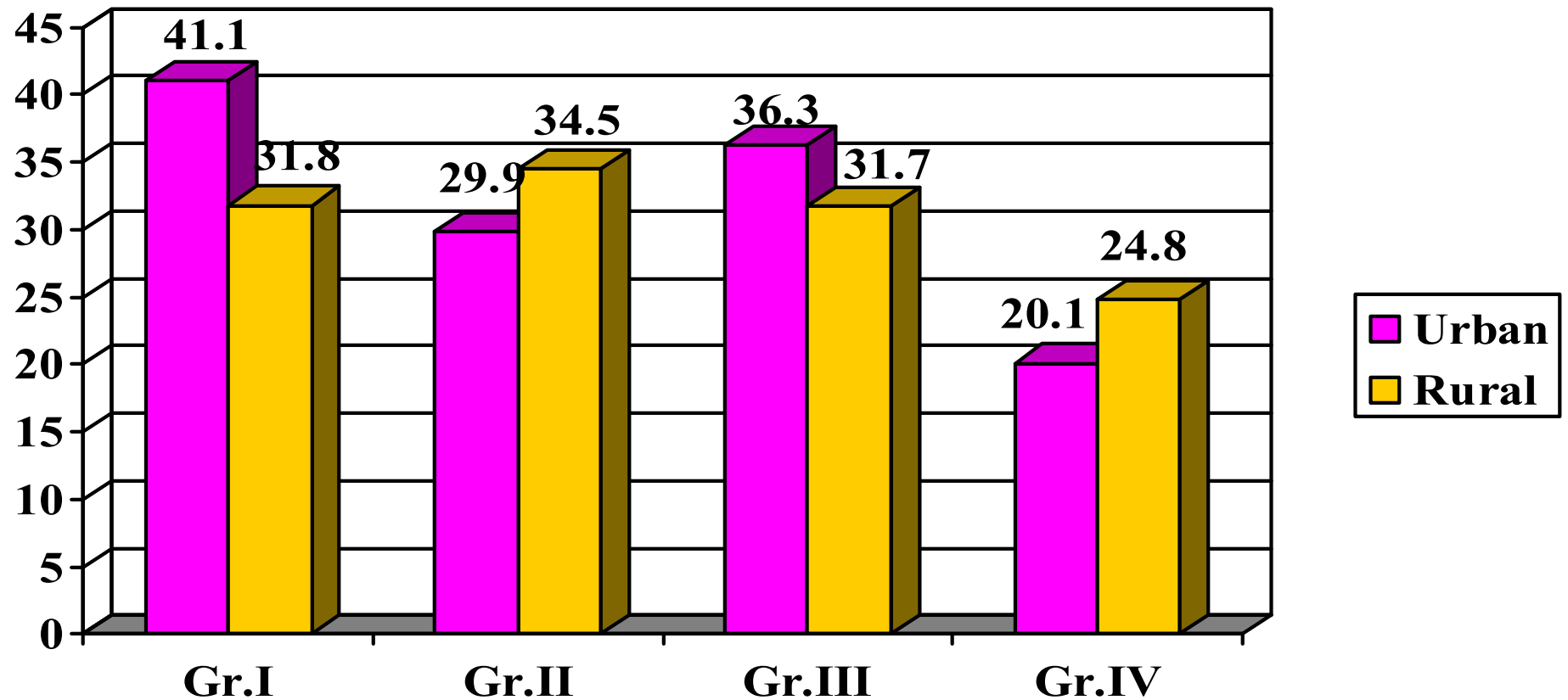
Group I:- With symptoms of STI/RTI

Group II:- With High Risk (BOH, Infertility, others)

Group III:- ANC attendees

**Group IV :- Patients from other clinics
(Control)**

Prevalence of RTI/STIs in different Groups (aetiological based)



Aetiological Diagnosis

- **The prevalence of STI/RTI/HIV in urban and rural women in Gr. I were 41.1% and 31.8% followed by Gr. II, 36.3% & 31.7%, Gr. II 29.9% & 35.6% and control group, 20.1% & 24.8%. Multiple infections were also encountered.**
- **Candidiasis was predominantly seen, followed by presence of HSV-2 IgM antibody & B.V. All the STIs were encountered both in symptomatic and asymptomatic women**
- **HIV prevalence varied from 0-0.1% from area to area and in different groups**

Syndromic diagnosis

- Vaginal Discharge was observed in 66.7% cases (63.3% urban & 69.9% rural) on PV exam.
- Genital Ulcers and Warts were seen in very small proportion of cases.
- On speculum examination, 52.4% had cervical discharge(46.1% urban and 58.9% rural), followed by combination of discharge with erosion cervix
- Syndromic diagnosis was made in overall 71.4% women (68.1% urban and 74.8% rural)

Summary

The study highlights importance of laboratory based community surveillance for STI/RTI especially

i) in asymptomatic women who had aetiological agents of STI but were not targetted under syndromic approach and

ii) also to avoid over treatment in symptomatic cases in order to prevent emergence of resistance resulting from indiscriminate use of anti microbials.

The most prevalent STI----- ?????

Hospital based study

In males

1.Syphilis

2.Gonorrhoea

3.Herpes

***4.Genital
Warts***

In females

Syphilis

Candidiasis

Herpes

Genital Warts

In community (F)

Candidiasis

Herpes

BV

Trichomoniasis

Studies on STD Profile from India

1985-2005

Studies from India

Type of STD	1985-1992	1992-94	1989-95	1990-1998
	Chandigarh	Rohtak	New Delhi	Patiala
Syphilis	8.7%	30.2%	14.3 %	17.2 %
Chancroid	8.1%	22.1%	23.9%	1.6 %
Gonorrhoea	5.3 %	12.9 %	12.2 %	4.2 %
Herpes	19.7%	10.6%	11.8%	5.5%
G.W.	25.2%	18.1%	9.2%	5.1%

Recent Studies from India

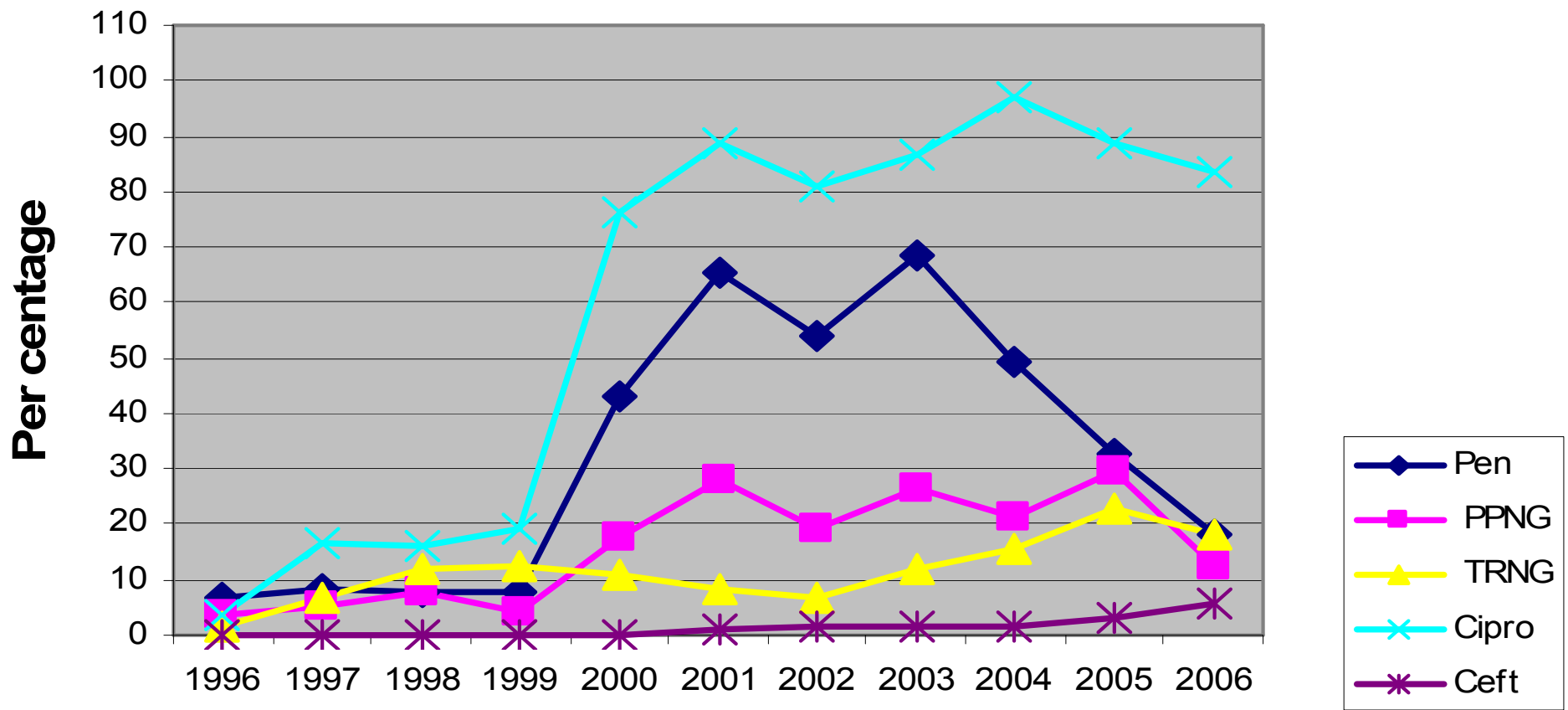
Type of STD	1995-1999 Delhi	2001 Ahmedabad	2000-2005 Kakinada, AP
Syphilis	15.6	28.9	0.4
Chancroid	11.0	9.6	0
Gonorrhoea	11.6	12.7	0.5
Herpes	11.8	27.9	3.5
G.W.	9.3	9.1	11.8

Monitoring of Antimicrobial Susceptibility of *N. gonorrhoeae*

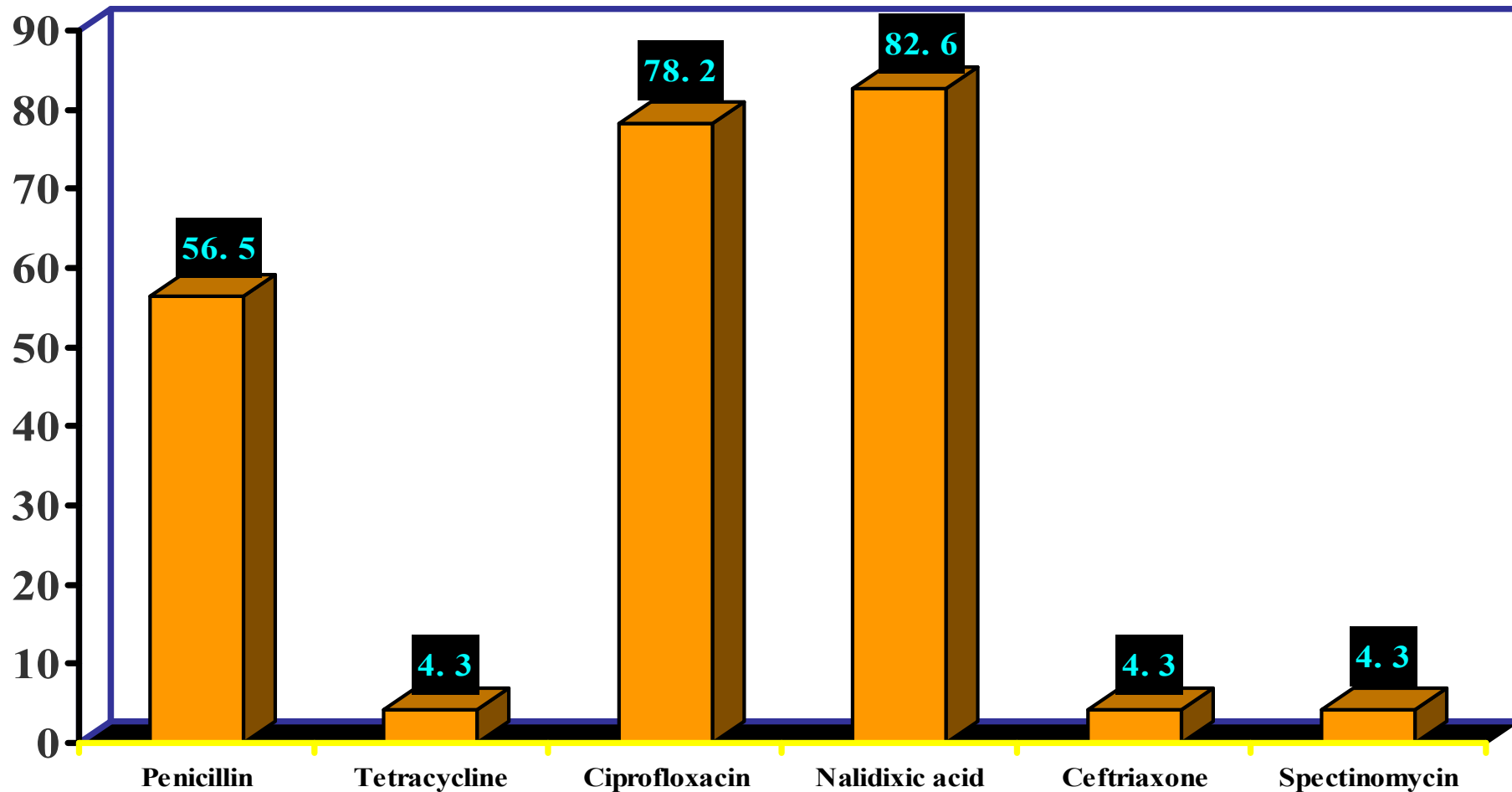
Antimicrobial Susceptibility

- **Antimicrobial susceptibility testing by disc diffusion method (CDS Technique)**
- **MIC Testing by E Test (AB bio-disk)**

Trend of Antimicrobial Resistance from 1996-2006 at SJ Hospital



Antimicrobial Resistance of *N. gonorrhoeae* from the community (n=26/4090)



Conclusion

- **Varying profile of STDs in different STD clinics**
- **Varying profile from time to time in the same clinic**
- **Incidence more in males**
- **Adoption of Syndromic approach in Obstetric-Gynae clinics even in tertiary care set ups has drastically changed the pattern of STDs in females although infection persists in the community in both symptomatic & asymptomatic females**

Conclusion contd...

- **Increased prevalence of viral STDs in the post HIV era -Herpes progenitalis and G. Warts showed increasing trend**
- **Association of HIV more with genital ulcers**
- **Need for regular monitoring of antimicrobial susceptibility of *N. gonorrhoeae* to change the national STD treatment guidelines, whenever necessary**



Thank You