

## SURVEILLANCE

# Epidemiological situation on sexually transmitted infections in the years 1996–2005, Department of Dermatovenerology, Faculty of medicine, Comenius University Bratislava

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**Abstract:** *Purpose:* A retrospective study of patients records with the diagnosis of sexually transmitted infections at the Department of Dermatovenerology, Faculty of Medicine, Comenius University, Bratislava in the period of 1996–2005.

*Result and conclusion:* During ten years, 545 patients were diagnosed and treated (represent 3.79 % of all hospitalizations). This retrospective study was based in Bratislava and was compared with the analysis of the National Center of Health Information (NCZI) (Fig. 4, Tab. 8, Ref. 15). Full Text (Free, PDF) [www.bmj.sk](http://www.bmj.sk).

**Key words:** sexually transmitted infections, syphilis, gonorrhoea.

## Study group

This study evaluated patients records with the diagnosis of STI hospitalized at the Department of Dermatovenerology, Faculty of Medicine, Comenius University, Bratislava, in the period 1996–2005. We treated 545 patients with STI, 293 (53.57 %) of them were men and 252 (46.43 %) were women. The age of patients ranged from 16 to 84 years, with the mean age of 33 years. The mean age of men was 38 years and the mean age of women was 28 years. Differentiation of patients according to age and gender is shown in the Table 1.

## Results

Numbers (n) of patients with the STI diagnosis are shown in the Tables 2–4.

The diagnoses and their gender representation are shown on the Chart 1.

Overall, 504 patients were treated for syphilis, 449 (89.08 %) of them were treated with penicillin or benzathini benzylpenicillinum according to the WHO guidelines. Remaining 55 (10.91 %) patients with syphilis were treated with an alternative therapy due to penicillin allergy (Chart 2). Two patients (0.39 %) were treated by the aqueous penicillin 3 millions unit i.v. every 4 hour because they had a tertiary syphilis. Twenty patients (3.96 %) were treated with macrolid antibiotic (roxitromycin 15 (2.97 %),

claritromycin 2 (0.39 %), spiramycin 3 (0.59 %). Remaining 33 patients (6.54 %) were treated with tetracycline antibiotics (tetracycline 11 (2.18 %), doxycyclin 22 (4.36 %).

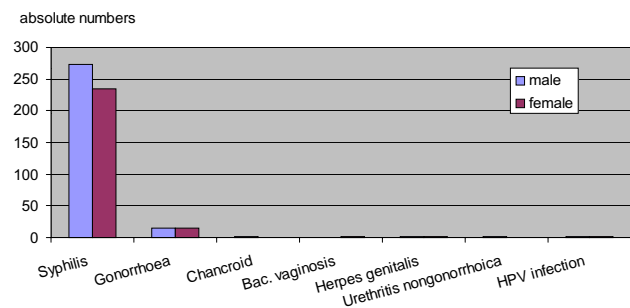


Fig. 1. Diagnosis patient with STI according gender.

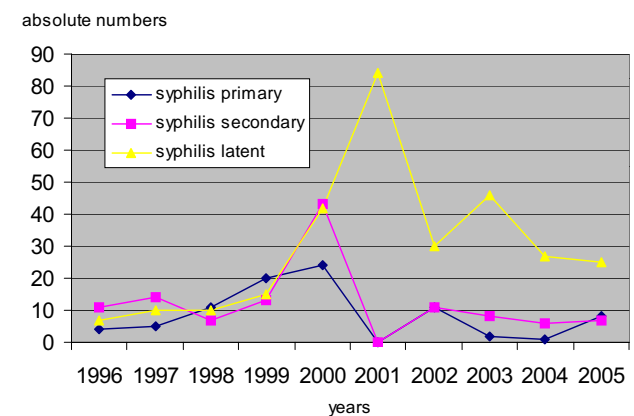


Fig. 2. Differentiation according stage of syphilis.

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**Tab. 1. Differentiation of patients with STI according to age and gender.**

Age/years gender	0–9	10–19	20–29	30–39	40–49	50–59	60–69	more than 70
female	0	22	148	56	17	5	3	2
male	0	7	106	69	60	36	11	4
overall	0	29	254	125	77	41	14	6
% from all hosp. patients	0	5.31	46.7	22.8	13.9	7.5	2.56	1.09

**Tab. 2. Numbers (n) of patients hospitalized with STI at the Department of Dermatovenereology, Bratislava, during 1996–2005.**

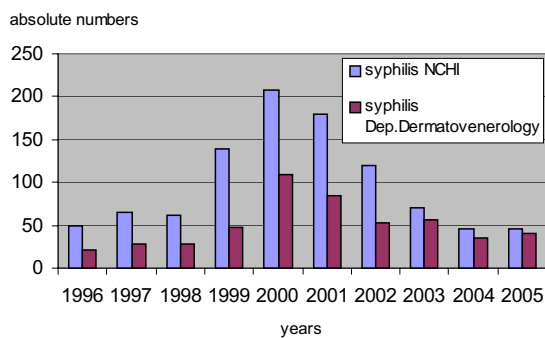
Diagnosis/Years	1996 n	1997 n	1998 n	1999 n	2000 n	2001 n	2002 n	2003 n	2004 n	2005 n
Syphilis/overall	22	29	28	48	109	84	52	56	36	40
Syphilis primary	4	5	11	20	24	0	11	2	1	8
Syphilis secondary	11	14	7	13	43	0	11	8	6	7
Syphilis tertiary	0	0	0	0	0	0	0	0	2	0
Syphilis latent	7	10	10	15	42	84	30	46	27	25
Gonorrhoea/overall	10	4	4	4	5	5	0	0	3	3
Gonorrhoea acute	3	2	2	3	5	1	0	0	1	1
Gonorrhoea chronic	7	2	2	1	0	4	0	0	2	2
Chancroid	0	0	0	0	0	0	0	1	0	0
Lymph. venereum	0	0	0	0	0	0	0	0	0	0
Herpes genitalis	0	0	1	0	0	0	1	1	0	0
HPV infections	0	0	0	0	1	0	0	0	1	0
Urethritis nongonorrh.	1	0	0	0	0	0	0	0	0	0
Granuloma inguinale	0	0	0	0	0	0	0	0	0	0
Bacterial vaginosis	0	0	1	0	0	0	0	0	0	0
Overall	31	32	34	52	113	89	53	58	40	43
% from all hospitalized patients	2.37	2.32	2.22	3.7	7.34	5.5	3.18	4.17	2.59	3.27

In our study, we noticed 88 pregnant patients with syphilis, which present 17.06 % of all patients. The mean age was 27 years. Eighty seven patients (98.86 %) were treated as syphilis latent and only one was treated and hospitalized as secondary syphilis. Eighty (90.90 %) patients were treated with penicillin or benzathine benzylpenicillin, remaining 8 patients were treated with macrolid antibiotics (roxitromycin 3 (3.4 %), claritromycin 2 (2.27 %), spiramycin 3 (3.4 %)).

From the total 545 patients, we recorded 20 patients (3.66 %) with mixed infections with two or more STI infections (Tab. 5).

**Tab. 3. Differentiation of patients with STI according to risk group and the source of infection.**

Risk group/gender	Homosexual or bisexual person	Drug abuse	Known source infection	Not known source of infection
female	0	37	195	63
male	12	12	113	174
overall	12	49	308	237
% from all hosp. patients	2.2	8.99	56.51	43.48

**Fig. 3. Comparison gonorrhoea in Department Dermatovenereology and reported from NCH in Bratislava.**

Primary diagnosis was mainly syphilis in 19 patients, confirmed by clinical status, by cultivation or other diagnostic methods. The most common combination was syphilis latent infection and HPV (5 (0.91 %)), the second most common was syphilis primary infection and HPV.

Therapies of patients with mixed infections depended on the type of infection and the stage of disease. Patients with syphilis were treated with the procaine penicillin. Patients with HPV infections were treated with the physical therapy (kryotherapy, 2 patients) and with podophylin (8 patients). Patients with syphilis and gonorrhoea were treated with procaine penicillin due to proved sensitivity of *Neisseria gonorrhoeae* to penicillin. In two patients, cultivations and clinical status proved mixed infections

**Tab. 4. Differentiation of patients with STI according to the marital status, gender, and diagnosis.**

a) Male					
Diagnosis	Marital status				overall
	single	married	divorce	widower	
Syphilis	115	113	40	5	273
Gonorrhoea	12	13	1	0	16
Chancroid	0	1	0	0	1
Urethritis nongonor.	1	0	0	0	1
Herpes genitalis	0	1	0	0	1

b) Female					
Diagnosis	Marital status				overall
	single	married	divorce	widow	
Syphilis	132	73	22	4	231
Gonorrhoea	14	3	0	0	17
HPV inf.	2	0	0	0	2
Herpes genitalis	2	0	0	0	2
Bacterial vaginosis	0	1	0	0	0

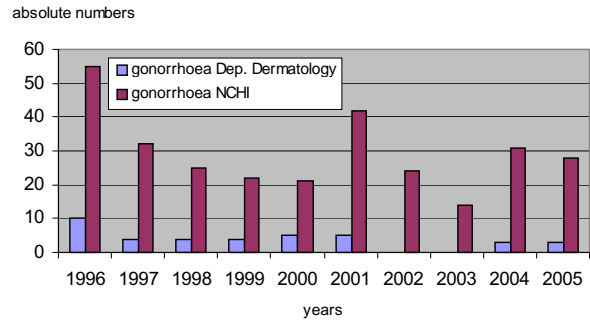
– syphilis with trichomoniasis, these patients were treated with penicillin and metronidazol. In one patient with a primary syphilis, cultivation proved chlamydial urethritis, which was treated for 10 days by tetracycline. In one patient with herpes genitalis associated by HPV infection we used podophyllin.

At the Department of Dermatovenerology in Bratislava, 33 patients with gonorrhoea were hospitalized and treated from 1996 to 2005 (Tab. 6). During hospitalizations, due to different primary diagnosis was gonorrhea proved by cultivation in another 5 patients. Overall, 38 patients were treated, 21 men and 17 women. The mean age was 26 years. For the therapy, procaine penicillin was used in 25 patients (65.78 %), tetracyclines in 7 patients (tetracycline 6 (15.78 %), doxycycline 1 (2.63 %)). Macrolid antibiotic were used in one patient (roxitromycin 1 (2.63 %)), aminoglycosid antibiotic were used in one case (spectinomycin 1 (2.63 %)), and in one patients we used cephalosporin antibiotics (cefotaxim 1 (2.63 %)).

In our study, were three patients with herpes genitalis. Diagnoses were proved by immunofluorescence methods. All patients were treated by acyclovir 2 g daily for 5 days.

**Tab. 5. Mixed STI infections.**

diagnosis	HPV infection n	Mollusca contag. n	Gonorrhoea acuta n	Gonorrhoea chronica n	Trichomoniasis n	Chlamydial urethritis n	EBV n
Syphilis I	3	0	2	0	0	1	0
Syphilis II	1	1	1	1	1	0	1
Syphilis latent	5	1	0	1	0	0	0
Herpes genitalis	1	0	0	0	0	0	0



**Fig. 4. Comparison of syphilis in Department Dermatovenerology and reported from NCH in Bratislava.**

We also noticed one case of chancroid in man. Diagnosis was proved by cultivation and another serologic test ruled out syphilis and HIV. Patient was treated by tetracycline (doxycycline 100 mg for 10 days).

**Discussion**

When comparing the results from the Department of Dermatovenerology and actual number of STI patients in Bratislava reported from the National Center of Health Information, we have observed some discrepancies (6–15) (Tabs 7, 8).

On the Chart 3, differences are seen in gonorrhoea; we can see a higher marginal difference mainly because gonorrhea is treated by several specialists, including gynecologist, urologist, and also dermatologist. Even though the actual number of people infected by gonorrhoea could be much higher, because under-reporting plays an important role.

Differences was seen also in syphilis (Chart 4) and could be caused by more dermatovenerologic departments in Bratislava.

**Tab. 6. Differentiation of gonorrhoea according to gender and stage in patients at the Department of Dermatovenerology.**

Gender/stage	male n	female n
acute	14	3
chronic	7	14
overall	21	17
% from all hosp. patients	3.85	3.11

Tab. 7. Comparison of syphilis from the Department of Dermatovenereology and reported from the NCHI in Bratislava.

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Syphilis NCHI	49	66	61	139	207	179	120	70	46	45
Syphilis Dept.Dermat.	22	29	28	48	109	84	52	56	36	40

Tab. 8. Comparison of gonorrhoea from the Dep. Of Dermatology and reported from the NCHI in Bratislava.

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
gonorrhoea Dept Dermat..	10	4	4	4	5	5	0	0	3	3
gonorrhoea NCHI	55	32	25	22	21	42	24	14	31	28

## Conclusion

Nearly one million of new people are infected with a sexually transmitted infection every day worldwide. How to address the more than 30 bacterial, viral and parasitic pathogens causing STI has re-emerged as a major public health issue. At the 59th World Health Assembly, May 2006, the World Health Organization approved the *Global Strategy for the Prevention and control of sexually transmitted infections: 2006–2015*. The strategy contains solid arguments why is preventing of sexually transmitted infections important for health overall but specially for ensuring safe pregnancies and preventing HIV.

– Differences in the countries – state control, diagnostic and therapy of STI shows that it is necessary to develop a better coordination of the European strategy for the prevention of sexual health. It is very important to systematically search for the source of infections. Each potentially infected person should be invited for medical examination and therapy. The aim of searching for the source of infection is to break epidemiologic networks which play a key role on the prevention. A systematic and accurate collection of statistical data and searching in the most risky group is also important. Better control could be brought by a wise cooperation in the EU, mainly by sharing a new approach in the prevention of STI. It is necessary and important.

– Create a unite conception in the prevention of risky sexual behavior, which should be supported in research, education.

– Create samples of prevention programs regarding age, education of the target group.

– Improve coordination of family and school.

– Improve communication between state and private subjects.

– Be more effective in financing the health system (5).

– Improve secondary prevention -including active searching, reporting, collecting data (3, 4).

– Strictly follow actual legislative on STI (3, 4).

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