

Sexually Transmitted Infections in Finland

EIJA HILTUNEN-BACK¹ AND TIMO REUNALA²

¹Department of Dermatology, Allergology and Venereology, Helsinki University Hospital, Meilahdentie 2, FI-00250 Helsinki, and ² University of Tampere, Tampere, Finland. E-mail: eija.hiltunen-back@hus.fi and timo.reunala@uta.fi



Finland has had legislation for sexually transmitted infections (STIs) since 1939. In 1987 a new *Communicable Disease Act and Decree* was established, making STIs comparable with other infectious diseases. Examination and treatment of STIs is free of charge for the patient under municipal healthcare. Local health officials have the main responsibility for prevention and early detection of STIs. Partner notification is an important part of the prevention of STIs. Physicians have primary responsibility for ensuring that potentially exposed contacts are examined and treated.

Epidemiology

There is systematic data on the incidence of STIs in Finland since the 1930s. Today the National Institute for Health and Welfare collects data from physicians and clinical microbiological laboratories on reportable STIs (chlamydia, gonorrhoea, syphilis, hepatitis-B, HIV, lymphogranuloma venereum (LGV)) for the National Infectious Disease Register (NIDR).

The incidence of *Chlamydia trachomatis* infection has remained constant during the last 10 years (Fig. 1). In 2011 laboratories notified 13,662 cases of chlamydia (incidence 257/100,000), 59% in women. In women, 32% of cases, and in men, 13% of cases, were diagnosed in the 15–19-year age group. The highest number of cases was detected in the 20–24-year age group. Lymphogranuloma venereum (LGV) caused by *C. trachomatis* L types was reported in 3 men who have sex with men (MSM) (1). The number of cases of gonorrhoea has increased

during the last 5 years. In 2011 there were 288 notified cases (5.4/100,000), 70% in men. Half of the cases were contracted abroad, mainly in the Far East and Russia. The main concern is the increase in gonorrhoea among young people. Half of all gonorrhoea patients were in the 15–29-year age group.

Since 2004 an outbreak of syphilis among MSM population has been observed, but with active information activities and effective partner notification the numbers are now declining. Last year 179 (incidence 3.4/100,000) cases of syphilis were reported. Of these cases, 60% were diagnosed in men and over half were imported, mainly from Russia. Half of the cases were in the 30–44-year age group. In 2011, 176 (3.3/100,000) new HIV infections were reported to NIDR, 65% being men. Half of the infections were diagnosed among foreigners. By the end of the year a total of 3,056 HIV infections had been reported.

Sentinel STI surveillance network

The national infectious disease surveillance system collects only a limited amount of information about the reportable STIs. National data on the incidence of genital herpes and warts is not available because these are not reportable infections. The data collected by notification system includes patients' age, gender, nationality and place of residence and the physician's notification also includes information on possible country of acquisition of infection, and actions taken to notify partners.

In 1995 sentinel STI surveillance network was established in order to gather more detailed epidemiological data on STIs, including genital herpes and warts (2). In the beginning the network comprised 7 STD clinics (Helsinki, Turku, Tampere, Oulu), 5 general (Kauhajoki, Lappeenranta, Ivalo) and student healthcare clinics (Helsinki, Oulu) and 2 gynaecological clinics (Helsinki, Oulu). The data is collected by using a self-administered 21-point questionnaire that are filled in by patients before attending the physician in the STI clinics or after the diagnosis in the non-STI clinics. The STI clinics collect data from all attendees while the non-STI clinics collect data only from those patients having syphilis, gonorrhoea, chlamydia or HIV infection. Besides normal demographic data, information is collected on symptoms, contraceptive

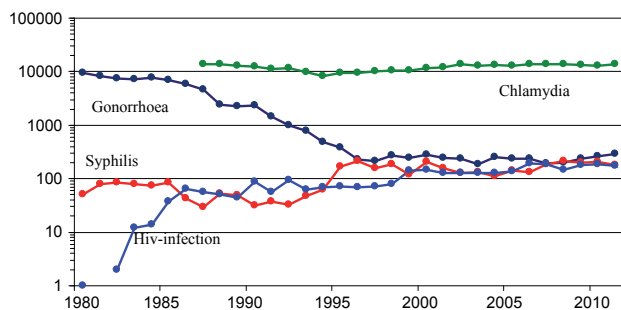


Fig. 1. Number of sexually transmitted diseases in Finland in 1980–2011.

Table I. Sexually transmitted infections (STI) diagnosed among 17,874 patients visiting in STI clinics in 2011

STI	All n (%)	Men n (%)	Women n (%)
Chlamydia	1,553 (8.7)	820 (52.8)	733 (47.2)
Gonorrhoea	147 (0.8)	100 (68)	47 (32)
Syphilis	46 (0.3)	25 (54.3)	21 (45.7)
LGV	3 (0)	3 (0%)	0
HIV	11 (0.1)	8 (72.7)	3 (27.3)
Genital herpes	508 (2.8)	233 (45.9)	275 (54.1)
Genital warts	1,460 (8.2)	966 (66.2)	494 (33.8)
All	3,726 (20.8)	2,153 (57.8)	1,573 (42.2)

LGV: lymphogranuloma venereum.

use, previous STIs, partner notification, source of infection and transmission. The data from questionnaires is entered in a computer by every clinic using specific in-house software. Every network clinic can get up-dated reports from the data on STI incidence and demographic profiles of their patients. In addition, anonymous data from the patients in the various STI network clinics is compiled annually. Diagnosis of chlamydia, gonorrhoea, syphilis, genital herpes and HIV are based on laboratory tests. Genital warts are mainly diagnosed clinically. There are over 400 000 cases in the database and 20% of them have had some STI.

In 2011 there were altogether 17,874 visitors in network STI clinics. Male-female ratio was 1:1. The mean age for men and women was 29.8 years and 25.9 years, respectively. Half of the visitors were asymptomatic and 10% came because of their partner's initiative. Every fifth had had a foreign partner. Women had been tested for STIs and HIV during the last 12 months more often (36 %) than men (23%). Chlamydia and genital warts were the most prevalent STIs. In the network the prevalence of chlamydia was 8.7% and genital warts 8.2% (Table I). The prevalence of genital herpes was 3% in both sexes. Young people are at highest risk for *C. trachomatis* infection (Table II). The sentinel data also showed that 90% of *C. trachomatis* infections are endemic (3).

A high number of casual partners are a well-known risk factor for various STIs. The percentage of women reporting five or more annual partners has increased significantly during last 15 years (3). Men contracted *C. trachomatis* infection mostly from a casual partner while for women a regular partner was the most common source (Table III). The spread of *C. trachomatis*

Table II. Mean age (years) of the STI patients in 2011

STI	Men	Women	All
	Mean (SD)	Mean (SD)	Mean (SD)
Chlamydia	25.8 (8.4)	22.6 (6.6)	24.3 (7.8)
Gonorrhoea	32.8 (10.7)	26.9 (9.1)	30.9 (10.5)
Syphilis	41.4 (13.3)	34.7 (10.9)	38.4 (12.6)
Genital herpes	32.7 (12.5)	28.3 (10.6)	30.4 (11.7)
Genital warts	28.0 (8.8)	23.9 (7.7)	26.6 (8.7)

Table III. Partner profiles of the patients with sexually transmitted infections in 2011

Suspected source partner	Men	Women	All
	%	%	%
Spouse	19.0	16.1	17.7
Other regular partner	27.5	38.0	32.1
Aquaintance	13.0	20.4	16.3
Casual partner	37.4	25.6	32.2
Prostitute	3.1	0.0	1.8

infection to regular partners is not unexpected because the symptoms are often mild or even absent for a long period of time. When the time between exposure and diagnosis was analyzed, the median time to attendance at the STI clinic was 30 days in men and 40 days in women (Table IV). The time to attendance was highest (over 44 days) when the source of infection was a spouse and lowest (19 days) after a sex worker contact. The long time lapse between exposure and diagnosis favours the spread of *C. trachomatis* infection. In agreement with this, 30% of the patients reported having had sex with a new partner during this period. This information is important and shows that all possible efforts should be made to shorten the time from transmission to diagnosis.

Repeated STIs are common and every fourth patient had positive STI history in the previous year. As many as 13% of the men and 16% of the women with newly diagnosed *C. trachomatis* had been treated for this infection during the preceding 12 months. Recently, it was confirmed that an increasing proportion of *C. trachomatis* infections are repeated diagnoses (4). These findings show that young people having frequent sex partners and a history of previous *C. trachomatis* infection are a special target group for educational counselling on safe sex. A decrease in the use of oral contraceptives and condom has been also observed.

STI clinic in Helsinki

Most patients attend their own general practitioner at a local health centre for STI screening. In the main cities there are part-time STI clinics, run by the university hospitals or municipal healthcare. National STI guidelines were established in 2010 by The Society against STIs and The Finnish Medical Society Duodecim. The guidelines are available on the website to all Finnish doctors (5).

Table IV. Time (days) from transmission to diagnosis in 2011

STI	Men	Women	All
	Median (IQR)	Median (IQR)	Median (IQR)
Chlamydia	30 (14–61)	39 (19–89)	32 (16–71)
Gonorrhoea	19 (10–27)	21 (17–42)	20 (12–34)
Syphilis	65 (38–118)	NA	NA
Genital herpes	18 (11–58)	12 (8–34)	15 (8–34)
Genital warts	74 (20–225)	88 (32–164)	83 (32–164)

The out-patient STI clinic in Helsinki has been situated in the Skin and Allergy Hospital since 1992, and is part of Helsinki University Hospital. It is the only full-time clinic, with 1 senior venereologist, 2 residents specializing in dermato-venereology and 7 nurses, carrying out 16,000 annual consultations. Patients do not need referrals or appointments and the visit is free of charge. In addition to routine STI screening and treatment there are also consultations for genital dermatitis. Both medical and nursing students are trained in the clinic. The clinic is actively involved with research work, focused mainly on epidemiological and clinical projects. One main task is to coordinate and maintain the sentinel STI surveillance network. Unfortunately there is a lack of interest in venereology among young dermatologists and there is a risk that these patients will be lost to other specialists.

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