World epidemiology of Sexually Transmitted Infections

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STIs: a devastating global epidemic… very, very, old!
STIs: an individual and public health challenge

- 340 million cases per year
- Enhance sexual transmission of HIV
- Cause severe complications
- Women and children most severely affected
- High Socio-Economic impact
- No adequate response at all levels
Sexually Transmitted Infections

- Caused by more than 20 micro-organisms (bacteria or virus)
- Most common manifestations
  - Urethral discharge
  - Genital ulcer
  - Vaginal discharge
  - Adenopathy
STI: complications and sequelae

- Pelvic Inflammatory Disease
- Ectopic pregnancy
- Sterility (men and women)
- Perinatal infections
- Stillbirth – adverse outcomes of pregnancy
- Genito-anal cancers
- AIDS
- Death
STI: social and demographic determinants

- Socio-economical context (behaviour, health system, political changes, etc.)
- Men-women relationships (migrations, working context, couples separated during a long period, etc.)
- Age structure / distribution of the population
- Population density
WHO Estimation of STIs

1999 estimations
- The data base has been updated to cover the period 1995-2000 (the 1995 data base included studies from 1980 to 1994)
- Includes studies published or no, reports, thesis, etc.
- Established per region, infections, sex, age groups and urban/rural. Published per Region.

2004 estimations (under process)
- The data base covers the period 2001-2004
- Same principles as previously
- Includes HSV2 and HPV

The reliability of the estimations depends upon the quality of the data sent by members States
Global estimates of new cases of STI (1999)

- **14 MILLION**
  - NORTH AMERICA

- **17 MILLION**
  - WESTERN EUROPE

- **10 MILLION**
  - NORTH AFRICA & THE MIDDLE EAST

- **38 MILLION**
  - LATIN AMERICA & THE CARIBBEAN

- **22 MILLION**
  - EASTERN EUROPE & CENTRAL ASIA

- **69 MILLION**
  - SUB-SAHARAN AFRICA

- **18 MILLION**
  - EAST ASIA & PACIFIC

- **161 MILLION**
  - SOUTH & SOUTHEAST ASIA

- **1 MILLION**
  - AUSTRALIA & NEW ZEALAND

**GLOBAL TOTAL**

- **340 MILLION**
Data on STIs

STI prevalence and incidence can present huge variations

- Within country and between countries from a same Region
- Between urban and rural population
- Within similar population group (majority of seroprevalence studies are performed in pregnant women or commercial sex workers)
Estimated new cases of syphilis in adults in 1999
Estimated new cases of chlamydiae in adults in 1999

- 6 MILLION Eastern Europe & Central Asia
- 5 MILLION Western Europe
- 3 MILLION North Africa & the Middle East
- 16 MILLION Sub-Saharan Africa
- 9.5 MILLION Latin America & the Caribbean
- 5.3 MILLION East Asia & Pacific
- 43 MILLION South & Southeast Asia
- 340,000 Australia & New Zealand

GLOBAL TOTAL: 92 MILLION
Estimated new cases of gonorrhea in adults in 1999
Estimated new cases of trichomoniasis in adults in 1999

- 8 MILLION
  NORTH AMERICA
- 10 MILLION
  EAST ASIA & PACIFIC
- 13 MILLION
  EASTERN EUROPE & CENTRAL ASIA
- 76.5 MILLION
  SOUTH & SOUTHEAST ASIA
- 32 MILLION
  SUB-SAHARAN AFRICA
- 18.5 MILLION
  LATIN AMERICA & THE CARIBBEAN
- 5 MILLION
  NORTH AFRICA & THE MIDDLE EAST
- 610,000
  AUSTRALIA & NEW ZEALAND

GLOBAL TOTAL: 173 MILLION
Epidemiology of STIs
Sub-Saharan Africa
Prevalence of syphilis among women attending antenatal care clinics at selected sites, by country, 2000 - 2002

Prevalence of Gonorrhoea, Chlamydia and Trichomoniasis among FSW, at selected sites, by country, 1997-2000
Epidemiology of STIs

Europe
Incidence of syphilis in the WHO EURO Region 1999/2000
Rate per 100,000 population

Different Magnitude of Problem
Chlamydia prevalence rates (%) amongst asymptomatic women in European countries, 1990s

- Iceland: 8.0%
- Denmark: 6.7%
- United Kingdom: 6.2%
- Hungary: 5.4%
- The Netherlands: 4.9%
- France: 3.9%
- Italy: 2.7%
STI Epidemiology

East Asia and Western Pacific

- 270,000 cases of STI reported in Morocco
- Around 74,000 sexually transmitted infections reported in 2002 from 5 countries of the Region
- Most reported STIs are Trichomoniasis, gonorrhoea and syphilis.
- Observed increased rate of syphilis among pregnant women in Bahrain from 0.25% in 2001 to 0.35% in 2002
- In Pakistan 78% of women are reported to have vaginal pathogenic discharge, 29.4% had pelvic tenderness, 17% had cervical ulcers, 4.5% had abdominal tenderness and 2.9% had vesicles on the genitalia

Need to measure the burden of STI and trends and implement effective STI syndromic case management

Source: Abu Dhabi Meeting, July 2003
Eastern Mediterranean and North Africa: Surveillance for HIV/AIDS and STD, improvement needed

- Reported AIDS data persistently incomplete
- Transmission data have been missing from 10% to 14% of total reports in the past several years.
- Mode of transmission is reported unknown in 20% of reports received from the easternmost countries of the Region, compared to more than 50% from the countries of the GCC
- Lack of active surveys

Source: Abu Dhabi Meeting, July 2003
Trends in STIs
Trends in prevalence of syphilis among attending antenatal care clinics at selected sites, by country, 1994 - 2002

Incidence of syphilis in Belarus, Estonia, Kazakhstan, Moldova, Russia, Ukraine, 1990-2000 (rate per 100 000)
Gonorrhea and syphilis in Italy
Mandatory notifications, 1955-1999

Source: Suligo et al.
Diagnoses of gonorrhoea seen in GUM clinics England, Scotland and Wales*, 1918 to 1999

*As Northern Ireland data from the time period 1918 to 1999 are largely incomplete they have been excluded from this figure

# As data from Scotland for 2000 are not yet available, 2000 data have been excluded from this graph

Source: PHLS, UK
Trends in gonorrhoea in England and Wales, France, the Netherlands, and Sweden

**England and Wales**
- Total
- Men
- Women

**France**
- France
- Île de France
- Other regions

**Netherlands**
- Total
- Men
- Women

**Sweden**
- Total
- Men
- Women

**Sources:**
- Netherlands: notified cases of gonorrhoea per 100,000 inhabitants, 1976; Sweden: number of clinically reported *Neisseria gonorrhoeae* cases, 1991-99 (adapted from Smittskyddsinstitutet (Swedish Institute for Infectious Disease Control), *Smittsamma Sjukdomar 1999*, Stockholm: Smittskyddsinstitutet, 2000)

Netherlands: Gonorrhoea and syphilis, STD clinic Amsterdam (annual reports, GG&GD Amsterdam).

GO: 1999: + 46%; MSM 59% heter 16% fem 66%; 2000: + 45%; 33% 56% 72%
Lues: 1999: + 120%; MSM 333% heter 54% fem 40%; 2000: + 63% (MSM 136%)

Source: ESSTI/PHLS, UK
Diagnoses of infectious syphilis (primary and secondary) in GUM clinics by sex and age group, UK: 1995-2000*

*Data are currently unavailable from Scotland for 2000 and from N.Ireland for 1996 & 1997

Source: ESSTI/PHLS, UK
Diagnoses of uncomplicated genital chlamydial infection in GUM clinics by sex and age group, UK: 1995-2000*

*Data are currently unavailable from Scotland for 2000 and from N.Ireland for 1996 & 1997

Source: ESSTI/PHLS, UK
STI epidemiology and social changes
Median age at first intercourse by birth cohort and selected country, females

Source: Hubert M, Publications des Facultes universitaires St-Louis; 1990
UK enhanced surveillance programmes: Data from syphilis outbreak sites
Chronology and distribution of syphilis outbreaks in MSM 1999-2002

- Syphilis outbreaks concentrated in MSM in Manchester, Brighton and London

- Key characteristics of outbreaks:
  - High proportion of HIV positive MSM
  - High rates of partner change
  - Use of cruising grounds and dark rooms
  - Use of alcohol

Manchester, 1999
Total cases: 253
N(%) MSM: 185(73)
N (%) HIV +: 42 (23)

London, 2001
Total cases: 393
N(%) MSM: 292(74)
N (%) HIV +: 128(44)

Brighton, 2000
Total cases: 63
N(%) MSM: 55(87)
N (%) HIV +: 17(31)

Source: ESSTI/PHLS, UK
Absolute number of rectal gonorrhoea and early syphilis, diagnosed among homo- and bisexual visitors of the STD outpatients clinic in Amsterdam, 1994-2000
Relative numbers (infection rate) of rectal gonorrhoea and early syphilis diagnosed among homo- and bisexual men before and after the introduction of anti HIV therapies, Amsterdam STD outpatients clinic, 1994-1999

Source: Stolte et al. EUROSURVEILLANCE Vol. 7 No2 FEBRUARY 2002
STI and HIV transmission

- STIs are co-factors for HIV transmission
- To control STIs enhance reduction of HIV transmission
Adults and children estimated to be living with HIV/AIDS as of end 2004

Total: 39.4 (35.9 – 44.3) millions
Estimated number of adults and children newly infected with HIV during 2004

Total: 4,9 (4,3 – 6,4) millions
Estimated number of seropositive people 2000 - 2004

AIDS epidemic update, December 2004. Fig. 1.
Proportion of women among seropositive population 15-49 year 1985–2004

Source: UNAIDS/WHO, 2004
AIDS epidemic update, December 2004. Fig. 2.
HIV prevalence among female sex workers, different sites in Senegal, 1986 - 2002

Source: Sénégal Conseil National de Lutte Contre le SIDA. Data compiled by the US Census Bureau. AIDS epidemic update, December 2004. Fig. 10.
HIV prevalence among female sex workers per age group, Saint Petersburg, Russia, 2003

Role of Reproductive Health services and of Family Planning in particular

- Promote dual protection
- Training on how to approach and discuss STI with family planning clients missing
- At national level, increase awareness on the importance of STI and their consequence on reproductive health
Difficulty to integrate STI control into Reproductive Health services

- Stigmatisation
- Wrong information on STI prevalence in RH services
- Difficulties to counsel on one family planning method and condom use
- Training
- Disponibility of tests, speculum, drugs
- Health policies: only specific medical staff can treat STI (syphilis for example)
Condom use among sex worker clients in Thailand

Source: Sentinel Serosurveillance, Division of Epidemiology, Ministry of Public Health.
Control of STI in reproductive health settings

STI control in FP guides
**STI/RTI Control: the package**

Assisting programme managers and health-care providers with tools suited to their environment

**Programmatic guides**
- STI/RTI Programme guidance tool
- STI.PAC – STI Prevention and care

**Generic guidelines for health care providers**

Sexually transmitted and other reproductive tract infections - A guide to essential practice

**Implementation tools**
- Training tools
- Adaptation guide

**Supporting guides**
- Guidelines for STI surveillance
- Initiating 2nd generation HIV surveillance systems
- Laboratory diagnosis of STDs
- Managing the drug supply
- The male latex condom

World Health Organization

Department of Reproductive Health and Research (RHR)  www.who.int/reproductive-health