Epidemiology of STIs: UK

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Public health importance

As highlighted in the Department of Health's National Strategy for Sexual Health and HIV,[1] STIs are a major public health concern. They place a significant burden on health-care resources both directly, through individuals seeking treatment and care, and indirectly, resulting from management of the complications of untreated disease (including pelvic inflammatory disease, infertility, ectopic pregnancy and cervical cancer). The epidemiology of STIs in the UK showed remarkable changes over the 20th century, reflecting changes in sexual behaviour, new diagnostic techniques and social, economic and demographic shifts within society.[2,3,4]

Surveillance

Genitourinary medicine (GUM) clinics provide the most comprehensive source of data on the epidemiology of STIs in the UK.[4] In England, Wales and Northern Ireland, statutory KC60 statistical returns submitted by all clinics provide aggregate data on total numbers of episodes of diagnosed STIs by sex and age group (and sexual orientation for selected conditions). Further information is obtained from voluntary laboratory reporting and via patient-based enhanced surveillance systems, including the Enhanced Syphilis Surveillance system[5] and the Gonococcal Resistance to Antimicrobials Surveillance Programme.[6] In Scotland, the ISD(D)5 returns system provides anonymous individual data on all STI diagnoses in GUM clinics. (Data from GUM clinics are currently unavailable for Scotland for 2001, 2002 and 2003, and therefore this contribution focuses on England, Wales and Northern Ireland when discussing recent trends in reported diagnoses from GUM clinics. When possible, recent data from laboratory reports are included for Scotland.)

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Historical data

Data on syphilis and gonorrhoea have been collected for more than 80 years. Diagnoses of syphilis and gonorrhoea in England, Scotland and Wales peaked in 1946, coinciding with the return of the armed forces after World War II (Figure 1). There was a sharp decline immediately thereafter, associated with the introduction of penicillin and the return to social stability.

More relaxed attitudes to sexual behaviour during the 1960s and 1970s heralded a steady increase in diagnoses of STIs. Syphilis diagnoses in males increased, whereas the number of cases in females remained constant, suggesting sex between men became the major route of acquisition of syphilis during this period.[7] However, diagnoses of gonorrhoea, genital herpes and genital warts increased in both males and females, indicating that these infections were more commonly acquired through heterosexual sex. For some of these STIs, the increases may reflect greater public awareness and/or improved diagnostic sensitivity, in addition to greater incidence of infection.

The emergence of HIV and AIDS in the early 1980s is now believed to have had a significant impact on the incidence of other acute STIs. Diagnoses of syphilis and gonorrhoea declined sharply in the early to mid-1980s, coinciding with extensive media coverage of AIDS, adoption of safer sex practices, and a subsequent decrease in HIV transmission among male homosexuals.[8] Similarly, the number of diagnoses of genital herpes and genital warts, both of which had increased steadily since 1972, stabilized (and in the case of herpes, decreased briefly) during the mid-1980s. These changes are likely to be associated with general population-level behavioural modification in response to the HIV/AIDS epidemic.

Recent trends

The decline in STI diagnoses that occurred in the mid-1980s was maintained until the early 1990s. Since then, however, there has been a resurgence in diagnoses of many STIs, and the number of diagnoses has increased considerably since 1995 (Figure 2).[4] The trend has been most marked in young people and is seen throughout the UK, though there are substantial geographical variations in the incidence of some STIs. These changes suggest that the behavioural modifications adopted in response to the HIV/AIDS epidemic have not been sustained.

Genital warts are the clinical manifestation of infection with certain types of human papillomavirus (HPV, particularly 6 and 11) and are the most common viral STI diagnosed in GUM clinics in England, Wales and Northern Ireland. In 2003, 70,665 first episodes of genital warts were diagnosed, a 2% increase since 2002 and a 27% increase since 1995. Genital warts continue to be concentrated in young people. The highest incidence is in London and the North West.[4]

Numbers of cases of genital warts represent only a fraction of the total pool of HPV infection. Infection with other HPV types, particularly 16, 18, 31 and 45, may lead to development of invasive cervical cancer and other cancers of the anogenital tract.[9]

Genital herpes is the most common ulcerative STI in England, Wales and Northern Ireland; almost 18,000 first episodes were diagnosed in 2003.[4] For the first time since 1998, the incidence of diagnosed genital herpes declined, by 3% from 2002 to 2003; however, it is too soon to determine whether this marks an

ongoing downwards trend. Rates of diagnosis are largely uniform geographically; the highest incidence is seen in London (28% of all diagnoses). The incidence is greatest in women and men aged 20–24 years.

In Scotland, there was a 39% increase (from 940 to 1310) in the number of laboratory reports of genital herpes infection from 2002 to 2003.[10]

Genital chlamydial infection is now the most commonly diagnosed STI in England, Wales and Northern Ireland. The prevalence ranges from 1% to 12% in studies of women attending general practice. The number of uncomplicated chlamydia diagnoses has increased sharply since the mid-1990s, to almost 90,000 in 2003 (Figure 3), an 8% increase since 2002 and a 190% increase since 1995.[4] Numbers of diagnoses have increased across the UK; the greatest increases occurred in London and the North West. The incidence is highest in women aged 16–19 years (1334/100,000 in 2003) and in men aged 20–24 years (961/100,000), and the greatest increases have been in these groups.

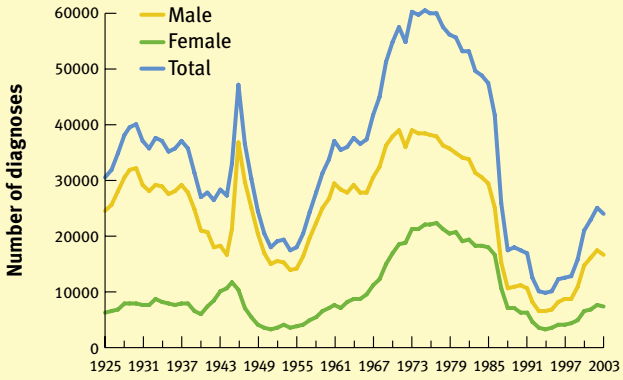
Greater public and professional awareness of this infection and developments in diagnostic test sensitivity have almost certainly contributed to the increase in diagnoses, but substantial numbers of infections remain undiagnosed; about 70% of infections in women are thought to be asymptomatic. In England, phased implementation of the Department of Health's National Chlamydia Screening Programme began in September 2002, targeting sexually active men and women under 25 years of age who attend a range of primary and community-based health-care facilities.[11,12]

In Scotland, laboratory diagnoses of genital chlamydia continued to increase. There were 14,407 reports during 2003 – a 16% increase since 2002 and an 88% increase since 2000.[10]

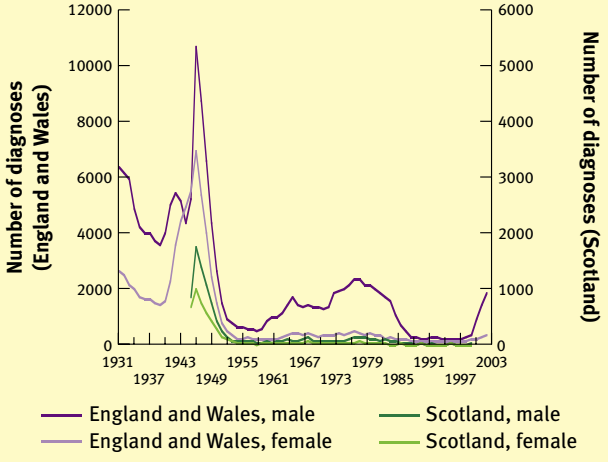
Gonorrhoea – some of the most dramatic changes in the incidence of STIs during the 1990s involved gonococcal infection.[13,4] Between 1996 and 2002, the number of diagnoses of gonorrhoea increased by 106% to 24,958 in England, Wales and Northern Ireland. A small decrease of 4% (to 24,157) in numbers of reported cases occurred in 2003 relative to 2002 (Figure 1).

The incidence of infection is highest in 16–19-year-old women (216/100,000 population in 2003) and 20–24-year-old men (291/100,000). Relatively large increases in the number of cases in young females suggest that heterosexually acquired infections

Diagnoses of gonorrhoea in GUM clinics in England and Wales, 1925–2003



Diagnoses of syphilis (primary, secondary and early latent) in GUM clinics in England, Wales and Scotland, 1931–2003



Source: KC60 statutory returns and ISD(D)5 data

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