



LETTER TO THE EDITOR: WHY ARE CHLAMYDIA AND HPV MAJOR PUBLIC HEALTH PROBLEMS?

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INTRODUCTION

Chlamydia trachomatis is a bacterium that is one of the most common sexually transmitted infections in Europe. Rates in sexually active young people are commonly between 5% and 10%. The number of diagnosed cases is increasing in many European countries, in part due to increased testing and the use of more sensitive tests. People with genital chlamydia may experience symptoms of genital tract inflammation including urethritis and cervicitis, but the majority remains asymptomatic. Chlamydia is a significant public health problem because untreated chlamydia may lead to pelvic inflammatory disease, subfertility and poor reproductive outcomes in some women. Chlamydia also facilitates the transmission of HIV. The cost of treating subfertility due to Chlamydia is high as it requires tubal surgery and invitro fertilisation. Although inexpensive and effective treatment is available, control of Chlamydia is challenging since most people are asymptomatic.

A human papillomavirus (HPV) infection is the most common sexually transmitted infection (STI) and has been clearly established as the necessary cause of invasive cervical cancer. More than 30 to 40 types of HPV are typically transmitted through sexual contact and infect the anogenital region. Some sexually transmitted HPV types may cause genital warts. Persistent infection with "high-risk" HPV types—different from the ones that cause skin warts—may progress to precancerous lesions and invasive cancer.

PROBLEMS OF EXISTING EUROPEAN SCREENING AND SURVEILLANCE PROGRAMMES

Eighteen EU Member States indicated that no Chlamydia screening programme was in place. In six countries, asymptomatic individuals may be tested for Chlamydia when they attend other health services. The groups targeted for such opportunistic screening vary between and within countries. For example, in Iceland Chlamydia testing is offered to women who have an abortion, in Estonia it is offered to pregnant women and those who frequently change sexual partners; in Norway it is offered to women attending for an abortion or antenatal care, young people under 25 years with recent partner change and partners of patients with an STI; in Denmark, two communities receive annual postal invitations for chlamydia testing. Chlamydia screening programmes were introduced throughout England in 2007 for sexually active men and women aged under 25 attending various clinical and non-clinical settings (e.g. universities and sporting events). In the Netherlands a pilot programme of annual postal invitation in three regions for

16-29 year olds was introduced in early 2008. A register-based screening programme using mailed home-collected specimens is planned in Norway. A further nine countries plan to introduce opportunistic Chlamydia screening programmes in the future. Although screening is widespread in Sweden, chlamydia control activities are funded and implemented by each county and are not coordinated nationally. High per capita rates of screening are also achieved in Norway despite the lack of a national programme. Pilot programmes using register-based postal invitations are underway or planned in the Netherlands, Norway and Denmark.

In European countries, a cervical Papanicolaou (Pap) test is used to detect abnormal cells which may develop into cancer. Although it is possible to test for HPV DNA, there are no approved HPV DNA tests for general screening in European Union.

It appears that the organization of Chlamydia and HPV control varies widely. Activities classified as national programmes were identified in only two countries, England and the Netherlands. Similarly, there is variation in the recommendations between different guidelines, for example in the need for repeat testing. HPV infection is the most common STI and has been clearly established as the necessary cause of invasive cervical cancer. The vast majority of cervical cancer cases and deaths occur in East-European developing countries where women have little or no access to effective disease prevention services.

ADVANCES OF LABORATORY DIAGNOSTICS.

Molecular screening methods can complement conventional culture, antigen and antibody-based methods for the detection, identification and epidemiologic analysis of infectious microorganisms. The role of molecular detection and fingerprinting of microorganisms has shifted gradually from the academic world to the routine diagnostic laboratory and have been used increasingly over the past decade to improve the sensitivity, specificity and time performing in the clinical laboratory. Moreover, many high-throughput molecular tests are now available commercially, which impacts on the infrastructure in many of the diagnostic laboratories.

The new diagnostic tools are the most changing and developing part of Chlamydia and HPV national strategies. The role of molecular detection such as nucleic acid amplification tests (NAATs) and fingerprinting of microorganisms has shifted gradually from the academic world to the routine diagnostic laboratory and have been used increasingly over the past decade to improve the sensitivity, specificity and time performing in the clinical laboratory. Despite the advantages and popularity of molecular diagnostic and fingerprinting methods, significant challenges must be addressed before these methods can be adopted in the clinical diagnostic laboratory. Sequence-based identification and strain typing, along with the development of probes for genetic markers, allows detailed strain fingerprinting. DNA fingerprint analysis can be used to study strain relatedness, as well as group heterogeneity for a particular organism. Thus, analysis can have a significant impact on patient management and disease control through early detection of disease clusters or outbreaks. This molecular typing has added a new dimension to studying the epidemiology of communicable diseases and the quantification of the extent of transmission. Standard genotyping methods require either highly discriminative but heavy, and relatively expensive devices such as automated capillary electrophoresis devices, or cheaper, easy to use but more time consuming and with lower resolution power such as agarose gels. The new miniaturized platforms based on microfluidic nanotechnology for quantification and separation of nucleic acid molecules have shown accuracy, precision and high feasibility along with speed and moderate cost reagents.

EUROPEAN CONFERENCE OF NATIONAL STRATEGIES FOR CHLAMYDIA TRACHOMATIS AND HUMAN

PAPILLOMAVIRUS

Purpose of the Conference is to provide guidance in the European Union about national strategies for Chlamydia trachomatis and HPV early detection and control. It will provide a framework for developing, implementing or improving national strategies to control of Chlamydia trachomatis and HPV. Target group of the participants includes

laboratory specialists, clinicians, microbiologists, surveillance experts, public health specialists, healthcare economists, healthcare funders, policy makers.

The Conference is organized under auspices of IFCC and arises from the Project European Conference of National Strategies for Chlamydia Trachomatis and Human Papillomavirus-NSCP which has received funding from the European Union, in the framework of the Public Health Programme. Detailed information at the Conference webpage www.cthpn.org

Venue. Baltic Beach hotel and Hotel Jurmala SPA, Jurmala, Latvia, on May 26-27, 2011



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