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The Harrison Lecture

# STD awareness today

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## Introduction

Nowadays, the medical interest for, and knowledge of, infectious diseases and especially sexually transmitted diseases (STDs) is concentrated in specialist medical societies like the MSSVD in the UK and the NVSSOA in The Netherlands. However, most patients presenting with STD-related symptoms are not seen by members of those societies but by general practioners or medical specialists like gynaecologists, urologists, pediatricians and others. Moreover, the public is not sufficiently aware of the significance of minor symptoms, possibly related to STD and not interested enough in the prevention of STD. Therefore it seems to be the duty of the STD societies, not only to raise the knowledge of those diseases within their circles but also to spread the STD awareness and STD knowledge among other workers in health care and even among the general public.

## History

The present HIV epidemic is of course not the first time that the world (and especially Europe) has been faced with a widespread STD. According to most historians, at the end of the fifteenth century, Christopher Columbus and his fellow travellers introduced syphilis in Europe, especially in Naples. King Charles VIII of France raised an army of 32 000 hired soldiers against Naples and contributed to the rapid spread of the disease over Europe after closure of that campaign. The infected soldiers returned to their homelands and brought syphilis with them. In Holland, syphilis was very likely introduced by the Spanish fleet who delivered, in 1496, the bride of Philip of Habsburg. About 24 000 spanish seamen stayed during that winter in the island of Walcheren in the province of Zeeland (Sealand) and experienced an outbreak of syphilis.

In those days syphilis was nicknamed after your enemies. Although England and Holland fought four sea wars, the Dutch used to call syphilis the *Spanish disease* or the *Spanish pox*, and not the *English disease*. On the other hand the English decided to refer to *French disease* and not the *Dutch disease*. The STD character of syphilis was already recognised in those days: the condition was called *disease from Venus* and was distinguished from wounds due to fighting which were called a *disease from Mars*.

## STD and reproduction

The awareness of the significance of STD for the form and function of the reproductive organs, especially for women, has taken a long time and is not complete even now. The importance of the fallopian tubes for the reproductive process was discovered over 400 years ago. The first accurate description of the human oviduct is credited to Gabriele Fallopio in his *Observationes Anatomicae*, published in Venice in 1561. The Dutchman, Reinier de Graaf from Delft was probably the first to illustrate the sequelae of infection of the fallopian tubes. He published an illustration of a distally closed tube entitled *Oviductus Extremitas Praeter Natura Clausa* in his *De Mulerum Organis* from 1672.

The aetiology of closed tubes was unknown. Francois Mauriceau from France taught that pelvic inflammation resulted from an obstruction of the lochia, while others indicated lacteal suppression and the resultant stasis of milk in the pelvis. All kinds of reasons have been offered: trauma, excessive intercourse, and even involuntary sexual abstinence in a single woman of strong passions, were listed among the causes of pelvic inflammatory disease (PID).

The relation between PID and the clinical entity of gonorrhoea was demonstrated for the first time by Bernutz and Goupil in 1857. In 99 autopsy examinations of PID cases they found in 28, or over 25%, an association with gonorrhoea. In general, real discoveries in medicine only provoke disbelief.

Ten years later at the first meeting of the American Gynaecological Society the German gynaecologist Noeggerath stated that some 90% of sterile women were married to men who had suffered from gonorrhoea either previous to, or during, their married life. He was simply not believed. The STD character of that important disease was not accepted by the audience. To quote only one of the many opponents on that occasion: . . . *and if our Canadian ladies found out that their sterility was due to the former condition of their husbands, I do not know what would happen*. The discovery of the gonococcus itself, by Albert Neisser in 1879, clarified the pathogenesis of a large proportion of PID cases in those times. Neisser even demonstrated the presence of his so called "micrococcus" in seven cases of acute ocular infection of the newborn: the proof of vertical transmission from the mother to her baby through the birth canal.

So about 100 years ago the pathogenesis of the diseases from Venus was established as well as the possibility of vertical transmission of those diseases to the newborn. General awareness of the existence of STD is at least four centuries old, but the start of scientific

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knowledge of STDs started only 100 years ago.

## STD awareness today

The awareness of the significance of STD among specialists, such as gynaecologists, urologists and among the workers in primary care and even among the public may have increased somewhat recently. This is far from enough. A most important duty of the STD workers of today is how to raise the general STD interest and how to improve the STD knowledge among health care workers and the public.

For example, gynaecologists (my own profession) are not sufficiently aware that their speciality has much to do with infectious diseases and especially with STD. Genital cancers and their pre-stages are beyond any doubt strongly related to HPV infections, a recognised STD. We must admit that the ideal anti viral-treatment modalities are not available yet and that we do not know exactly how to deal with the male sexual partners, but gynaecologists anyhow should show more interest. Ectopic pregnancy, ruined internal genitals of the female, female tubal infertility, and possibly even male infertility as well, are simply due to STD infections like gonorrhoea, as already stated before, and *Chlamydia trachomatis*. Perinatal infections, like Syphilis, HIV infection, Hepatitis and *Chlamydia trachomatis* infection are of extreme importance and are all STD's. Even premature labor and premature rupture of membranes and all the associated severe mortality, morbidity and high costs, are very likely related to infections, and in significant proportion possibly even to STDs.

In primary care practice the two most important complaints among women are "vaginal discharge" and "abnormal uterine bleeding". Both complaints may be due to infections and even to STD's. For instance, the complaint of abnormal uterine bleeding among younger women should raise the suspicion for a *Chlamydia trachomatis* infection and should stimulate appropriate microbiological examinations.

The examples of vulvo-vaginitis and PID from daily medical practices may clarify the position of STD awareness today.

## Vulvo-vaginitis

The patient presenting with a vulvo-vaginitis is rather often (alas) only diagnosed by an external macroscopic examination. Consequently treatment is based on that simple "professional" impression. We have to teach our professional colleagues again that an infection of the vulvar region is in the majority of cases a reactive vulvitis due to a primary infection of the vagina or even of the uterine cervix and the upper genital tract.

We have to teach them again the simple habit to examine the vagina in those cases, to inspect the uterine cervix, to prepare a wet mount preparation for microscopy, to measure the pH of the vaginal fluid, to decide whether there is a fishy odor or not and to consider the need for cervical microbiology for *N gonorrhoeae* and *Chlamydia trachomatis*. All these examinations are very simple and rather cheap. However one has to be prepared to perform them, which means that all material must be at hand and not be looked for. In the latter case people will postpone their attempts to work according to the (simple) standards of care to the next case. More than likely it will never be done. The direct examinations of vaginal discharge, like pH, odor and microscopy of the wet mounts allow for a direct causative diagnosis in 80 percent of cases of vaginitis. A simple mono-diagnosis directs towards a simple mono-therapy, which is most efficient in these cases. Very likely monotherapy restores the normal vaginal milieu more quickly. However, even more important is the possibility that a mono-diagnosis may clarify the presence of an STD such as trichomoniasis) or not and allows for an extended STD treatment: the counselling of the patient and the diagnosis and treatment of the sexual contacts. We really have to teach our colleagues in the profession and our colleagues in primary care, that simple external macroscopic examination is never acceptable in case of vulvo-vaginitis.

## PID

Another example is pelvic inflammatory disease. In former days the classic picture of PID was thought to be due to gonorrhoea in the minority of cases, and unknown in the rest. The diagnosis was based on the clinical presentation: abdominal pain and pain at both external- and internal examinations; besides fever and an elevated blood sedimentation rate. During the last decade or so we have recognised that *Chlamydia trachomatis* is an important cause of PID, that in PID cases Chlamydia is two to ten times more frequently present than gonorrhoea, that more than half of the PID cases do not show any clinical symptoms and that in symptomatic cases PID may present itself with right upper quadrant abdominal pain (the so-called Fitz-Hugh Curtis syndrome).

Diagnostic tools for Chlamydia have only become widely available in the last ten years. It has recently become evident that these diagnostic methods, such as the immunofluorescence test and the ELISA test, may miss a significant amount of the Chlamydial infection cases as compared to the new DNA/RNA amplification methods. So once again we have to teach the profession a lot more: PID, the accepted main cause of tubal infertility is an STD in the overwhelming majority of cases, if not in all cases. Any primary treatment of PID must take the possibility of the presence of a Chlamydia infection into account. The sexual partners of the PID patient must be examined and treated, in the interest of the general public but also in the interest of the patient herself, to prevent reinfection.

Moreover, we must be aware of the existence of subclinical cases of PID and therefore

undertake diagnostic examinations for *Chlamydia trachomatis* in cases of abdominal pain, vaginal discharge and in cases of menstrual disorders, especially in younger women.

## STD care

From these new developments, with respect to *Chlamydia trachomatis*, it is very obvious that it is not enough at all to teach our colleagues in the profession. Because of the subclinical PID cases and because of the asymptomatic carriers of *Chlamydia trachomatis*, the STD specialists have the duty to inform the other doctors and health care workers. For instance, we must inform the internal medicine specialists about the Fitz-Hugh Curtis syndrome, the eye specialists about Chlamydial conjunctivitis, not just in the newborn, but the adolescents as well, and the STD character of that disease, the urologists about epididymitis, prostatitis and male infertility, the pediatricians about the possibility of Chlamydial infections in childhood, the orthopaedics about Chlamydial arthritis and so on.

We must also inform and cooperate with general practioners who see many more STD patients than we do, especially patients with less complaints and patients with an atypical presentation. In 1996 a campaign starts in Holland to inform primary care workers and other doctors about the different presentations of Chlamydial disease. On this occasion extra attention will be given to menstrual disorders in younger women.

We must inform the government about the possibilities of prevention by information and screening of asymptomatics. The public too should be informed on matters relating to STDs. In fact STD care has to do with all aspects of medicine today, from general health to the adequate diagnosis of the individual patient. But STD care has also to do with the education of the public. We should inform and educate the public, especially the younger ones, the amateurs in love-making, like we all once were. We should inform them about the nature of STD, about the possibilities of contraception and the prevention of STD (what we like to call "Double Dutch" in Holland), about the early signs of possible infections, like abnormal uterine bleeding in case of Chlamydia cervicitis and endometritis and offer them easy access to screening, and to diagnosis and treatment. We may even have the duty to create an open atmosphere for our children to debate all aspects of sexuality.

STD Societies and Professional bodies have great importance in raising the knowledge and interest in STDs. A next and most essential step for these societies is to spread that knowledge to the medical profession as a whole and to the general public.

This text is an adaption of the Harrison lecture, given at the MSSVD meeting of May 1996, in Edinburgh.