Chlamydia
– the young adults' epidemic

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A decade ago, it seemed that viruses – herpes (HSV), wart virus (HPV) and the Aids virus (HIV) were set to dominate as the most important sexually transmitted infections in New Zealand.

However, chlamydia, a bacterial STI for which we have excellent treatment and diagnostic tests, is rapidly overtaking the viruses in terms of numbers and its social and economic impact. It has become the commonest sexually transmitted bacterial infection in New Zealand, with the burden hugely skewed towards young people.[1] We will see the ripples from this epidemic for decades to come.

As Rick Franklin, sexual health physician at the country's biggest sexual health clinic in Auckland, commented recently: *'If anyone had suggested 10 years ago that a bacterial infection with a simple cure would displace a viral infection without a simple cure we would have thought them mad.'*[2]

Chlamydia is not a notifiable disease – and there are pros and cons to making it so. Disease trends are monitored using statistics collected by sexual health clinics, and some family planning clinics, student health and youth clinics.

The latest ESR 2002 report shows the continuing increase in chlamydia – an increase of 103 per cent since 1996.[1] Dr Franklin points out that New Zealand has many more cases than other countries with similar populations and comparable statistics.[2] The authors of the ESR report comment that New Zealand has five times the rate of chlamydia compared to Australia for the same period – as well as a greater rate of gonorrhoea.

In Otago, we have recently looked at our own statistics, as we are in the privileged position of being able to include all general practice-diagnosed chlamydia as well those from the sexual health clinic, thanks to the cooperation of our local laboratories. Such laboratory surveillance is being done on a more formal basis by ESR for Waikato, Bay of Plenty and Auckland.

Dunedin laboratory figures showed an increase of nearly 30 per cent for the year ending March 2003 compared to March 2002.[3] There was a 37% increase in females and a 10% increase in males, giving an overall increase of 29%.

The largest number of positive cases was in the 16 to 23-year-old age group with an age range of 13 days (presumably neonatally acquired) to 52 years.

The lower rate in males is indicative of the fact that particularly adolescent males are a difficult population to reach. Unlike the adolescent females who present for contraceptive reasons, unless they develop significant symptoms young men seldom present themselves for diagnosis or treatment.

There is no reason to think the rest of New Zealand is not following a similar pattern of a large increase in chlamydia, even allowing for the number of students in Dunedin's population. The Dunedin statistics also showed that two-thirds of the chlamydia cases were diagnosed by general practitioners and that it is by no means a sexual health clinic phenomenon. This is also commented on in the ESR 2002 report.

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Because of this concern, Dunedin Sexual Health Clinic has recently sent a letter to all GPs in Otago alerting them to this trend and suggesting that targeted screening of young people be considered at every opportunity.

There is good evidence to show that there is a 92% pickup rate of chlamydia if screening is targeted to those patients who fit one or more of these criteria:

- Under 25;
- More than one partner;
- Not using condoms;
- Having any signs and symptoms including post-coital bleeding and burning on micturition.[4]

Of particular concern is the recent trend we have noted at Dunedin Sexual Health Clinic of 14 to 15-year-old girls presenting for emergency contraception who are diagnosed with chlamydia on follow-up urine tests. Such an increase is presumably running parallel with the well-documented trend in New Zealand and Australia of teenagers becoming sexually active at a younger age.

Ironically, such young girls getting chlamydia is probably due to the greater availability of the emergency contraceptive pill which has given girls confidence that they can avoid the major consequence of sex (pregnancy) and so taken away the need to insist that their male partners wear condoms.

Given that chlamydia is asymptomatic in up to 90% of women (and 25% in men),[5] it is a case of 'out of sight, out of mind' for many young people as this insidious, low grade and silent disease does not impinge on the 'here-and-now' mentality of adolescence.

There is good evidence to show that screening in adolescents is effective in reducing PID.[6] Such opportunistic screening of teenagers could be done when they present for contraception, including the ECP, by offering them a urine test (first 10mls of urine after not having urinated for at least one hour) for chlamydia. Many young girls will agree to a urine test while being reluctant to undergo a full pelvic examination.

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This should be followed up with an offer of a prescription for condoms whenever possible, especially as teenagers are often too shy to ask. (Maximum of 144 per script and prescribe non-spermicidal ones. Circle 'O' so cost to patient at pharmacy = $3).

DNA amplifications tests, whether done on urine or endocervical swabs have greatly improved sensitivity and specificity compared to culture or previously used Elisa tests.[7] While the increased use of urine tests and DNA technology may account for some of the increase in chlamydial cases New Zealand is seeing, it is unlikely to a account for all of it.

Chlamydia has major consequences in terms of increased rates of PID, ectopic pregnancies, salpingitis, infertility, chronic pelvic pain and pregnancy-related complications such as prematurity and neonatal infections.[8] It is likely that the long-term sequelae of hundreds of young people a year getting chlamydia in our community will use large amounts of health resources in the next few decades even if we manage to slow down this epidemic.

Complications such as ectopic pregnancy and tubal infertility have a 'catch-up' time of many years, or decades before we see the impact of today's infection rate.[4] What makes the increased disease numbers of even more concern is that as our understanding of the pathogenesis of chlamydia improves, we realise that each re-infection compounds the risk of complications.

While one episode of PID results in a 13% increase in infertility, two attacks jump this figure up to 35% and, after three attacks, there is a 75% risk of infertility. [9,10]

Such a compounding effect is thought to be due to the markedly enhanced immune response that is evident with second and subsequent infections. The damaged tissue already sensitised to the chlamydia antigens (probably to Heat Sensitive Protein-60, which has a 50% overlap with human HSP), reacts rapidly to subsequent infections – and the extent of the damage being done bears no correlation to signs and symptoms the patient may have.[5,8]

Sexually transmitted infections...lie in the arena where morality and hypocrisy mix uncomfortably with the more pragmatic, open approach needed to combat an infectious disease

Unfortunately many young people still believe the myth that if they feel okay, they must be alright and that 'they would know if they had something'. It is a cruel disease that does its damage so silently in a population for whom health is often low on their radar.

A recent review of the literature by Honey et al. looking at the prevention of PID by chlamydia screening says that while there is some evidence that this is effective (grade 2 evidence), there are gaps in the literature and that further long-term trials are needed.[5]

Nelson, in his article on screening for chlamydial infection, is more definitive in that his randomised controlled trial did show that screening women using a set of risk factors (with age less than 25 being the most important) did decrease the PID rate over a one year period.[6]

He also showed that screening in pregnancy led to an improved outcome. However screening men did not decrease the transmission to women or reduce acute infections or complications for men. He comments that there are very few studies looking at screening in men as a way of protecting women from PID.

Given that we now have excellent, non-invasive diagnostic tests for chlamydia in that urine can be used for both men and women (although endocervical swabs for women are probably slightly better, but first pass urine is a close second), and an excellent one-off treatment (Azithromycin

Who to screen

- Under 25
- More than one partner
- Not using any barrier method of contraception
- Any signs and symptoms
- Pregnant.

How to diagnose

Details may differ depending on your laboratory so check local requirements.

Males: First pass urine, at least 10mls, preferably 15–20ml with maximum of 60ml. Should not have urinated for at least an hour before – the longer the better.

Females: Endocervical swab from special chlamydia kit or first pass urine as for males. Consider chlamydia if patient has symptoms of urinary tract infection or the mid-stream urine shows sterile pyuria.

Generally urine and swabs should not be frozen but sent to the lab as soon as possible.

How to treat

- Azithromycin, 1g stat (2x500g tabs), trade name: Zithromax. Comes packaged as one gram dose. Should only be used for confirmed cases and their contacts. Now regarded as safe to use in pregnancy.
- Avoid sex (or at least sex without a condom) for a week as it takes that long to be incorporated into the bacteria.
- Alternative in pregnancy is erythromycin base 500mg four times a day for seven days.
- If not pregnant but previous side-effects with azithromycin (10% get nausea), can use doxycycline 100mg twice a day for at least seven days.
- If azithromycin has been used, no need for test of cure except perhaps in pregnancy in which case at least three weeks should elapse between treating and retesting.

Contact tracing

All contacts should be treated probably going back three to six months if feasible. Often the easiest way to do this is to give the index patient written information on chlamydia to pass on to each contact plus information as to where their contacts can go for treatment.

Treating contacts unseen is done but is not as good as seeing them face to face for education and counselling to hopefully prevent further infections.

There may be times when the index patient is reluctant to do contact tracing and provided they can provide details, the GP or practice nurse may need to do this, being careful to protect the index patient's privacy.

1g stat, endorse script 'certified condition') which is now also regarded as safe in pregnancy, why is it that we are not getting on top of this epidemic?

As Rick Franklin[1] points out, it is partly due to a lack of political will but also a lack of health providers recognising the problems and allocating resources. If this was a problem of middle-aged New Zealanders there would have been a national outcry for action well before now, he says.

However, I suspect the problem goes deeper than that. This is a disease primarily of young people and often the most vulnerable and disadvantaged in that sector which already lacks an effective voice in health politics. (The ESR 2002 report shows that the rates for Maori and Pacific Islanders for chlamydia are double that for Pakeha – 9.4% and 9.7% respectively compared to 3.8%). Young people, and many adults, are uncomfortable talking about their sexuality and its consequences. Public lobbying such as at DHB board meetings would be difficult for this group of patients to do.

Sexually transmitted infections are the non-glamorous, unromantic aspect of sex that is seldom portrayed in TV sitcoms or movies. They are the largely invisible consequences of having fun, but remain a taboo subject for many. They lie in the arena where morality and hypocrisy mix uncomfortably with the more pragmatic, open approach needed to combat an infectious disease.

Such ambivalent attitudes make it difficult for victims of STIs to lobby for a greater stake in the competitive health market. No young person affected by chlamydia is going to write letters to newspapers demanding more funding for STIs or complaining about the lack of trained sexual health doctors. It would not be 'cool' by any definition of the word.

And their parents certainly don't want to know either. Many schools are also hesitant to acknowledge this aspect of their students' health needs – otherwise we would be seeing condom vending machines in high

schools instead of parents objecting when their son is offered one with his dress suit for the 6th form dance.

New Zealand lacks a national response to this problem, as does the UK.[1] Sexual health has not been seen as one of the health priorities for the DHBs. While there is some discussion in sexual health circles about the need for national chlamydia screening guidelines, they have yet to be formulated and any national screening programme is likely to be decades away.[11]

In the vacuum that is left, it falls to general practitioners to fill in the gaps as best we can by screening and treating appropriately, including doing contact tracing. PHOs may in future provide opportunities for greater preventive medicine and lobbying for increased resources for this core adolescent health problem, but PHOs have other priorities at present.

So next time you see an adolescent, or indeed anyone under the age of 25, look for the opening that lets you discuss whether they could be at risk for what is by far the commonest infection in their age group. A simple urine test may save them untold future grief and the country thousands of health dollars.

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