Should the Australian Defence Force screen for genital *Chlamydia trachomatis* infection?

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Abstract

- Genital *Chlamydia trachomatis* infection is the most frequently notified infection in Australia. Infection of the genital tract can be complicated by long-term sequelae, including infertility in women.
- Screening for genital *C. trachomatis* infection is simple with current methods, and infection is easily treated.
- The Australian Government has recently acknowledged the need for genital chlamydia screening in Australia, and a pilot program is being developed.
- Studies in military forces have identified high prevalence rates of chlamydia and have highlighted the need for the development of specific strategies.
- The Australian Defence Force is in an optimal situation to develop a genital *C. trachomatis* screening program for the health of its members.

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GENITAL *CHLAMYDIA TRACHOMATIS* infection is the most frequently notified infection in Australia, with 36 105 cases reported nationally in 2004.[1] Notification rates of *C. trachomatis* infection have increased significantly over the past 5 years, rising threefold between 1994 (35/100 000) and 2002 (105.8/100 000).[1] The rise in notifications has led to public health concern, as the long-term sequelae of *C. trachomatis* infection can be associated with significant morbidity in women. Recently, the federal government has released a national sexually transmitted infection (STI) strategy, which includes a pilot program for genital *C. trachomatis* screening.

C. trachomatis is a bacterial infection of the genital tract affecting both men and women. Acute infection may cause cervicitis and urethritis, although up to 80% of women and 50% of men may be asymptomatic.[2] Long-term sequelae in women include pelvic inflammatory disease, tubal factor infertility, ectopic pregnancy and chronic pelvic pain.[3] It is estimated that $90–$160 million is spent annually by the Australia heath care system as a direct cost of *C. trachomatis* infection,[4] and *C. trachomatis* infection may be implicated in more than 50% of infertility cases.[5] *C. trachomatis* infection is easily treated with 1 g azithromycin orally.

C. trachomatis prevalence has been shown to vary in a number of studies in specific Australian populations.[6] There are recognised difficulties in assessing the true prevalence of *C. trachomatis* infection, with rates ranging from 1.4% to 5.6% in different non-Indigenous populations, with the highest prevalence in women under the age of 25 years.[7] A screening program in the United Kingdom in 2003 found a prevalence of 10.1% in women and 13.3% in men during its first year.[8] In Australia, *C. trachomatis* infection meets the World Health Organization's criteria for a screening program[9] and is cost effective.[10] In mid 2005, as part of a national STI strategy, the federal government acknowledged the need for genital chlamydia screening in Australia. At present, a pilot screening program for genital chlamydia is being developed.

A simple and effective method for testing is by using a nucleic acid amplification technique such as polymerase chain reaction (PCR) on a first catch urine sample. This method has a high sensitivity (90%) and specificity (99%–100%).[11]

Screening programs in the United States military have shown high prevalence rates in female recruits. One study tested 13 204 new female US army recruits between 1996 and 1997 and found an overall prevalence of chlamydia infection of 9.2%, with a peak of 12.2% among the 17-year-old recruits.[12] In 2002, Lechner et al reported a prevalence of 15% in female and 11% in male military dependent adolescents and young adults attending clinics at military facilities in San Antonia.[13]

A study in asymptomatic Danish male military recruits published in 2002 found a prevalence of 4.6% for genital *C. trachomatis* infection.[14] A similar study in asymptomatic male Brazilian military conscripts published in 2005 found a prevalence of 5.0% for genital *C. trachomatis* infection.[15]

Arcari et al looked at male US army recruits in 2004 with the intention of assessing the feasibility of an intervention for sexually transmitted diseases and a screening program for *C. trachomatis* and *Neisseria gonorrhoeae* infections.[16] The study found a prevalence of 4.7% for chlamydia and 0.4% for gonorrhoea, and concluded that a linked educational and

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screening program is feasible and acceptable in male army recruits.[16]

A recent pilot screening program to estimate the prevalence of genital *C. trachomatis* infection in Australian Defence Force personnel (*page 14*) found a prevalence of 2%.[17] Although this may seem low, in considering the results of this study we must be aware of the small sample size with limited power to show a true difference from population mean estimates, and the wide confidence interval of the prevalence (0.2%–6.8%), as well other biases mentioned by the authors. A larger study with wide sampling from different units within the ADF is required to assess the true prevalence of *C. trachomatis* in the ADF in order to plan future screening programs.

The ADF would be an ideal environment for the introduction of *C. trachomatis* infection screening. Most members of the ADF rely upon ADF-supplied health care as their sole source of support. The ADF health system not only has a role in maintaining the current health status of its members, but also has a role in preventing illness in the short and long term. The ADF aims to retain its members, and a simple measure for detecting and treating chlamydia would be of great benefit to the ADF both in maintaining deployment readiness and in decreasing long-term health care costs.

The inherent structure of the ADF offers ease of access to members, usually through specific medical elements. For example, screening could be conducted by a medical centre or primary health care team servicing a specific unit or area. This would mean that patients could easily be contacted, tested and followed up. Training centres could offer an excellent opportunity for screening. Opportunistic testing at the time of annual health assessments and medical boards might also be appropriate.

The ADF is in a prime position to lead the way in the development of a genital *C. trachomatis* screening program that would benefit both the health of individual members and the ADF.

Competing interests

None identified.

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