

Adult Health Checks: Sexually transmitted infections

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Sexually transmissible infections (STIs) and their sequelae are extremely common in the CARPA STM region. There are important regional variations in the rates of infection. In general terms, rates are higher in remote communities compared to towns, although there are remote communities with low rates of infections and there are subgroups of people living in towns with very high rates. While rates of infection amongst non-Aboriginal people in the CARPA STM region are higher than the national average, rates amongst Aboriginal people are very much higher.² It has been hypothesised that this relates to lack of access to education and health care rather than substantial differences in sexual behaviour.¹

While incidence rates provide a picture of high rates of infection, prevalence information provides a different perspective and one that is more pertinent to the primary health care level. In many communities, a very high proportion of individuals are affected by these infections. As a result, in these populations, unprotected sex carries a high risk of contracting an infection.

Central Australian screening initiatives have provided useful prevalence information. In 1995 and 1997, 26 remote communities in Central Australia were involved in a screening program testing for gonorrhoea and chlamydia. Participation rates ranged between about 50%-80%. It was observed that 24-29% of 15-24 year olds were infected, as were about 10% of those aged 40-50 years.³

Nganampa Health Council in northern South Australia has conducted community screening and treatment as a key element of its STI/HIV program for many years. Initially, prevalence of infection with either gonorrhoea or chlamydia of 19% was observed⁴, but these have been drastically reduced with each year of the program.⁵

During trials in the Top End in the late 1990s, evaluating a tampon test, it was found that 17% of women tested had gonorrhoea, 11% had chlamydia and 25% had trichomonas.⁶ These results are consistent with prevalences observed in Central Australia and the Kimberley region.⁷ Case note audits in approximately 20 Top End remote communities revealed that between 42% and 75% of adults had had at least one episode of a bacterial STI during their life (unpublished data THS AIDS/STD programs).

Trichomonas displays a different epidemiological pattern to other STIs. The typical STI pattern is for the highest rates to be seen amongst the younger, more sexually active age groups, particularly 15-29 year olds. However, high rates of trichomonas infection amongst women persist into older age groups (NT notifiable disease database). Indeed, Bowden et al.

found that the prevalence of infection of trichomonas was higher amongst women over 30 years of age.⁶

Syphilis

Once a person has been infected with syphilis, they generally remain treponemal test (EIA, TPHA, FTA-Abs etc.) seropositive for life, even after successful treatment. Treponemal test seropositivity provides a good indicator of the burden of syphilis infection and one that can be monitored over time to observe changes, especially in younger age groups. However, this data must be interpreted with some caution as syphilis treponemal tests may be positive as a result of yaws and non-venereal endemic syphilis. These infections were common historically in the CARPA region but mostly disappeared during the course of the 1950s, with the last known case of yaws occurring in a Top End community in 1968.⁸

In the Nganampa Health Council region some 60% of all people aged 30 years were recently found to be seropositive.⁹ A study of infertility and STIs revealed that 41% of all women in a large Top End community were seropositive for syphilis.¹⁰ Recent audits of a random sample of 10% of case notes in approximately 20 remote Top End remote communities revealed that between 10% and 40% of people were seropositive for syphilis (unpublished data THS AIDS/STD programs).

Complications of STIs

Pelvic inflammatory disease (PID)

PID will occur in between 10% and 40% of women infected with gonorrhoea or chlamydia if they do not receive treatment.^{11,12} In one large Top End community study it was found that 26% of women have had PID at least once.¹³ Recent audits of a random sample of 10% of women's case notes in approximately 20 remote Top End communities revealed that between 20% and 30% of women appeared to have had at least one clinical episode of PID (unpublished data THS AIDS/STD programs).

Infertility

In two Top End communities 26% and 30% of women were found to be infertile.¹³ Audits of a random sample of 10% of women's case notes in approximately 20 remote Top End communities revealed that between 10% and 30% of women appeared to have had no children (unpublished data THS AIDS/STD programs), with very similar rates observed in women over the age of 24.

By extrapolating from other studies¹⁴⁻¹⁷ in populations with similar rates of STIs, it is reasonable to assume that at least 50% and perhaps as much as 70% of this infertility is due to STIs.

Other

Other possible sequelae of STIs include ectopic pregnancy, miscarriages, premature labour, congenital syphilis, neonatal conjunctivitis, neonatal pneumonia and enhanced risk of HIV transmission.³²

Detecting infection in asymptomatic persons

A large proportion of sexually transmitted infections cause either no symptoms or very mild symptoms. This is particularly true of chlamydia,

gonorrhoea and trichomonas in women, but also occurs in a substantial proportion of men with these infections.¹⁸⁻²⁰ Genital ulcers may occur inside the vagina in women and be clinically unapparent.^{21,22} People with mild symptoms may not realise that an STI is the cause or – because of shame, a lack of access to health care services or an appropriate practitioner – may not present to a clinic for care. In some settings, it has been estimated that as few as 5% of all persons in a population with an STI present to a clinic and receive appropriate treatment.²³

This is entirely consistent with experience in the CARPA region. In the screening programs referred to above, a high prevalence of infection was detected, even of gonorrhoea in men.³ No data is available as to whether these people had symptoms. However, the key point is that they had not presented to the clinic for care at the time they were offered the test. Data from Top End clinical audits in over 20 remote communities reveals that only 10%-20% of all STIs detected in remote communities are found in persons presenting with STI symptoms. Approximately 60% of all infections are detected by testing apparently asymptomatic persons as part of well-persons, antenatal or opportunistic testing or as part of a formal screening program (unpublished data THS AIDS/STD programs). The remainder are found via contact tracing or follow-up of other infections.

There have been many efforts to describe criteria in order to identify people at a greater risk of an STI. Many studies have come up with criteria appropriate to their situation, but very few of them are applicable in a wide variety of settings. Young age, usually less than 25 years, is common to most places. In the CARPA region, approximately 60% of all STIs occur in people under the age of 30 years.²⁴ However, particularly in Central Australia, there is good data to show that – while STIs are more common in younger people – high rates continue to occur even up to age 50. There is a common perception that alcohol use, especially heavy drinking or binge drinking, is associated with an increased risk of STIs, although there is no specific data to prove this. In Central Australia, Miller et al. found that female petrol sniffers were at increased risk of gonorrhoea or chlamydia as were people with a past history of an STI.⁵ Several prospective studies overseas have found that people having one STI are at a substantially increased risk of another within a relatively short period of time.²⁵⁻³⁰

This data shows that if health service strategy is to only offer STI tests to those persons presenting with symptoms, then it will have very little impact on a substantial public health problem. Asymptomatic individuals need testing as well. It is highly recommended that practitioners have a low threshold for offering testing, and health services implement a screening strategy. Fortunately, in most instances the important STIs in the CARPA region can be treated with single doses of antibiotics.

Screening for STIs

Given the above information it is apparent that STIs, in particular gonorrhoea, chlamydia and syphilis, adequately fulfil the accepted criteria for screening as discussed in the introduction. There are high rates of infection and complications in the CARPA STM region. Most STIs are asymptomatic and there are acceptable tests, in urine and tampon PCRs and serology, to detect these asymptomatic infections.

Single-dose antibiotics are available as a simple, effective treatment. Community education and feedback would certainly help to ensure that the benefits of an STI screening program outweigh the intrusion into and surveillance of their lives. Sufficient planning and resources to provide adequate follow-up are essential before embarking on an STI screening program.

There are three ways to maximise the effectiveness of STI screening³³:

- Targeting the high risk groups
- Monitor age-specific participation rates and age-specific prevalence/incidence
- Minimise the interval to treatment

The experience of Nganampa Health Council has shown that targeted community-wide mass screening for STIs alone can make a significant impact on the prevalence of STIs in their region. A balance between the time consuming nature of a well-person check and the resources, organisation and high participation rates required for a successful community-wide screening need to be negotiated.

Individual health services will need to decide how to deliver their screening, but CARPA recommends using the Adult Health Check as an opportunity for STI testing for gonorrhoea, chlamydia and syphilis from the age of 15 at yearly intervals. In view of the prevalence in older age groups this should be continued to at least 50 years of age or older if risk factors are present. To test for gonorrhoea and chlamydia, a urine PCR for men and tampon test or endocervical swab for PCR are best for women. To test for syphilis, syphilis serology on a blood sample should be ordered.

In view of the Nganampa experience and success, communities are encouraged to consider implementing targeted community-wide mass screening if resources allow.

Current guidelines for screening for trichomonas remain confusing and controversial. The PCR test in women has high sensitivity and specificity but there has been little work in men. The relationship between asymptomatic PCR-diagnosed trichomonas infection (which can detect a very low microbial load) and the development of complications remains unclear. Further information, consultation and research are required before an appropriate recommendation can be made regarding trichomonas screening in the general adult population.³¹

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