

Early presentation of symptomatic individuals is critical in controlling sexually transmissible infections

Christopher K. Fairley^{A,B,D}, Eric P. F. Chow^{A,B} and Jane S. Hocking^C

^AMelbourne Sexual Health Centre, Alfred Health, 580 Swanston Street, Carlton, Vic. 3053, Australia.

^BCentral Clinical School, Faculty of Medicine, Nursing and Health Sciences, Monash University, 55 Commercial Road Melbourne, Vic. 3004, Australia.

^CMelbourne School of Population and Global Health, University of Melbourne, Vic. 3010, Australia.

^DCorresponding author. Email: cfairley@mshc.org.au

Abstract. Two papers in this issue by Williams *et al.* and Scott *et al.* describe the sexual risks and health-seeking behaviour of young Indigenous Australians. Their sexual risks and health-seeking behaviours are similar to the general Australian population, yet their risk of past sexually transmissible infections (STIs) is higher. These findings are consistent with previous findings and suggest that access to health care, and not sexual risk, remain critical to STI control in remote Indigenous communities.

Received 5 March 2015, accepted 4 May 2015, published online 9 June 2015

Why Indigenous Australians in remote communities have such high rates of some sexually transmissible infections (STIs), most notably gonorrhoea, is an important and puzzling question confronting Australia.¹ It had been assumed that the high rates of STIs were due to individuals sexual practices, but work 25 years suggested limited access to health care was the primary cause. Limited access to health care leads to a long duration of infection and a substantially higher reproductive rate.² It was this work that led to the then Health Minister, Michael Wooldridge, to provide dramatically increased access to STI testing.³

But here we are 25 years later, and the rates of STIs among Indigenous Australia have not appreciably changed.^{4,5} Testing rates for STIs have risen considerably and indeed in some communities many young people are tested every year.^{4,5} Despite frequent testing though, even over several years, rates of gonorrhoea in remote Indigenous communities have been reduced by only a few fold and remain hundreds of fold higher than those observed in capital cities.⁵ Why?

In this issue of *Sexual Health*, two papers describe the sexual risks and health seeking behaviour of younger Indigenous Australians.^{6,7} The first study by Williams *et al.* is a cross-sectional study undertaken during a community event in Perth, where most individuals lived.⁷ The second study by Scott *et al.* was also a cross-sectional survey and involved 155 individuals living in Townsville.⁶ Although both studies included individuals who lived outside of these areas, they did not include individuals from remote areas of Australia where STI rates are very high. Nevertheless, they do provide some important insights.

The study by Williams *et al.* reported that among 16–30-year-olds, 35% of sexually active individuals had had

more than one sexual partner in the last year.⁷ This is similar to that reported in national population-based estimates of Australian sexual practices, where 33% of women and 43% of men aged 16–19 years had had more than one partner in the last year.⁸ The individuals in the study by Scott *et al.* were younger (19–22 years of age) than those in the Williams *et al.* study and 41% reported more than one sexual partner in the last 12 months; this is again consistent with the Australian population-based data.⁸ However, in contrast, condom use for the last sexual act was higher (62%⁷ and 82%⁶) in these two studies compared with the Australian population data, where an average of 23% reported condom use at the last sexual encounter, although age-specific data was not reported.⁹ In a large survey of Indigenous Australians, The Goanna Survey, 2877 participants reported remarkably similar results to those found by Scott *et al.* and Williams *et al.*, with 55% of reporting using a condom at last sexual encounter and 46–51% reporting more than one sexual partner in the last year. Importantly, there were not substantial differences in The Goanna Survey in these two outcomes by the remoteness of the residence.¹⁰ These findings suggest that risks taken by these younger Indigenous Australians are not higher than that for the general Australian population and this is consistent with limited access to health care and delayed treatment being the primary driver of STI rates.

Health-seeking behaviour was also explored in both papers. In the study by Williams *et al.*, 31% of young people had had a STI or HIV testing in the last 12 months, and in the study by Scott *et al.*, a very similar 33% had been tested in the last 12 months.^{6,7} These are not substantially different from the Australian public, where between 19 and 39% of men or women

under 29 years of age had been tested.¹¹ But not surprisingly, because of the higher rates of STIs in Indigenous communities, two- to three-fold as many Indigenous individuals had had a STI than in the overall Australian community.

Why then do STI rates, and particularly gonorrhoea, remain so much higher despite similar sexual risks and testing practices? The answer may be related to symptom recognition and 'access' to services once symptoms appear. Almost all gonorrhoea in men, and approximately half in women, is symptomatic.¹² Furthermore, at a large sexual health service in an Australian capital city, the median duration of symptoms before seeking health care for urethral gonorrhoea in men was only 24 h (EPF Chow, pers. comm.). In contrast, if left untreated, gonorrhoea will last 6 months or 183-fold longer (183 days divided by 1 day) than in those seeking health care within 1 day of symptoms appearing. It is not hard to see then how early presentation and treatment of gonorrhoea dramatically lowers its reproductive rate. But in many Indigenous communities, gonorrhoea is commonly identified in individuals who have not sought health care, and hence the reproductive rate for gonorrhoea remains high.^{13,14} Screening, even of everyone, every year can only reduce the duration of infection from 180 days to 120 days; early presentation is therefore the key.

But how can we create an environment in which individuals access testing and treatment within days? Several things are needed; enough community support so individuals can prioritise presenting for treatment of a urethral discharge, improved health literacy, confidential free treatment and testing services and health promotion, to name a just a few.¹⁵

A current National Health and Medical Research Council study by Kaldor *et al.* and work by many others are currently exploring ways to encourage the early presentation of those with symptoms, including ways to make testing more confidential in small communities with drop-off collection centres at night and self-collected specimens.

Hopefully, substantially improving early presentation of symptomatic individuals will drive rates of gonorrhoea down to very low levels seen in most developed countries in heterosexuals and make closing the gap, one step closer.¹⁵

References

- 1 Fairley CK, Hocking JS. Sexual health in indigenous communities. *Med J Aust* 2012; 197: 597–8. doi:10.5694/mja12.11448
- 2 Fairley CK, Bowden FJ, Gay NJ, Paterson BA, Garland SM, Tabrizi SN. Sexually transmitted diseases in disadvantaged Australian communities. *J Am Med Assoc* 1997; 278: 117–18. doi:10.1001/jama.1997.03550020049032
- 3 National Indigenous Australians' Sexual Health Strategy 1996–97 to 1998–1999, pgs3170–3176, Ministerial Statement. Commonwealth of Australia, Parliament Debates. *House of Representatives Official Hansard*. No. 1997; 22: 26.
- 4 Kirby Institute. HIV, viral hepatitis & STIs in Australia. Annual surveillance report 2014. Sydney: The Kirby Institute, UNSW; 2014.
- 5 Huang RL, Torzillo PJ, Kirby AC. Epidemiology of sexually transmitted infections on the Anangu Pitjantjatjara Yankunytjatjara Lands: results of a comprehensive control program—a postscript. *Med J Aust* 2008; 189: 446.
- 6 Scott R, Foster R, Oliver LN, Olsen A, Mooney-Somers J, Mathers B, Micallef JM, Kaldor J, Maher L. Sexual risk and healthcare seeking behaviour in young Aboriginal and Torres Strait Islander people in North Queensland. *Sex Health* 2015; 12: 194–99. doi:10.1071/SH14092
- 7 Williams R, Lawrence C, Wilkes E, Shipp M, Henry B, Eades S, Mathers B, Kaldor J, Maher L, Gray D. Sexual behaviour, drug use and health service use by young Noongar people in Western Australia: a snapshot. *Sex Health* 2015; 12: 183–93. doi:10.1071/SH14038
- 8 Rissel C, Badcock PB, Smith AMA, Richters J, de Visser RO, Grulich AE, Simpson JM. Heterosexual experience and recent heterosexual encounters among Australian adults: the Second Australian Study of Health and Relationships. *Sex Health* 2014; 11: 416–26. doi:10.1071/SH14105
- 9 de Visser RO, Badcock PB, Rissel C, Richters J, Smith AMA, Grulich AE, Simpson JM. Safer sex and condom use: findings from the Second Australian Study of Health and Relationships. *Sex Health* 2014; 11: 495–504. doi:10.1071/SH14102
- 10 Ward J, Bryant J, Wand H, Pitts M, Smith A, Delaney-Thiele D, Worth H, Kaldor J. Sexual health and relationships in young Aboriginal and Torres Strait Islander people: results of the first Australian study of knowledge, risk practices and health service access for sexually transmissible infections (STIs) and blood borne viruses (BBVs) among young Aboriginal and Torres Strait Islander people: The Goanna Survey. Alice Springs: Baker IDI Heart & Diabetes Institute; 2014.
- 11 Grulich AE, de Visser RO, Badcock PB, Smith AMA, Richters J, Rissel C, Simpson JM. Knowledge about and experience of sexually transmissible infections in a representative sample of adults: the Second Australian Study of Health and Relationships. *Sex Health* 2014; 11: 481–94. doi:10.1071/SH14121
- 12 Harrison WO, Hooper RR, Wiesner PJ, Campbell AF, Karney WW, Reynolds GH, Jones OG, Holmes KK. A trial of minocycline given after exposure to prevent gonorrhoea. *N Engl J Med* 1979; 300: 1074–8. doi:10.1056/NEJM197905103001903
- 13 Ayhan A, Tuncer ZS, Kaya H. Vulvar dystrophy: an evaluation of 285 cases. *Eur J Gynaecol Oncol* 1997; 18: 139–40.
- 14 Miller GC, McDermott R, McCulloch B, Fairley CK, Muller R. Predictors of the prevalence of bacterial STI among young disadvantaged Indigenous people in north Queensland, Australia. *Sex Transm Infect* 2003; 79: 332–5. doi:10.1136/sti.79.4.332
- 15 Third National Aboriginal and Torres Strait Islander blood borne viruses and sexually transmissible infections strategy 2010–2013. Canberra: Department of Health & Ageing, Commonwealth of Australia; 2010.