

# GONORRHOEA INFECTIONS OF THE RECTUM, PHARYNX AND URETHRA IN SAME-SEX MALE PARTNERSHIPS ATTENDING A SEXUAL HEALTH SERVICE IN MELBOURNE, AUSTRALIA.

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**Background:** Infection rates of *Neisseria gonorrhoeae* have increased amongst men who have sex with men (MSM) worldwide. We aimed to describe anatomic site-specific gonorrhoea infections in MSM partnerships in Australia, to better understand the transmission of gonorrhoea among MSM.

**Methods:** We reviewed data from MSM and their male partners attending Melbourne Sexual Health Centre between 2011 and 2015. Multivariate logistic regression models were used to examine the association between gonorrhoea infections of the urethra, rectum and pharynx. Gonorrhoea infection was determined by culture at all anatomic sites.

**Results:** A total of 732 MSM partnerships were identified, in 68 partnerships at least one partner had gonorrhoea. Of the 40 men with urethral gonorrhoea, 35% (95% CI 20-53) had partners with pharyngeal gonorrhoea and 65% (95% CI 48-80) had partners with rectal gonorrhoea. The adjusted odds of having urethral gonorrhoea was 4.5 (95% CI 1.4-14.7) for a man whose partner had pharyngeal gonorrhoea, and 32.5 (95% CI 13.3-79.5) for a man whose partner had rectal gonorrhoea. Of the 57 men with rectal gonorrhoea, 42% (95% CI 29-56) had a partner with urethral gonorrhoea and 23% (95% CI 12-37) had a partner with pharyngeal gonorrhoea. The adjusted odds of having rectal gonorrhoea was 95.0 (95% CI 20-450) for a man whose partner had urethral gonorrhoea, and 10.6 (95% CI 3-37) for a man whose partner had pharyngeal gonorrhoea.

**Conclusion:** These data provide estimates for the likelihood of gonorrhoea infection at specific anatomic sites in the male sexual partners of men with gonorrhoea. These estimates help to improve our understanding of the dynamics of gonorrhoea transmission among MSM. Importantly, the likelihood of rectal or urethral gonorrhoea is increased when a man has a partner with pharyngeal gonorrhoea, highlighting the importance of pharyngeal gonorrhoea in gonococcal transmission among MSM.

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