

High prevalence of rectal gonorrhoea among men reporting contact with men with gonorrhoea: Implications for transmissibility and epidemiological treatment

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BACKGROUND & AIMS

Gonorrhoea infection is common among men who have sex with men (MSM) with increasing rates on incidence and prevalence worldwide. Mathematical models used in the study of prevalence and control measures for gonorrhoea have lacked transmissibility data. This study aimed to determine a crude estimate of the transmission probability of gonorrhoea using prevalence data for gonorrhoea among men reporting sexual contact with men with gonorrhoea.

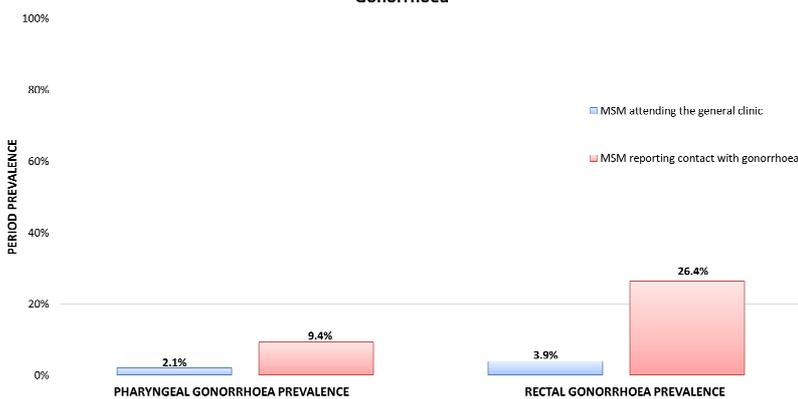
METHODS

Men were prospectively identified between March 2011 and December 2013 who presented to Melbourne Sexual Health Centre and reported sexual contact with a man with gonorrhoea. Men were screened for pharyngeal and rectal gonorrhoea using culture. The prevalence of gonorrhoea in contacts was compared to that among unselected MSM attending the clinic over the same period. Sexual behavioural data obtained by computer assisted self-interview were analysed using logistic regression to ascertain factors associated with infection.

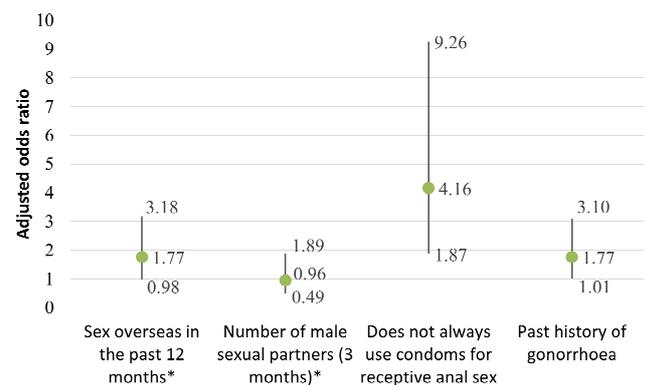
RESULTS

Among 363 contacts of gonorrhoea the prevalence of rectal gonorrhoea was 26.4% (95% CI: 21.8%-31.0%) compared to 3.9% (95% CI: 3.7%-4.2%) among other clinic attendees ($p < 0.001$). The prevalence of pharyngeal gonorrhoea among contacts was 9.4% (95% CI: 6.4%-12.4%) compared to 2.1% (95% CI: 1.9%-2.4%) among other attendees ($p < 0.001$). Among contacts who reported inconsistent condom use during receptive anal sex with casual partners, rectal gonorrhoea was cultured in 42.4% compared with 12.7% among contacts reporting no receptive anal sex ($p < 0.001$) and 20.2% among those reporting always using condoms ($p < 0.001$). On multivariate analysis rectal gonorrhoea was significantly associated with inconsistent condom use during receptive anal sex with casual partners (adjusted odds ratio (AOR): 4.16; 95% CI: 1.87-9.26) and a reported past history of gonorrhoea (AOR: 1.77; 95% CI: 1.01-3.14).

Comparison: Gonorrhoeal Prevalence Between the General Clinic and Contacts of Gonorrhoea



Multivariate Analysis: Adjusted Odds Ratios of Variables



* These variables were insignificant on multivariate analysis

CONCLUSIONS

The high prevalence of gonorrhoea among contacts in this study suggests gonorrhoea is highly transmissible between men. A crude estimate of the gonorrhoea transmission rate from the urethra to the rectum may be 42% given the prevalence among MSM having unprotected receptive anal sex. However the rate may be as high as 80% given that culture is almost 50% less sensitive than nucleic acid amplification testing. The data also lend support for epidemiological treatment of MSM who present as contacts of gonorrhoea.

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