

Sexually transmitted infections and the risk of coinfection: a population-based cohort

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Background:

Chlamydia, gonorrhoea, and syphilis are common sexually transmitted infections (STIs) in Aotearoa New Zealand (NZ). Although the national chlamydia incidence rate has remained relatively stable over the past 8 years, gonorrhoea and syphilis have been increasing, particularly among Māori and Pacific groups. In the context of rising STI incidence in NZ, coinfection of two or more STIs may present as a growing issue. However, our literature review located no studies that examined STI coinfection rates or risk factors at a national scale. To address this gap, this study examined predictors of chlamydia, gonorrhoea or syphilis coinfection among individuals with at least one STI diagnosis between 2018-2022.

Methods:

NZ-wide chlamydia, gonorrhoea, and syphilis notifications during 2018-2022 were identified using STI surveillance data. STI coinfection was defined as having a diagnosis of a different second and/or third STI within 30 days of the first STI diagnosis. Diagnoses were matched using encrypted NHIs. Adjusted odds ratios from multivariable logistic regression models are presented, identifying predictors of STI coinfection in NZ.

Results:

The national rate of coinfection has steadily increased since 2018. Coinfection rates are consistently higher among males, those aged 20-29, and Māori and Pacific peoples. In multivariate analysis, Māori (aOR=1.48; 95%CI 1.35-1.61) and Pacific peoples (aOR=1.45; 95%CI 1.31-1.61) had higher odds of coinfection. Those aged 20+ years had lower odds of coinfection than the 15-19 years age group. Men who have sex with women (aOR=0.59; 95% CI 0.53-0.65), women who have sex with men (aOR=0.61; 95%CI 0.55-0.68) and those with other sexual behaviours (aOR=0.56; 95% CI 0.50-0.62) had lower odds of coinfection than men who have sex with men. People who more than one test in the year prior to their first STI diagnosis during follow-up had lower odds of coinfection than those who had not tested.

Conclusion:

Our study is the first to assess predictors of STI coinfection using a New Zealand-wide population. Our findings highlight stark ethnic inequities in STI coinfections for Māori and Pacific populations, youth, and men who have sex with men, underscoring an urgent need to reorient sexual health services to better address the health needs of these populations.

Disclosure of Interest Statement:

ESR undertakes surveillance of notifiable diseases in New Zealand on behalf of Manatū Hauora (Ministry of Health). No specific funding was received for the development of this study.