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High Prevalence of *Neisseria gonorrhoeae* and Multiple Sexually Transmitted Diseases Among Rural Women in the Eastern Highlands Province of Papua New Guinea, Detected by Polymerase Chain Reaction

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Abstract

BackgroundIn a previous community-based study among rural women in the Eastern Highlands Province (EHP) of Papua New Guinea we determined that the prevalences of *Trichomonas vaginalis* infection, *Chlamydia trachomatis* infection, and syphilis were 46%, 26%, and 4%, respectively. Surprisingly, however, the prevalence of *Neisseria gonorrhoeae* infection was only 1%, which we considered low in consideration of the high prevalence of other sexually transmitted diseases (STDs). The aim of the current study was to reexamine samples that were collected in that survey and retest them with use of polymerase chain reaction (PCR).
Study DesignUsing a cluster-sampling method, we surveyed 201 women aged 15 to 45 years in a population of approximately 19,000 people. In addition, 243 other women living in the same area who wished to be screened for STDs were included in the study.
MethodsEndocervical samples that were stored frozen at -80°C were retested with multiplex PCR (M-PCR) for the detection of both *N gonorrhoeae* and *C trachomatis* and with a separate PCR for the detection of *T vaginalis*.
ResultsA total of 373 samples that were still available were analyzed. The prevalences of *T vaginalis*, *C trachomatis*, and *N gonorrhoeae* infections were 42.6%, 26.5%, and 18.2%, respectively; 59.8% of the women had at least one STD, while 21.7% had mixed infections, 5.9% of them with all three pathogens.
ConclusionsSTDs are very common among rural women in the EHP of Papua New Guinea and often present as multiple infections.