

Prevalence of Chlamydia Trachomatis Infection in Multiple Anatomical Sites among Patients at Stis Center, Thailand

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Abstract : Background: *C. trachomatis* is the most common bacterial sexually transmitted infections. Although infection with *C. trachomatis* can be treated with antibiotic, it is frequently asymptomatic, especially in extragenital sites. Hence, if screening tests are not performed, undetected and untreated is a crucial problem for *C. trachomatis* infection, especially in Thailand, which is less well studied. We sought to assess the prevalence of *C. trachomatis* infection in multiple anatomical sites among patients attending Bangrak STIs Center. Methods: We examined laboratory results of all patients at baseline visit from 3 January 2018 to 27 December 2019. These results were tested by a validated in-house real time PCR specify for the cryptic plasmid gene of *C. trachomatis*. The prevalence of *C. trachomatis* was analyzed by anatomical sites, sexes, and ages. Urogenital samples were obtained from urethral swab of men and cervical swab of women. The median ages of the patients were 32 years (range 13-89 years). Chi-square test by IBM SPSS statistic version 20 was used to assess difference in the distribution of variables between groups. Results: Among 3,789 patients, the prevalence for *C. trachomatis* infection was the highest in rectal (16.1%), followed by urogenital (11.2%) and pharyngeal (3.5%) sites. Rectal and urogenital infection in men was higher than in women, with the highest prevalence of 16.6% in rectal site. Both rectal and urogenital sites also showed statistically significant differences between sexes ($P < 0.001$). Meanwhile, pharyngeal *C. trachomatis* infection rate was higher in women than men. Interestingly, the chlamydia prevalence was the highest in age 13-19 years of all three sites (18.5%, urogenital; 17.7%, rectal; 6.5%, pharyngeal), with statistically significant difference between age groups ($P < 0.001$). Total of 45 *C. trachomatis* infections, 20.0%, 51.1%, and 6.7% were isolated from urogenital, rectal, and pharyngeal sites. In total, 75.6%, 26.7%, and 80.0% of chlamydia infections would have been missed, if only urogenital, rectal, or pharyngeal screening was performed. Conclusions: The highest source of *C. trachomatis* infection was the rectal site. While, the highest prevalence in men was at rectal site, that in women was at urogenital site. The highest chlamydia prevalence was found in adolescent age group, indicating that the pediatric population was a high-risk group. This finding also elucidated that a high proportion of *C. trachomatis* infection would be missed, if only single anatomical site screening was performed, especially in extragenital sites. Hence, extragenital screening is also required for the extensive *C. trachomatis* detection.

Keywords : chlamydia trachomatis, anatomical sites, sexes, ages

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