

Title: Use of self-collected vaginal swabs for the detection of *Chlamydia trachomatis* infection in females aged 18-30 years.

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Resume:

*Chlamydia trachomatis* infection (CT) is a sexually transmitted infection (STI) which is asymptomatic up to 80% of female's cases and frequently is neither diagnosed nor treated. Untreated CT infections can lead to pelvic inflammatory disease (PID), ectopic pregnancy and infertility. In developing countries, CT infections representing one of the major public health problems and the second disease that more affects women aged 15-49 years. The prevalence is highest among young women, aged 15-26 years, representing 10% in Brazil. UK and the USA shows prevalence around 8% and in Australia 6%, countries that recommend population-wide CT screening for sexually active women under 26 years of age. In Brazilian's health care services screening of CT is not yet part of the routine of most gynecologists, urologists and STI's doctors. Molecular methods are the best to detect CT genital infection (sensitivity 98-99.9%), around 20% higher sensitive than cell culture and direct immunofluorescence (IFD). This high sensitivity has allowed the use of less invasively collected specimens such as first catch urines and vaginal swabs to detect CT infection. Several studies reported sensitivity of self-collected vaginal swab comparable to endocervical sample. Objectives: Evaluate the effectiveness of CT detection on self-collected vaginal swabs in females aged 18-30 years. Methodology: First, we analyzed 45 endocervical samples of pregnant women who were seen in an obstetric emergency room from a public hospital. CT was detected by PCR and IFD. In parallel, were included in the study women aged 18-30 years who were seen to gynecological care. In this case the samples were collected from endocervix to performer IFD and PCR. And the participant took a self-collected vaginal swab for PCR to evaluate a perspective screening. Results: In the 45 endocervical samples from pregnant analyzed, four were positive on PCR and one reagent by IFD. In the screening test, 44 samples were analyzed, three were positive both in PCR by self-collection and endocervix, and only one was positive in the IFD. These results corroborate current research, PCR was more effective than IFD method and the self-collected swab was also effective to detect Ct infection.

Key-words: *Chlamydia trachomatis*, Chlamydia screening, self-collected, PCR.