

# The prevalence of *Chlamydia trachomatis* infection by molecular analysis of urine samples in women attending OB & GYN clinics in Tehran

Chamani-Tabriz L. (M.D., M.P.H.)<sup>1</sup>, Jeddi Tehrani M. (Ph.D.)<sup>2</sup>, Mosavi-Jarrahi A. (M.D., Ph.D.)<sup>3</sup>, Zeraati H. (Ph.D.)<sup>4</sup>, Ghasemi J. (B.Sc.)<sup>1</sup>, Asgari S. (B.Sc.)<sup>1</sup>, Rabbani H. (Ph.D.)<sup>5</sup>, Mamani M. (M.D.)<sup>6</sup>

1- Reproductive Biotechnology Research Center, Avesina Research Institute, Tehran, Iran.

2- Monoclonal Antibody Research Center, Avesina Research Institute, Tehran, Iran.

3- Shahid Beheshti University of Medical Sciences, Tehran, Iran.

4- Department of Epidemiology and Biostatistics, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran.

5- Nanobiotechnology Research Center, Avesina Research Institute, Tehran, Iran.

6- Department of Infectious Diseases, Hamedan University of Medical Sciences, Hamedan, Iran.

## Abstract

**Introduction:** *Chlamydia trachomatis* is a common and curable STI which can be symptomatic or asymptomatic. Nowadays, PCR is a very sensitive diagnostic tool for detecting *Chlamydia* in urine and can be used in routine screening procedures as a noninvasive test. There are few studies on the prevalence of *C. trachomatis* in Iranian women and most of them have small sample sizes which are not suitable for epidemiological deductions. The aim of this study was to estimate the prevalence of urogenital *C. trachomatis* infections by PCR on urine samples of women in their fertility years and to evaluate the necessity of screening for asymptomatic infections in Iranian women.

**Materials & Methods:** This WHO supported descriptive-analytical and cross-sectional study was performed on 1052, 15-49 year-old women. Participants were selected randomly from attendees of 5 Obstetric-Gynecologic clinics in Tehran during summer and fall of 2003. The research material consisted of a questionnaire and urine samples which were transported to Avesina Research Institute daily to extract their DNA and prepare them for PCR tests. The gathered data were analyzed by SPSS, version 11, and evaluated statistically by t-test, Chi-square, variance analysis and logistic regression, while considering  $p < 0.05$  as significant.

**Results:** The mean age of participants was  $28.52 \pm 6.36$  years. 56.2% of them had high school education, 94.2% were married, 91.8% were housewives, 32.5% were pregnant, 93.8% were sexually active, 99% of them were monogamous and 48.1% were on contraceptive methods. Among sexually active and non-pregnant participants, 10.4% were taking OCPs, 8.7% were using condoms, 16.3% had IUDs and the rest were on other contraceptive methods. In their reproductive history, 39% had vaginal discharges, 12.9% pelvic pains, 1% ectopic pregnancies, 21.2% abortions, 6.5% premature deliveries, 2.7% low birth weight infants and 7.2% were infertile. 129 subjects, (12.3%), had positive PCR tests. Statistically, there was no significant relationship between subjects, reproductive and personal histories of the subjects with the test results.

**Conclusion:** Based on the estimated prevalence, it seems that chlamydial infection is prevalent in the studied population. In populations with prevalences higher than 4%, screening programs are recommended, so that *Chlamydia* screening can be considered as a part of health care programs in Iran to reduce the burden of the disease.

**Key Words:** *Chlamydia trachomatis*, Prevalence, Women, Iran, Urine, Polymerase Chain Reaction (PCR), Restriction Fragment Length Polymorphism (RFLP).

**Corresponding Author:** Dr. Leili Chamani-Tabriz, Reproductive Biotechnology Research Center, Avesina Research Institute, ACECR, Tehran, Iran.

**E-mail:** lchamani@avesina.ac.ir