

Risk factors and genotypes

Lea Pichadze¹, Shlomo Pilo¹, Zeev Dveyrin¹, Efrat Rorman, Yasmin Maor^{2,3}, Yael Goor⁵, Rivka Sheffer⁶, Orit Yossepowitch², Tamy Shohat⁴, Israel Nissan¹

¹National Public Health Laboratory, Public Health Services, Ministry of Health, Israel. ²Infectious Disease Unit, Wolfson Medical Center, Israel.

³Sackler Faculty of Medicine, Tel Aviv University, Israel. ⁴Department of Epidemiology and Preventive Medicine, Tel Aviv University, Israel

⁵Levinsky clinic, Ministry of Health, Israel. ⁶Tel Aviv Health Bureau, Public Health Services, Ministry of Health, Israel

ABSTRACT

The Levinsky STI walk-in community clinic in Tel Aviv, provides counseling, testing, and treatment anonymously and free of charge to diverse population, including, sex workers, gay, lesbian, bisexual, and transgender (GLBT). We aimed to identify risk factors for *C. trachomatis* (CT) infection among individuals attending this STIs clinic from 2014 to 2018 and to genotype CT isolates among the described risk groups.

This study consists of two parts: **(A)** Cross-sectional study, using the demographic and behavioral characteristics data, and laboratory tests results; **(B)** Genotyping of 96 positive CT samples using Multilocus Sequence Typing (MLST) and *ompA* genotyping.

RESULTS

(A) The tested population was: Female - 2,224; Heterosexual male – 2,301; MSM - 3,664. 5.5% of female, 4.8% of heterosexual male and 2.3% of MSM were diagnosed with chlamydia infection.

The **Risk Factor** for chlamydia infection among the tested population were as followed:

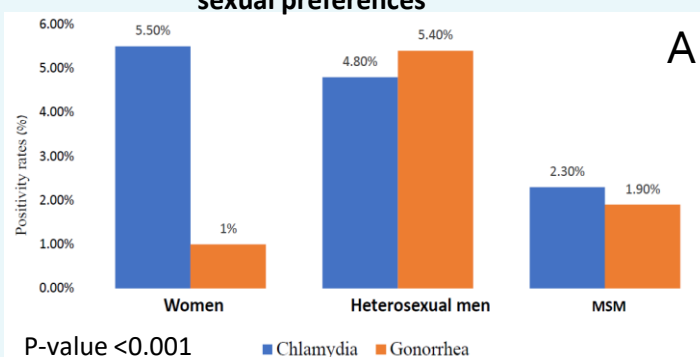
For women: 1. the age under 25 years (OR = 3.57 95% CI: 2.42-5.28) 2. drug and/or alcohol use during sexual intercourse (OR = 1.75 95% CI: 1.2-2.55).

For heterosexual men: 1. the age under than 25 years (OR = 1.68 95% CI: 1.07-2.64), 2. drug and/or alcohol use during sexual intercourse (OR = 1.75 95% CI: 1.16-2.63) 3. symptoms for STI (OR = 3.6 95% CI: 2.42-5.34).

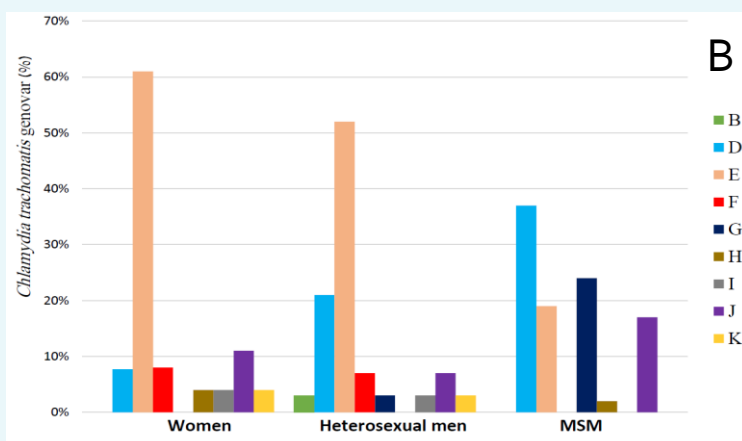
For MSM: 1. HIV infection (OR = 4.8 95% CI: 1.01-22.8). 2. symptoms for STI (OR = 4.75 95% CI: 2.92-7.74).

(B) Different genetic profile of CT were identified in isolated from heterosexuals (women and men) compared to MSM. In heterosexual male and female, most prevalent genovars were E, D, F while in MSM, the most prevalent genovars were D, G and J. 2.3%

Positivity rates of Chlamydia and Gonorrhea (*Neisseria gonorrhoeae*) infection by gender and sexual preferences



Genovar of *Chlamydia trachomatis* as identified by *ompA* gene



CONCLUSIONS

Women were at higher risk for CT infection compared to men. The highest risk for infection was observed for males and females under the age of 25 years. Different genovars are prevalent in different populations. The results emphasize the importance of screening for CT in women belonging to the risk group, under the age of 25 years.