

were examined. PCR detected 20 (1.78%) *CT* cases; 20 (1.78%) *MG*; 13 (1.16%) *TV*; 3 (0.27%) *GC*, whereas microscopy showed no *TV* or *GC* positive results. That means that screening revealed no STIs in this group at all. The study showed that the majority of women screened were aged 35–44 (44.2%), $p < 0.05$, whereby the maximum prevalence of *CT* was observed among 20–34-years-old women (3.5%), $p < 0.001$, *MG* among 25–34-years-old women (3.3%), $p < 0.001$. We registered no significant *TV* or *GC* prevalence distribution among the age groups. It is important to note that the overall STI burden reported by this DVC for 2010 comprised of 9 (0.05%) *TV* positive cases, no *GC* was detected among 16231 persons screened. The data observed in this study allows us to suggest that PCR could reveal the following amounts of STIs in this group—*Ct*-288 (95% CI 159 to 418); *Mg*-288 (95% CI 159 to 418); *Tv*-187 (95% CI 90 to 285); *Ng*-43 (95% CI 0 to 92).

Conclusions The data obtained shows the inefficacy of the routine STI screening in Russia. Low sensitivity diagnostic tools prevent us from revealing huge amounts of positive results. At the same time implementation of modern methods with higher sensitivities to the ongoing system will lead to more effective STI uncovering, especially in the groups of higher risk.

P1-S1.04 THE PATTERN OF STI BURDEN IN THE CENTRAL REGION OF RUSSIA: CHLAMYDIOSIS VS TRICHOMONIASIS. WHICH ONE IS THE LEADER?

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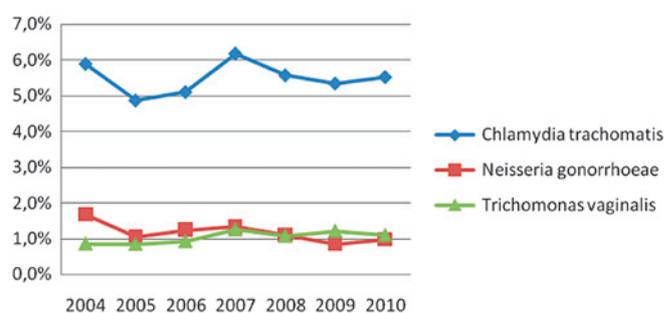
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Background Infections caused by *Chlamydia trachomatis* (*CT*) are proved to lead to such dramatic complications as PID and infertility. That means that *CT* prevalence control is essential for arranging prophylactic actions. Official statistics claim trichomoniasis to be the most prevalent STI in Russia. For example, the amount of registered *TV* infections in 2009 was 1.8 times higher than the *CT* counts. Taking into consideration the absence of *CT* screening programs among general population along with the use of low sensitivity diagnostic tests (microscopy, DIF), it is reasonable to suppose that the real prevalence proportions are distinct from the official data. In this connection the aim of this study was to evaluate the STI prevalence pattern in a population sampling.

Methods This study included patients attending STD departments of outpatient clinics of Moscow region from 2004 to 2010. Total amount—190 975 patients. For the evaluation of the STIs prevalence correlation samples from these patients we tested simultaneously for *CT*, *GC* and *TV* by PCR.

Results In 2004 a total of 23 (0.86%) (95% CI 13 to 32) *TV* positive results were obtained; 158 (5.89%) (95% CI 133 to 182) *CT* positive; infection proportion was 1:6.8 ($p = 0.05$). In 2010 a total of 577 (1.1%) (95% CI 522 to 622) *TV* positive results were obtained; 2886 (5.52%) (95% CI 2771 to 2980) *CT* positive; infection proportion was 1:5 ($p = 0.05$). Annually this proportion did not vary dramatically and was no lower than 1:5 ($p < 0.05$). No significant diversity in the rates of *TV* and *GC* detection was observed except for 2009, when 521 (1.22%) (95% CI 473 to 562) tested positively for *TV*; 364 (0.85%) (95% CI 323 to 396) for *GC*, infection proportion was 1:1.4 ($p = 0.05$) see Abstract P1-S1.04 Figure 1.

Conclusions This study shows that during the period 2004–2010 in a homogenous settings *CT* rates detected by sensitive methods were five or more times higher than *TV* rates. This might be an evidence of high *CT* prevalence and inappropriate official statistical recording of these infections in Russia.



Abstract P1-S1.04 Figure 1 Prevalence of *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Trichomonas vaginalis* 2004–2010.

P1-S1.05 THE DETECTION RATE OF CHLAMYDIA TRACHOMATIS AND MYCOPLASMA GENITALIUM INFECTIONS IN STD CLINICS IN NOVOSIBIRSK, RUSSIAN FEDERATION

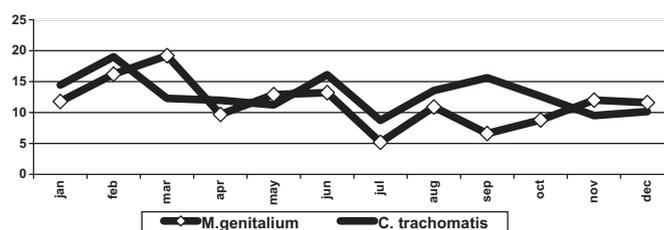
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Background Currently, in Russia, the incidence of syphilis, gonorrhoea, chlamydia, trichomoniasis, urogenital herpes, and anogenital warts are officially registered. However, statistical records and reporting forms do not include mycoplasma infections (eg, *Mycoplasma genitalium*).

Methods The aim of the present study was to evaluate the detection rates of *Chlamydia trachomatis* and *M genitalium* infections in patients who had attended to STD clinics in Novosibirsk in 2009–2010. A total of 9208 and 13 006 patients were examined for *M genitalium* and *C trachomatis*, respectively, in different settings (antenatal clinics, hospitals, health centers, STI clinics). Both infections were tested in urethral and/or cervical swabs with nucleic acid amplification techniques (“Litex” and “DNA technology”, Russia).

Results The detection rates of *M genitalium* and *C trachomatis* had not changed over 2009 and 2010, accounting to 12.6–12.6%, and 12.9–13.0%, respectively. Coinfection was observed in only 0.55% of examinies. However, seasonal variations showed different patterns for these two infections (Abstract P1-S1.05 figure 1). Statistical analysis by month revealed that the highest rates of *M genitalium* were reported in February and March, and the lowest ones—in July. Monthly analysis found even distribution of infection with *C trachomatis* along a year, while the lowest incidence was found in July.



Abstract P1-S1.05 Figure 1 Detection rates of *Mycoplasma genitalium* and *Chlamydia trachomatis* according to the attendance data (by month in %).

Conclusions The incidence rates of *C trachomatis* and *M genitalium* are approximately the same and account for 12–13% among men and women, equally. The combination of these infections is rare

(0.55%). During 2009–2010, there are parallel trends in the detection of these two infections, but in September the reciprocal event was shown. This discrepancy may be due to the peculiarities of various microorganisms, and the clinical signs of the infection—chlamydia can cause non-gonococcal urethritis, which is the reason for examination, and mycoplasma infection is mainly symptomless. Nevertheless, a hypothesis of various patterns of infections prevalence around a year in northern countries (ie, Canada, Alaska, Scandinavia, Russia) needs further clarification. The post-holiday period (September–October) may be a crucial point in the activity of the infectious process.

P1-S1.06 **RECTAL HEALTH: PREVALENCE OF RECTAL STIs AND ASSOCIATIONS WITH CLINICAL SIGNS AND SELF-REPORTED SYMPTOMS**

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Background Predictors of rectal health are needed for public health programs and planning rectal microbicide clinical trials.

Methods From October 2006 to December 2008, 896 men and women in Los Angeles and Baltimore in a rectal health and behaviours study (UCLA IPCP U19 0606414) completed interviews and rectal sexually transmitted infections (STIs) testing including Gonorrhoea (GC), Chlamydia (CT) and high-risk human papillomavirus (HR-HPV). Rectal signs detected by High Resolution Anoscopy (HRA) and self-reports of symptoms in the past month were analysed for associations with STIs (GC (n=7), CT (n=15) and HR-HPV (n=178)), demographics and receptive anal intercourse (RAI) in the past month. Those with active haemorrhoids were excluded (n=77) from analyses of STI predictors.

Results SIGNS—Men reporting RAI (n=234) had a higher prevalence of swelling seen by HRA than men not reporting RAI (6.4% vs 1.9%; p value 0.02). Prevalence of erythema or haemorrhoids was lower among men reporting RAI (2.2% vs 6.8%; p value=0.02 and 18.3% vs 30.8%; p value<0.01 respectively). There were no differences in signs between women by RAI. More erythema and discharge were HRA detected among HIV-positive men; more HIV positive men and women than HIV negative had ulceration. SYMPTOMS—Significantly more RAI+ men reported symptoms (swelling, itching, burning and irritation) but there were no differences in reported symptoms among women by RAI. HIV positive men (n=218) and women (n=186) reported more symptoms (swelling, itching, discharge and burning) than HIV negative men and women; HIV positive men reported more pain and irritation than HIV negative men (n=227). STIs—No HRA detected signs were associated with rectal GC or CT. Bleeding (OR 5.06, 95% CI 1.09 to 23.45) and leukoplakia (OR 5.06 95% CI 1.22 to 25.66) were significantly associated with detection of HR-HPV. No symptoms were associated with GC or CT; discharge in the past month was associated with HR-HPV (OR 2.16, 95% CI 1.07 to 4.35).

Conclusions Lack of association between signs or symptoms and prevalent rectal STI suggests syndromic approaches may be problematic requiring laboratory testing for detection of rectal STIs. Prevalence of signs varied little by RAI practice but there was a higher prevalence of self-reported symptoms among men reporting RAI. These findings can serve as a reference for expected rates to be found in clinical trials testing rectal microbicides and interpretation of adverse events.

P1-S1.07 **MULTIPLE BACTERIAL SEXUALLY TRANSMITTED INFECTIONS IN ONTARIO, CANADA**

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Background In 2009, there were 33 000 reported cases of chlamydia, gonorrhoea and infectious syphilis in Ontario. These reportable bacterial sexually transmitted infections (STIs) represented approximately 48% of all reportable disease cases reported in Ontario that year. A significant amount of resources is expended on public health case and contact management of bacterial STIs. The objective of our study was to use routine surveillance data from Ontario to quantify the incidence of persons with reported multiple bacterial STIs in Ontario from 2006 to 2009 in order to inform future public health interventions.

Methods All bacterial STI records from 2006 to 2009 were extracted from Ontario's integrated Public Health Information System (iPHIS). Multiple STIs were defined as repeat bacterial STIs or infection with a different bacterial STI in the same individual. Repeat STIs were defined as diagnoses of chlamydia or gonorrhoea more than 28 days after the previous infection. The data were analysed using PASW 18 for Windows (SPSS Inc.).

Results There were almost 100 000 unique clients with at least one bacterial STI from 2006 to 2009 representing 113 097 STI cases. Approximately 24% of STI cases reported from 2006 to 2009 occurred in individuals with multiple STIs during the same time-frame. However, clients with multiple STIs accounted for only 12% of the total number of clients reporting at least one STI in this 4-year time period and clients with three or more STIs only accounted for 2.4% of all clients. The majority of clients (~60%) with multiple STIs were infected within one year of their first STI. On average clients with multiple STIs had more sexual contacts recorded for their first STI than those clients who only had one STI (1.44 contacts vs 1.33 contacts, p<0.001). There was no difference in the number of clients lost to follow-up when comparing clients with only one STI to those with multiple STIs (p>0.9).

Conclusions Public health resources may be well spent in case and contact management because almost 90% of individuals only have one STI reported. However, individuals who have multiple STIs account for a substantial proportion of reported bacterial STI cases in Ontario. Further work to identify additional characteristics of individuals at risk for multiple STIs would aid in informing future public health interventions aimed at these high-risk individuals.

P1-S1.08 **PREVALENCE OF NEISSERIA GONORRHOEAE AND CHLAMYDIA TRACHOMATIS INFECTION IN MEN ATTENDING STD CLINICS IN BRAZIL**

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Introduction The study aimed to assess the prevalence of *Neisseria gonorrhoeae* and *Chlamydia trachomatis* infections and identify demographic, behavioural and clinical factors correlated with such infections in men attending six sexually transmitted disease clinics in Brazil.

Methods Multicentric, cross-sectional study performed among men attending STD clinics in Brazil. The study included STD clinics in six cities distributed throughout the five geographic regions of Brazil in 2005. Patients provided 20 ml of first catch urine for testing for *N gonorrhoeae* and *C trachomatis* by DNA-PCR.