

**Results** 1257 men and 3025 women participated (66–71% response rate). Chlamydia positivity was 4.6% (95% CI: 3.9–5.4); similar between men (5.2%; 95% CI: 3.9–6.4) and women (4.4%; 95% CI: 3.5–5.2). The likelihood ratio test found number of partners to be most significantly associated with chlamydia, followed by partnership duration,  $\geq 1$  concurrent partnerships (yes vs no), condom use (inconsistent vs consistent) and frequency of sex (daily/weekly/monthly vs less). The association was strongest for  $\geq 1$  concurrent partnerships (OR = 2.4; 95% CI: 1.7–3.4) followed by condom use (OR = 2.0; 95% CI: 1.3–2.9), partnership duration (OR = 0.5; 95% CI: 0.4–0.6) and number of partners (OR = 1.2; 95% CI: 1.1–1.3). Frequency of sex was not associated with chlamydia. When all variables were included in the model, condom use (OR = 2.1; 95% CI: 1.4–3.1) had the strongest association with chlamydia followed by partnership duration (OR = 0.5; 95% CI: 0.4–0.7), concurrent partnership (OR = 1.5; 95% CI: 1.0–2.3) and number of partners (OR = 1.1; 95% CI: 1.0–1.2), with the latter two highly correlated ( $p < 0.01$ ).

**Conclusion** Sexual behaviour is difficult to capture accurately in questionnaires, but these results suggest that number of partners, partnership duration, concurrent partnerships and condom use are important. It is difficult to separate the effect of concurrency from number of partners.

**P3.020 PREVALENCE OF GENITAL CHLAMYDIA TRACHOMATIS AND NEISSERIA GONORRHOEAE INFECTIONS AMONG ADOLESCENTS IN NORTHERN ITALY**

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**Background** Sexually transmitted infections are widespread globally, especially among people aged 15–25. Chlamydia trachomatis is the most common sexually-acquired bacterial disease. This infection is not notified in Italy; prevalence data on population-based surveys are not available.

**Methods** We conducted a prevalence survey among students aged 18 or older attending high schools in the Province of Brescia, Northern Italy. A total of 3134 adolescents were offered to enter the study; overall, 1886/3134 (60.2%) participated. Each consenting student answered to a socio-behavioural questionnaire and *C. trachomatis* and *N. gonorrhoeae* were searched on first void urine samples using VERSANT® CT/GC DNA 1.0 Assay (kPCR). We present preliminary data concerning 1311 enrolled individuals attending 16 schools.

**Results** Overall, 63.8% (836/1311) were females and the median age was 18.4 years. Most students (91.7%) were born in Italy. 77.1% of the enrolled students declared to be sexually active ( $F > M$ ,  $p < 0.001$ ), with their first intercourse occurring at a median age of 16.0 years. About 57.0% of sexually active persons reported using condom during the last intercourse and only 26.5% ( $M > F$ ,  $p = 0.017$ ) admitted always using it. Females were found to become sexually active earlier, had more partners in the previous six months and less frequently used condoms. No case of *N. gonorrhoeae* infection was identified, while 8 males and 13 females were positive for *C. trachomatis*, with a prevalence rate among sexually active students of 2.4% (IC 95%: 1.0–4.8) and 1.9% (IC 95%: 1.0–3.3) respectively. The factors significantly associated with an increased risk of Chlamydial infection were the inconsistent condom use ( $p = 0.029$ ) and a higher number of sexual partners during the previous six months ( $p = 0.013$ ).

**Conclusion** A lower than expected prevalence of *C. trachomatis* infection was observed among sexually active adolescents in Northern Italy.

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**P3.021 SEROEPIDEMIOLOGY TO EVALUATE CHLAMYDIA SCREENING PROGRAMMES: RESULTS FROM TWO SURVEYS OF PGP3 ANTIBODY IN RESIDUAL STORED SERUM SAMPLES IN ENGLAND**

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**Background** There have been substantial increases in chlamydia screening among young adults in England since the introduction of the National Chlamydia Screening Programme in 2003. The impact of the programme on the incidence of chlamydia in practise is unknown. We used stored sera to investigate trends in seroprevalence for chlamydia.

**Methods** Unlinked, anonymous, residual serum specimens were obtained from: (1) an approximate population-based collection, the Health Protection Agency Seroepidemiology Unit (SEU), consisting of sera submitted to laboratories in England for routine investigations ( $n = 4,732$ ); (2) a higher STI-risk collection, the Unlinked Anonymous Survey of Genitourinary Medicine Clinic Attendees (GUMAnon), consisting of sera from women tested for syphilis in two GUM clinics ( $n = 5,431$ ). Specimens from women aged 17–24, between 1993 and 2010 (SEU) and women aged  $< 20$ –34, between 1993 and 2009 (GUMAnon) were tested using an indirect IgG ELISA for chlamydia Pgp3 antibody.

**Results** In the SEU samples, seroprevalence amongst 17–24 year-olds increased between 1993 and 2002 (from 17% to 21%), and decreased between 2007 and 2010 (20% to 15%). The biggest decrease was among 20–21 year-olds (21% to 9%). In the GUMAnon samples, seroprevalence was consistently higher and declined in  $< 20$  year olds between 2002 and 2009 (48% to 38%); no notable changes were seen in older ages. Seroprevalence was generally higher among older age groups within each collection.

**Conclusions** Pgp3 seroprevalence reflected known epidemiology of chlamydia infection with regard to increases between 1993–2002, by age and by risk. Given this, the decline in seroprevalence in recent years, particularly in younger age groups, suggests that the increased chlamydia screening during these years is changing the epidemiology of Pgp3 antibody-inducing chlamydia infection. Further exploration of Pgp3 seroprevalence as a tool for evaluation of chlamydia screening programmes is warranted.

**P3.022 CHLAMYDIA TRACHOMATIS (CT) INFECTIONS: FALSE NEGATIVE PCR-TESTING IN CRYPTIC PLASMID DELETED CT CAN BE EASILY DETECTED USING A MOMP-ANALYSING PCR**

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**Background** Ct is globally the most common cause of sexually transmitted infections. A new variant of ct with a deletion in the cryptic plasmid has been found in Sweden, following an unexpected 25% increase in genital infections in 2006. This variant escapes routine diagnostic PCR-tests. Thus a new nuclear acid amplification test (NAAT), which uses the cryptic plasmid as well as the MOMP-gene as target area was developed. The MOMP-gene encodes a protein (OMP-1) which represents 60% of the proteins embedded in the peptidoglycans of the bacterial cell wall. The aim of this study was to define the number of cryptic plasmid-/MOMP+ patients.