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## Home sampling versus conventional contact tracing for detecting *Chlamydia trachomatis* infection in male partners of infected women: randomised study

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Urogenital infections with *Chlamydia trachomatis* are widespread and usually asymptomatic. Major complications from infection include ectopic pregnancies and female infertility.<sup>1</sup> Although contact tracing reduces the prevalence of chlamydia infection,<sup>2</sup> the test rate among partners is often low, partly because male contacts have to have a urethral swab taken by a doctor.

As the polymerase chain reaction can successfully detect infection in urine samples,<sup>3</sup> we investigated whether the test rate could be increased by asking the male contacts of infected women to send a urine sample directly from home to a laboratory instead of having a doctor take a urethral swab.

### Subjects, methods, and results

Ninety six women with *C trachomatis* infection seen in general practices in Aarhus County, Denmark, were randomly divided according to their date of birth into an intervention group (45 patients) and a control group (51 patients). Women in the intervention group were asked to complete a questionnaire, including the number of male sexual partners over the preceding six months, and to supply their partners with an envelope containing a 10 ml sterile container, information on collecting the first urine sample of the morning, and a prepaid envelope for returning the sample to the laboratory at the Aarhus University Hospital. Envelopes supplied by the control group contained a request for the partner to visit his doctor as well as a contact slip and a prepaid envelope to be given to the doctor for returning a urethral swab sample.

Swab samples were examined by enzyme immunoassay (MicroTrak II, Behring, Germany). Specimens with an optical density greater than 30% of the recommended cut off point were confirmed by polymerase chain reaction assay (Amplicor, Roche, Switzerland).<sup>4</sup> Urine samples were analysed by the same polymerase chain reaction. A sample was considered positive only if the result was confirmed on retesting.

The table shows the results of contact tracing. Forty four out of 65 (68%) partners were examined in the intervention group compared with 19 out of 68 (28%) in the control group ( $\chi^2=19.50$ ;  $P<0.01$ ). The difference in test rate was 0.4 (0.68 minus 0.28) (95% confidence interval 0.24 to 0.56). Although not significant, there were more new cases of *C trachomatis* per index case in the intervention group (0.27) than in the control group (0.14). The difference between the two groups was 0.13 (-0.03 to 0.29). Furthermore, there was a trend for partners of women in the intervention group to be tested earlier than those of women in the control group, with a mean delay time of 12.6 days and 17.7 days respectively. Thus the difference between the two groups was 5.1 days (-1.6 to 11.8). The prevalence of *C trachomatis* in samples from the intervention and control groups was 27% and 39% respectively.

Tracing of male contacts of women with *Chlamydia trachomatis* infection

	Intervention group (n=45)	Control group (n=51)
<b>Partners contacted</b>		
No	65	68
Median No per index case	1	1
Mean No per index case	1.44	1.33
Range	0-4	0-4
<b>Partners tested</b>		
No (% of those contacted)	44 (68)	19 (28)*
Mean No per index case	0.98	0.37
Range	0-3	0-1
<b>Partners infected</b>		
No (% of those tested)	12(27)	7(39)
Mean No per index case	0.27	0.14
<b>Time until testing</b>		
Mean delay (days)	12.6	17.7

\*Result unknown for one partner.

## Comment

Contact partners of women with *C trachomatis* infection may be deterred from seeking medical help because of the intimate nature of the infection and because a urethral swab is needed. Urine samples obtained at home provide a non-invasive and less time consuming alternative.

A similar procedure for contact tracing of female partners of men infected with *C trachomatis* should be considered as the organism has been detected in urine samples from women.<sup>5</sup>

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Contributors: BA coordinated the primary study hypothesis and the core ideas, designed the protocol, obtained approval from the ethics committee, coordinated inclusion of patients, scanned the data, and coordinated the interpretation of results and writing of the paper. LØ discussed the primary hypothesis, core ideas, analysis, and protocol design and participated in the interpretation of results and writing of the paper. JKM discussed the hypothesis and ideas, led the analysis of the samples

obtained, participated in the interpretation of results, and edited the paper. FO discussed the hypothesis and core ideas and participated in the protocol design, coordination of contact with the general practitioners, the interpretation of results, and the writing of the paper. FO is the guarantor of the paper.

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# Opportunistic screening for chlamydial infection at time of cervical smear testing in general practice: prevalence study

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Genital infection with *Chlamydia trachomatis* is the most common, curable sexually transmitted disease in England and Wales.<sup>1</sup> In the United States and Sweden screening programmes have been shown to be effective in reducing the prevalence both of cervical infection with *C trachomatis* and of sequelae such as pelvic inflammatory disease.<sup>1,2</sup> In Britain a national selective screening programme has recently been recommended,<sup>3</sup> but more data on the prevalence of chlamydial infection in different healthcare settings are needed.<sup>1,3</sup> There have been no large studies of more than 1000 patients done on the patient populations from inner city general practices in the United Kingdom.<sup>1</sup> The aim of this study was to determine the prevalence and predictors of chlamydial infection in women aged <35 having cervical smear tests in inner London general practices.

## Subjects, methods, and results

Thirty seven practice nurses and 108 general practitioners from 30 practices participated in the study. The total patient population served by the practices was 192 000. The mean Jarman underprivileged area score was 23 (range 15-33). (A positive score indicates social deprivation and compares with a mean score for England and Wales of 0.) Twelve practices had only one or two practitioners.

Each practice was asked to recruit consecutive women aged <35 who were attending for a cervical smear test, record their clinical details, test them for chlamydia, and ask them to complete a confidential questionnaire on sexual health. Informed consent and

ethical approval were obtained. Women who had taken antibiotics in the previous month were excluded.

Practice nurses and general practitioners were taught to take endocervical specimens for detection of chlamydial infection. These were analysed at St George's Hospital by enzyme immunoassay (Microtrak Syva II, Behring Diagnostics, Milton Keynes) and confirmed by direct fluorescent antibody testing. Six possible predictors of infection found in other studies were also examined: age <25, ethnic group, number of sexual partners, condom use, the presence of mucopurulent vaginal discharge, and the presence of a friable cervix with bleeding on contact.

Between May 1994 and October 1995, 1382 women aged 16-34 (mean age 27) were recruited. The mean number of subjects recruited from each practice was 46 (range 11-102). Practices were asked to complete recruitment rate forms for a sample of 25 consecutive women aged <35 attending for a cervical smear test. Practices recorded the age and ethnic origin of patients who were not asked to participate or who refused. Two practices had recruited 50 participants before the forms were introduced. Analysis of 18 forms returned by the practices showed that the age and ethnic origin of the 55/415 (13%) women who were not asked to participate and the 31/415 (7%) who refused were similar to those patients who agreed to participate. Altogether, 1049 women (76%) returned postal questionnaires. Of these women, 838/1040 (80%) were white, 84/1040 (8%) of Afro-Caribbean origin, 48/1040 (5%) of black African origin, 29/1040 (3%) of Indian subcontinent origin, and 41/1040 (4%)

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