Partner notification among asymptomatic *Chlamydia trachomatis* cases, by means of mailed specimens

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SUMMARY
The objective of the study was to evaluate the prevalence of Chlamydia trachomatis *infection and the participation, among partners of asymptomatic cases in general practice. Index cases were requested to invite partners for testing by mailed urine samples. One or more partners of 62% of the index cases participated, and the prevalence of infection among partners was 48%. A steady relationship was a determinant of both participation and prevalence. In conclusion, the mailing strategy is an effective strategy for partner notification. A high prevalence was found among partners.*
Keywords: *patient participation; prevalence; asymptomatic;* Chlamydia trachomatis.

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Introduction

PARTNER notification is essential in the control of *Chlamydia trachomatis* infections. An untreated infection in women may lead to pelvic inflammatory disease, and at a later stage to infertility, ectopic pregnancy, and chronic abdominal pain.[1] Re-infection by an untreated partner with *C trachomatis* increases the risk of complications.[2] Moreover, adequate treatment limits the spread of the infection to new sexual partners.

Owing to the increased attention which is being paid to case finding and screening, general practitioners (GPs) are now often confronted with asymptomatic cases.[3] Infection rates among partners of asymptomatically infected men and women in general practice have not yet been reported in the literature. Moreover, evidence suggests that partner notification is often neglected by GPs, despite good intentions.[4]

In this study, the objective was to determine the prevalence and determinants of *C trachomatis* infection, and participation among partners of cases with an asymptomatic *C trachomatis* infection.

Method

All cases found in a screening programme for asymptomatic *C trachomatis* infections in general practice, who had had a sexual partner in the previous six months, were invited for the partner notification by their GP. More information about the screening is provided in another paper in this issue of the *BJGP (page 323)*.

The index case could indicate per partner whether he or she agreed to notify that partner. The index case was then requested to send or deliver a package, containing a covering letter, an information leaflet, a coded sterile container, a questionnaire, a disposable glove and a pre-stamped addressed envelope. Partners who, after reading the information, wished to participate, were requested to return a urine sample and the completed questionnaire by mail. All samples were tested for the presence of *C trachomatis* DNA by means of the ligase chain reaction (Abbott Laboratories, Chicago, Illinois, USA).

The study was approved by the Medical Ethics Committee of the Vrije Universiteit in Amsterdam.

Statistical analysis

Successful partner notification was defined as the percentage of eligible cases, of whom at least one partner was tested. Odds ratios and 95% confidence intervals were calculated for determinants of participation and infection. Multiple

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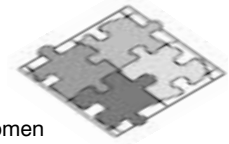

What do we know?

Infection rates among partners of asymptomatically infected men and women in general practice have not yet been reported.

What does this paper add?

In this study it was shown that, by using a simple mailing strategy, a large proportion of the partners could be notified and tested.

partners of one index case were included in the analysis.

Results

Of the 97 eligible cases, one did not participate because the partner's current address was unknown, two because their confirmatory tests were negative, and one for unknown reasons (Figure 1). Fifty-seven index cases had one partner who participated, while three index cases had two participating partners. Owing to missing information from the practices, with regard to which package had been given, the index case of three participating partners could not be identified.

Being in a steady relationship, as reported by the index case, was related to participation (OR = 6.1; 95% CI = 2.2 to 16.9). The association was independent of gender, inconsistent condom use or changing sexual contacts (Table 1). Other determinants showed no significant association (data not shown).

The prevalence of *C trachomatis* infections among participating partners was 48% (Figure 1). Determinants of infection were a steady relationship (OR = 5.1; 95% CI = 0.99 to 25.8) and a total of less than 16 years of education reported by the partner (OR = 2.9; 95% CI = 0.99 to 8.2). The age of the partner, gender, ethnic origin, and the type of health insurance of the partner were not associated with the presence of an infection (data not shown).

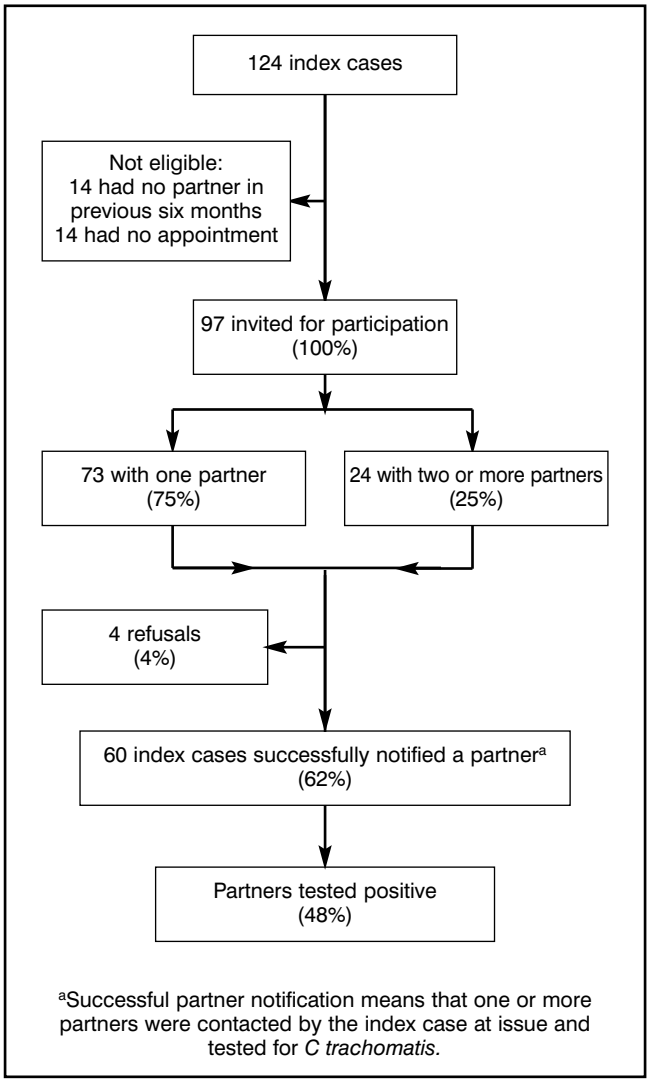

Figure 1. Successful partner notification among index cases with an asymptomatic Chlamydia trachomatis *infection in general practice.*

Table 1. Association between steady relationship and successful partner notification[a] stratified by gender of index case, changing sexual contacts, and inconsistent condom use.

Determinant	Prevalence determinant 'steady relationship'(%)		OR (95% CI)
	Partner(s) contacted	No partner contacted	
Crude	88.3	55.6	6.1 (2.2–16.9)
Sex of index case			
Male (*n* = 35)	95.2	57.1	15.0 (1.5–145.2)
Female (*n* = 61)	85.7	57.7	4.4 (1.3–15.0)
Changing sexual contacts[b]			
Yes (*n* = 27)	71.4	30.8	5.6 (1.1–29.4)
No (*n* = 69)	95.2	70.4	8.4 (1.6–43.5)
Inconsistent condom use			
Yes (*n* = 63)	86.5	57.7	4.7 (1.4–15.9)
No (*n* = 33)	94.7	57.1	13.5 (1.4–131.3)

[a]Successful partner notification means that one or more partners were contacted by the index case at issue and tested for *C trachomatis*; [b]either multiple sexual partners in previous six months or new sexual partner in previous two months. OR = odds ratio; CI = confidence interval.

Discussion

Mailed self-obtained samples have been shown to be suitable for screening.[5] Using a simple mailing strategy, 62% of cases detected in a screening programme had one or more partners tested. Data on non-participating partners and the reasons for not participating were unfortunately not available.

The majority of index cases in our study only reported one steady partner. It is, however, possible that those persons with multiple partners did not at all participate in the initial screening.

Notification or follow-up by the GP or practice nurse might have resulted in a higher percentage of partners being contacted.[6] However, this would require investing a large amount of additional time and experience shows that the follow-up of infected cases and their partners is quite demanding as it is.

The prevalence of *C trachomatis* among participating partners was 48%. This prevalence is slightly higher than the prevalence among partners in a Danish trial.[5] The discrepancy might be explained by a higher response among non-steady partners in the Danish study, who are at lower risk of infection. In our study, a steady relationship was shown predictive of both participation in the study and positivity of the partner.

Clustering of patients registered in one general practice and multiple partners of the same index should have been taken into account in the analysis, resulting in broader confidence intervals. However, the number of index cases and partners included in the study was insufficient.

In conclusion, the high prevalence of infections found among tested partners emphasises the importance of screening sexual partners of asymptomatic cases. The mailing strategy was shown to be effective for partner notification.

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