Review: Partner-notification interventions can reduce sexually transmitted infections

Trelle S, Shang A, Nartey L, Cassell JA, Low N. **Improved effectiveness of partner notification for patients with sexually transmitted infections: systematic review.** BMJ. 2007;334:354.

Clinical impact ratings: GIM/FP/GP ★★★★★☆☆ Infectious Disease ★★★★★★☆ Public Health ★★★★★☆☆

QUESTION

In patients with sexually transmitted infections (STIs), is the addition of partner-notification interventions more effective than patient referral alone for reducing persistent or recurrent infections (PRIs)?

METHODS

Data sources: MEDLINE, EMBASE/Excerpta Medica, CINAHL, Cochrane Library, PsycINFO, Sigle, and DARE (all from 1990 to 2005); 2 electronic research registers (International Standard Randomized Controlled Trial Number Register and clinicaltrials.gov); and reference lists.

Study selection and assessment: Randomized controlled trials (RCTs) that compared patient referral alone with referral plus additional partner-notification interventions, including patient-delivered partner therapy (PDPT) (i.e., patients were given drugs or a prescription for their partners) in patients with STIs. Patient referral involved index patients informing their sexual partners about the infection and advising them to seek treatment, with or without clinic contact cards. 14 RCTs (n = 12 389; STIs included gonorrhea, chlamydia, nongonococcal urethritis, trichomoniasis, or an STI syndrome) evaluating 16 interventions met the selection criteria. Quality assessment of individual studies was based on randomization, allocation concealment, fully defining outcomes, blinding outcome assessors, minimizing cointerventions, reporting dropouts and withdrawals, and performing an intention-to-treat analysis.

Outcomes: PRIs in index patients. Secondary outcomes included number of partners treated, tested, or notified.

MAIN RESULTS

Meta-analysis showed that PDPT led to a lower PRI rate and more partners treated (Table). Home sampling for partners (including sterile containers, information on how to collect specimens, and a prepaid envelope) increased the proportion of patients with partners tested (1 RCT, n = 1826, 562 consented, 22% vs 10%, number needed to treat [NNT] 8, 95% CI 7 to 11) and the number of partners tested per patient (1 RCT, n = 1826, 562 consented, 0.16 vs 0.04 for women, 0.31 vs 0.14 for men; another RCT, n = 96, 0.98 vs 0.37). 1 RCT (n = 633) found that written information for partners led to a lower PRI rate (5% vs 12%, {NNT 14, CI 11 to 25}*) and a higher proportion of partners treated (46% vs 35%, {NNT 10, CI 6 to 22}*); another RCT (n = 309) did not find any benefits. Several trials of education or counseling for index patients showed inconsistent results in terms of increasing rates of partner notification or treatment.

CONCLUSION

In patients with sexually transmitted infections, patient-delivered partner therapy and written information for partners can reduce the rate of persistent or recurrent infection.

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For correspondence: Dr. N. Low, University of Bern, Bern, Switzerland. E-mail low@ispm.unibe.ch.

*Calculated from data in article.

Patient-delivered partner therapy (PDPT) plus patient referral (PR) vs PR alone for sexually transmitted infections†

Outcomes	Number of trials (n)	Weighted event rates		RRR (95% CI)	NNT (CI)
		PDPT + PR	PR alone		
PRIs	5 (5834)	NA	NA	27% (7 to 43)	NA
				RBI (CI)	
Partners treated	4 (4072)	64%‡	48%‡	44% (12 to 86)	5 (3 to 18)

†PRI = persistent or recurrent infection; NA = data not available from author; other abbreviations defined in Glossary. Weighted event rates, RRR, RBI, NNT, and CI calculated from data in article using a random-effects model.
‡Data provided by author.

COMMENTARY

The review by Trelle and colleagues supports the need to consider treating the sexual partners of a person presenting with an STI. Partner-notification interventions—PDPT, patient referral plus written information for partners, and sampling kits for partners of index patients—are superior to simple patient referral. PDPT decreased PRIs in index cases and is the simplest approach. However, PDPT may not be the optimal strategy for treating STIs in sexual partners.

The relative risk reductions and NNTs for PDPT are not as robust as would be expected for medications known to be effective for STIs. This raises concerns about how often such medications are actually being delivered and taken as prescribed. Do some index patients keep the medications for their own future use, do they fear notifying their partners, do they frequently have untraceable or anonymous partners (e.g., prostitution or sex trafficking), or do partners refuse to accept the treatment?

The CIs of the NNTs for PDPT and patient referral plus written information for partners overlap, indicating that they may be similarly effective. Are index patients willing to deliver medications to their partners also the persons who would utilize patient referral plus written information for partners? If similar PRI decreases can be accomplished without increasing the risk for antibiotic resistance, which is already a problem with quinolones for gonorrhea, then patient referral plus written information for partners instead of PDPT might be the more prudent long-term public health approach.

Dispensing medicines to unknown persons with unknown medical histories may make some physicians and pharmacists uneasy. Also, medical–legal culpability and ramifications vary from country to country.

Because the included studies have important design issues or differences (e.g., some had unclear allocation concealment, unblinded outcome assessors, and differences in treatment of control and experimental groups; some assessed PRI, whereas others assessed partner testing, notification, or treatment), the findings are not conclusive. Still, it is clear that health providers need to think beyond the patient with the STI and consider the partners who remain vectors for PRIs.

Stephen A. Wilson, MD, MPH
University of Pittsburgh Medical Center
Pittsburgh, Pennsylvania, USA