

WHAT IS ALREADY KNOWN ON THIS TOPIC

Reassurance from doctors is a common medical intervention

Even after the completion of investigations and reassurance from doctors, many patients remain anxious about their symptoms

WHAT THIS STUDY ADDS

Written information and a discussion about normal results before testing improved rates of patients' reassurance

Previous research shows that a large number of patients without disease remain worried or uncertain after medical investigations.²⁻⁴ We also found that half of the patients in the control group were not reassured by the standard advice they received before testing, and initial reassurance in this group tended to decline over time. An earlier study of patients with non-cardiac chest pain noted that many are unprepared for the possibility of normal findings and lack a context in which to interpret such results.⁵ Providing prior information about the test and the meaning of a normal test result seemed to lead to better assimilation of reassuring messages. Furthermore, in patients prepared for a normal test result, reports of subsequent chest pain were reduced.

The strength of this study was that we were able to collect information on patients' concerns about their

symptoms before and after testing and at one month. Also, only a few patients were lost to follow-up. We used a health psychologist to engage patients in a discussion about the test and it remains to be established whether similar results can be obtained with a clinic nurse or registrar.

This relatively small study may best be considered as a proof of principle study, the results of which need replication in a larger sample. The implication of the study for clinicians is that an increase in patients' reassurance after clinical testing can be expected if more time is spent explaining the meaning of normal test results before the test.

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Improved effectiveness of partner notification for patients with sexually transmitted infections: systematic review

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ABSTRACT

Objective To examine the effectiveness of methods to improve partner notification by patient referral (index patient has responsibility for informing sex partners of their exposure to a sexually transmitted infection).

Design Systematic review of randomised trials of any intervention to supplement simple patient referral.

Data sources Seven electronic databases searched (January 1990 to December 2005) without language restriction, and reference lists of retrieved articles.

Review methods Selection of trials, data extraction, and quality assessment were done by two independent reviewers. The primary outcome was a reduction of incidence or prevalence of sexually transmitted infections in index patients. If this was not reported data were extracted according to a hierarchy of secondary outcomes: number of partners treated; number of partners tested or testing positive; and number of partners notified, located, or elicited. Random effects meta-analysis was carried out when appropriate.

Results 14 trials were included with 12 389 women and men diagnosed as having gonorrhoea, chlamydia,

non-gonococcal urethritis, trichomoniasis, or a sexually transmitted infection syndrome. All studies had methodological weaknesses that could have biased their results. Three strategies were used. Six trials examined patient delivered partner therapy. Meta-analysis of five of these showed a reduced risk of persistent or recurrent infection in patients with chlamydia or gonorrhoea (summary risk ratio 0.73, 95% confidence interval 0.57 to 0.93). Supplementing patient referral with information for partners was as effective as patient delivered partner therapy. Neither strategy was effective in women with trichomoniasis. Two trials found that providing index patients with chlamydia with sampling kits for their partners increased the number of partners who got treated. **Conclusions** Involving index patients in shared responsibility for the management of sexual partners improves outcomes. Health professionals should consider the following strategies for the management of individual patients: patient delivered partner therapy, home sampling for partners, and providing additional information for partners.

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INTRODUCTION

The stigma attached to sexually transmitted infections makes partner notification difficult.¹ More partners are likely to be treated if a health professional contacts them (provider referral) rather than the patient (patient referral).² Current methods of patient referral only reach 40-60% of named sexual partners.³

We systematically reviewed the literature to examine the effectiveness of new methods to improve patient referral.

METHODS

We included trials that compared simple patient referral with patient referral supplemented by methods to improve its effectiveness (see search strategy on bmj.com). Simple patient referral was any intervention in which index patients had responsibility for informing sexual partners about the infection and advising them to seek treatment, with or without contact cards.

Our primary outcome was a reduction of incidence or prevalence of sexually transmitted infections in index patients. For missing data we extracted information according to a hierarchy of secondary outcomes (see bmj.com).

When more than two trials examined the same intervention we combined results using random effects meta-analysis. Heterogeneity was assessed using Cochran's Q and the I² statistic. In meta-analyses with at least five trials we examined funnel plots and looked for small study effects.

RESULTS

Overall 2493 unique references were identified and 290 manuscripts retrieved, including two unpublished studies (see bmj.com).^{w13 w14} Fourteen trials (16 interventions, 12 389 people) in patients with gonorrhoea, chlamydia, trichomoniasis, non-specific urethritis, or syndromic diagnoses were included (see bmj.com, also see fuller table provided by authors on www.ispm.ch/index.php?id=1193). We identified three strategies for improving the yield of patient referral. Six trials evaluated interventions in which index cases were given drugs or a prescription for their partners (patient delivered partner therapy).^{w1-w6} Two of these also compared patient delivered partner therapy with additional information for partners.^{w1 w2} Two trials evaluated providing sampling kits to patients with chlamydia for their partners.^{w7 w8} Eight trials evaluated providing additional information.^{w7-w14}

Methodological quality

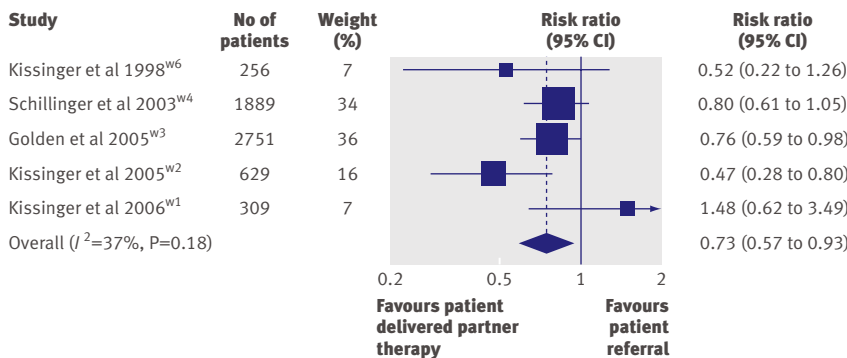
Only four reports described an adequate method of generating a random allocation sequence,^{w1 w5 w9 w10} and concealment was adequate in only one.^{w9} One other trial concealed allocation by using sealed, opaque envelopes.^{w4} Six trials measured our primary outcome.^{w1-w4 w6 w13} Assessment of primary and secondary outcomes was potentially biased in all but one study that used blinding.^{w14} Additionally, in one trial only patients in the intervention group were refunded their fares and outcomes in the groups were assessed differently.^{w5} In another two trials examining patient delivered partner therapy, the wording of the question assessing the outcome would have underestimated the proportion of partners treated in the control groups.^{w1 w2} In six trials^{w1-w5 w9} the intervention groups also received benefits potentially contributing to the observed effect.

Patient delivered partner therapy

Over 6000 patients were enrolled in six trials of patient delivered partner therapy.^{w1-w6} In one trial from Uganda,^{w5} and one from the United States,^{w6} index patients in the intervention group received the drugs. In the other trials they received the drugs and information on the drugs and contacting health professionals.^{w1-w4} One trial also included information on the infection^{w4} and one included condoms.^{w3} The controls received simple patient referral without contact cards in three trials^{w1-w3} and with cards in three trials.^{w4-w6}

The rate of persistent or recurrent infections in patient delivered partner therapy groups was lower than in controls among index cases with chlamydia or gonorrhoea. In five trials with sufficient data the summary risk ratio compared with simple patient referral was 0.73 (95% confidence interval 0.57 to 0.93), with some evidence of heterogeneity (I² 37%, P=0.18; fig 1).^{w1-w4 w6} No evidence was found for small study effects (P=0.91). Four trials provided enough details for meta-analysis of the proportion of partners treated per partner elicited.^{w1-w3 w5} These favoured patient delivered partner therapy (risk ratio 1.44, 95% confidence interval 1.12 to 1.86) but high heterogeneity (I² 94%, P<0.001; fig 1).

Persistent or recurrent infections



Partners treated per elicited partner

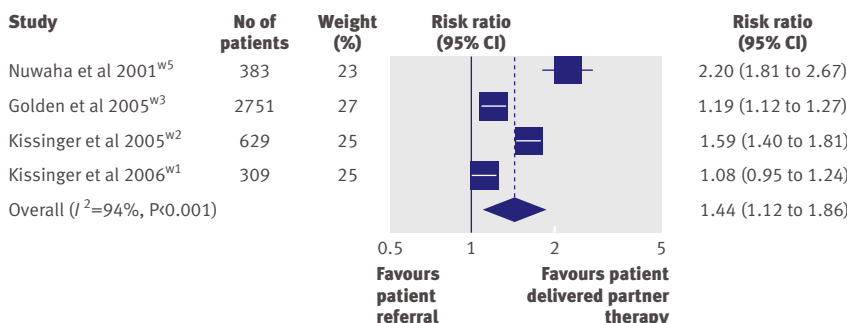


Fig 1 | Random effects meta-analyses of primary and secondary outcomes of trials comparing patient delivered partner therapy with simple patient referral. All trials except for Schillinger et al 2003^{w4} had unclear or inadequate concealment of allocation

Partners treated per elicited partner

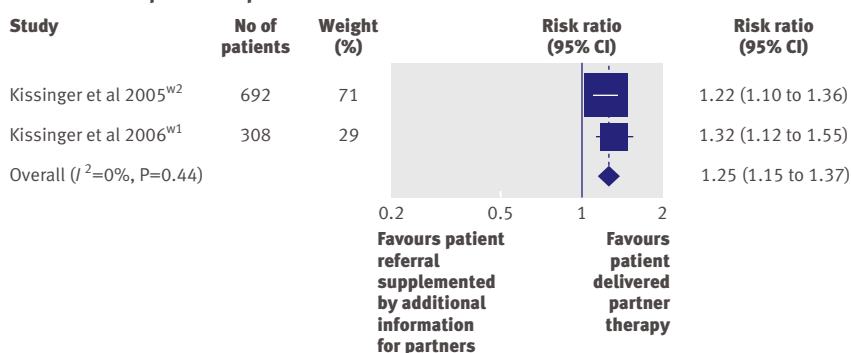


Fig 2 | Random effects meta-analysis of secondary outcome in trials comparing patient delivered partner therapy with patient referral supplemented by information for partners. Both trials had unclear or inadequate concealment of allocation

Two trials compared patient delivered therapy with patient referral supplemented by cards and treatment guidelines for partners.^{w1 w2} The proportions of patients with persistent or recurrent infection with chlamydia, gonorrhoea, or trichomonas were similar in the two groups in both trials but data were insufficient for meta-analysis (see table of included studies on www.ispm.ch/index.php?id=1193). The proportion of partners treated was higher in patients receiving therapy (summary risk ratio 1.25, 95% confidence interval 1.15 to 1.37; I^2 0%, $P=0.44$; fig 2).

Home sampling

Both trials on home sampling were in patients with chlamydia in Denmark.^{w7 w8} In the larger trial, 562 of 1826 randomised patients consented.^{w8} Index patients in the intervention groups received sampling kits for partners, who could mail their specimens to the laboratory. Controls were advised to tell their partners to take the kit to their doctor. In both trials the number of partners tested and the number of identified infected partners increased (see bmj.com). On the basis of the results of the larger trial^{w8} 8 (95% confidence interval, 7 to 11) index patients would need kits to have one additional index patient with at least one partner tested.

Providing additional information

Two US trials compared providing additional information for index cases to give to their partners with simple patient referral (see bmj.com).^{w1 w2} One enrolled men with gonorrhoea or chlamydia^{w2} and the other women with trichomoniasis.^{w1} Six trials evaluated different forms of information for index patients. Of these, three in resource poor countries studied adults with a variety of laboratory or syndromic diagnoses.^{w9 w10 w14} Three US studies enrolled men with gonorrhoea or non-gonococcal urethritis.^{w11-w13} Four trials used simple patient referral without contact cards,^{w1 w2 w10 w11} three used patient referral with cards,^{w12-w14} and in two the control intervention was not standardised^{w10} or was unclear.^{w9}

In one trial men with gonorrhoea or chlamydia received cards with information booklets for partners and treatment guidelines for health professionals along with simple patient referral, and controls received

simple patient referral.^{w2} The proportion of persistent or recurrent infections among the intervention group was lower than in controls (5% v 12%; risk ratio 0.37, 95% confidence interval 0.21 to 0.66), and partners of patients in the intervention group were treated more often (46% v 35%; risk ratio 1.30, 1.13 to 1.49). The other trial examined the same interventions in women with trichomonas.^{w1} Rates of persistent or recurrent infection in index patients were similar (9% v 6%; risk ratio 1.42, 0.59 to 3.41). Fewer index patients in the booklet group than control group reported that partners had taken the treatment (58% v 70%; risk ratio 0.82, 0.69 to 0.98).

One trial in South Africa providing individual counselling found no additional benefit in numbers of partners treated compared with patient referral with contact cards.^{w14} One trial in Zimbabwe supplemented counselling with a healthcare voucher for partners and found evidence of benefit in the number of index patients with at least one partner notified.^{w9}

Two trials that evaluated information from a script or video found no effect on partners tested or treated compared with patient referral with contact cards.^{w12 w14}

One trial in Zambia found that a greater proportion of index patients receiving counselling and contact cards with information about seeking care had at least one partner notified compared with the controls.^{w10} Another trial in South Africa showed that more partners were treated per index patient in an experimental group receiving standardised verbal health education and individual counselling compared with patient referral with contact cards.^{w14} The other trials found no differences between experimental interventions and patient referral with or without cards on various outcomes (see bmj.com).^{w11 w13}

Adverse effects

Only two trials, from Zimbabwe^{w9} and Uganda,^{w5} reported adverse effects of partner notification. No differences were found between groups in either (see table of included studies on www.ispm.ch/index.php?id=1193).

DISCUSSION

This systematic review summarised studies of new strategies that involve patients with sexually transmitted infections in shared responsibility for the care of their sexual partners. Patient delivered partner therapy resulted in lower rates of persistent or recurrent infections in index patients than patient referral, but absolute effects were modest.^{w1-w4 w6 w13} This intervention did not, however, reduce persistent or recurrent infections when compared with simple patient referral supplemented by information for partners.^{w1 w2} Two trials found that home sampling for partners resulted in more partners being tested compared with sampling by a doctor,^{w7 w8} but the control intervention was not comparable with other studies. No trial compared simple patient referral with patient referral using contact cards (see figure on www.ispm.ch/index.php?id=1193). All trials had methodological limitations and reporting quality was poor.

WHAT IS ALREADY KNOWN ON THIS TOPIC

The stigma attached to sexually transmitted infections makes partner notification difficult

Patient referral is preferred by patients and doctors for most curable sexually transmitted infections

WHAT THIS STUDY ADDS

Involving index patients in the care of sexual partners improves the outcomes of partner notification for chlamydia, gonorrhoea, and non-specific urethritis. Patient delivered partner therapy, home sampling, and additional information for partners are more effective than simple patient referral.

Simple patient referral combined with additional information for partners might be as effective as patient delivered partner therapy.

Strengths and weaknesses

Our review included studies of both sexes with a range of curable sexually transmitted infections in developed and developing countries. Missed relevant trials are unlikely as we searched multiple databases and reference lists. We minimised subjectivity by carrying out study assessment in duplicate using validated criteria.⁴ Our conclusions were, however, limited by the quality of included studies and information provided. Despite the large overall number of participants, differences in interventions and outcomes limited the use of meta-analysis. Also our results apply only to infections that cause urethritis, cervicitis, and vaginitis because we did not find any relevant trials of patients with syphilis, HIV, or other sexually transmitted infections.

Effectiveness of methods to enhance patient referral

Future trials of partner notification should study ways of reducing infection rates because surrogate end points might be misleading. When patient delivered partner therapy was compared with patient referral in which index patients were given information for their partners and treatment guidelines for the doctor, the increase in numbers of partners treated did not translate into a reduction in infections.^{w1 w2} It is possible that the benefits of supplemented patient referral follow from more

careful ascertainment of sexual contact histories and extra discussion about the infection, rather than the use of contact cards, which are rarely returned.⁵ This is supported by the finding that when simple patient referral included contact cards for index cases, most trials providing further written or verbal information did not show an increase in the numbers of partners treated.^{w12-w14} Patient delivered partner therapy was beneficial in patients with chlamydia, gonorrhoea, and syndromic diagnoses,^{w2-w5} but not in women with trichomonas.^{w1} The reasons are not clear.

Conclusion

Involving index patients in shared responsibility for the care of sexual partners improves outcomes. For the management of individual patients, health professionals should consider patient delivered partner therapy, home sampling, and additional information for partners.

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It's not about enjoyment

Having been deputy medical director since 2003, I was recently called on to "bridge the gap" between the departure of the outgoing medical director and the arrival of the new one. Colleagues from both clinical and managerial backgrounds traditionally regard medical directors with a mixture of pity and suspicion.

Having felt morally obliged to undertake the role, I have been surprised to be asked at regular intervals whether I am "enjoying it." Being sarcastic by nature, I have had to be careful how I respond to this obviously loaded question. As my term of office nears its close and we are entering the "transfer window," I can now reveal my conclusions.

My first reflection was that the job is an unremitting in-tray exercise, punctuated by episodes of someone getting the wrong end of the stick.

Then I likened it to a version of a television game show in which all the prizes are ominously ticking parcels.

Trudging away from a soccer match at the City of Manchester stadium after yet another gutless performance by the home team, I finally realised the correct answer. Being medical director is like being a Manchester City supporter. It's not about enjoyment, it's about commitment.

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