

Effect of providing information about normal test results on patients' reassurance: randomised controlled trial

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ABSTRACT

Objective To investigate whether providing information about normal findings before a diagnostic test improves patients' reassurance and reduces anxiety about symptoms.

Design Randomised controlled trial.

Setting Outpatient cardiology clinic.

Participants 92 patients with chest pain referred for a diagnostic exercise stress test.

Intervention Before undergoing testing patients were randomised to receive standard information (n=28; control group), a pamphlet explaining the function of the test and the meaning of normal test results (n=30; pamphlet group), or the pamphlet and a brief discussion about the meaning of normal test results (n=34; discussion group).

Main outcome measures The primary outcome was patients' reported reassurance on a 5 item scale immediately after the test and at one month. Secondary outcomes were the proportion of patients still with chest pain and still taking cardiac drugs at one month.

Results The mean levels of reassurance after testing and feedback from the doctor were significantly higher in the discussion group (42.0, 95% confidence interval 39.7 to 44.2) than in the pamphlet (39.2, 36.1 to 42.3) and control groups (35.8, 31.6 to 39.9). This difference was maintained at one month. The proportion of patients still reporting chest pain at one month decreased significantly in the discussion group (to 17%) and pamphlet group (to 28%) but not in the control group (to 36%). A trend was for fewer patients in the discussion group to be taking cardiac drugs at one month.

Conclusion Providing patients with information about normal test results before testing can improve rates of reassurance and reduce the likelihood of future reports of chest pain.

Trial registration Current Controlled Trials SRCTN87589121.

INTRODUCTION

Doctors typically give reassurance after investigations. Although this seems logical, evidence suggests that by the time patients undergo tests many have already developed negative ideas about their symptoms, and thus reassurance is much less effective.¹

Providing an explanation about the meaning of normal test results before testing may provide a context to help patients make sense of the test result.

We investigated whether giving patients information about a diagnostic test and discussing the meaning of normal results before the test would improve rates of reassurance.

METHODS

Eligible adults with chest pain (see bmj.com for exclusions) referred for a diagnostic exercise stress test at Auckland City Hospital were randomised to one of three intervention groups. Patients in the control group received a sheet of information on the test with their clinic appointment. This included advice on what to wear, the procedure, and the risks of complications.

The pamphlet group received a 450 word pamphlet to read before their test (additional information is provided by the authors at www.health.auckland.ac.nz/psych-med/staff/keiths%20papers/bmj%20appendix.html). This explained the function of the test, the meaning of normal results, and other possible less serious reasons for chest pain.

Patients in the discussion group received the pamphlet and were later engaged in discussion with the research health psychologist, who asked if they had any questions about what they had read. The psychologist briefly reiterated the main points of the pamphlet—many people with chest pain worry that there might be something wrong with their heart; if the test result is normal, the patient's risk for coronary artery disease is as low as for the general population; and although the pain may not be related to the heart it does not mean that it is not real pain and that it is important to keep in mind that many other causes of chest pain are less serious.

When results were negative, a cardiology registrar provided patients with their standard reassurance that the result was normal and did not show cardiac disease and that a report would be sent to their general practitioner.

Assessments

Participants completed a questionnaire on personal data, pain ratings, concerns about symptoms, and self-rated health. They were asked to rate how worried they were about their health (0 "not at all" to 10 "extremely") and the extent to which they believed there was something seriously wrong with their heart (0 "not at all" to 10 "strongly believe").

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Immediately after the test the patients completed a questionnaire comprising the two items on concerns about their health and heart and three further items. They were asked to rate on 10 point scales the extent to which they were reassured by the test, the extent to which they believed they needed further tests to determine the cause of their illness, and how accurate they thought the test for identifying heart problems. After reversing three of the negatively worded items we summed the scores for these five items to create a scale for reassurance, with higher scores indicating higher levels of reassurance.

At one month a researcher telephoned the patients and completed the reassurance scale. Patients were also asked if they still had chest pain and if they were still taking any cardiac drugs.

Statistical analysis

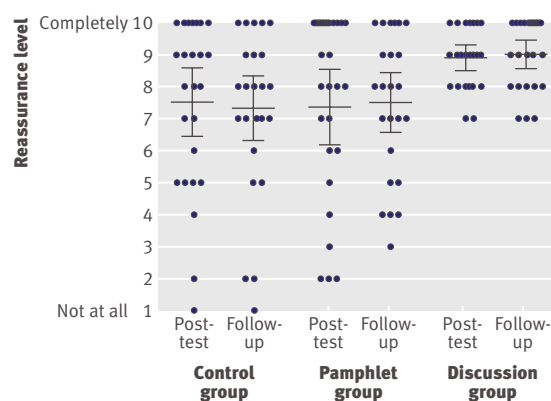
We defined participants as reassured when their reassurance level was above the median for the total sample. We brought post-test data forward as a proxy for the assessment at one month of the five participants lost to follow-up.

To examine differences between the groups on the reassurance scale we used a repeated measures mixed model analysis. We used Tukey post-hoc tests to determine differences between individual groups and across time. To determine potential differences in the proportion of patients reassured (above median at post-testing and follow-up) between the groups and over time we used a categorical modelling procedure (SAS Proc Catmod). McNemar’s test was used to assess whether there were within group differences in reported chest pain.

RESULTS

Of 97 eligible adults with chest pain referred for a diagnostic exercise stress test, five declined to participate (see bmj.com). Overall, 28 were randomised to receive standard information on the test, 30 to receive an information pamphlet and explanation of normal test results, and 34 to receive the pamphlet and a brief discussion on normal test results. Fifteen had a positive test result and were excluded. All patients completed the post-test assessment. Five patients could not be traced at one month.

The groups were well balanced at baseline (see bmj.com). The repeated measures analysis showed a significant difference between the groups on the reassurance scale after the test and at one month (table; $P=0.002$) and no interaction with time ($P=0.25$). A retrospective analysis showed a significantly higher level of reassurance in the discussion group than in the control group.



Dot plot for item asking patients how reassured they were by the exercise stress test after testing and at one month follow-up in experimental groups, including means (95% confidence intervals)

Significant differences were found between the groups in reassurance after testing and at one month ($\chi^2=7$, $df=2$, $P=0.03$). In the retrospective analysis the discussion group had a higher proportion of reassured patients (65%) after testing than the control (50%) and pamphlet (44%) groups ($P=0.03$ and $P=0.02$). At one month this difference was maintained ($\chi^2=1.92$, $df=2$, $P=0.38$), with 69% of patients still reassured in the discussion group compared with 40% in the pamphlet group and 35% in the control group. No significant difference was found between the control and pamphlet groups ($P=0.99$). More participants in the control and pamphlet groups had lower levels of reassurance at both time points than those in the discussion group (figure).

All patients needed to have symptoms of chest pain to be included in the trial. At one month the numbers of patients who mentioned chest pain had reduced significantly to 4 (17%) in the discussion group ($P<0.001$) and to 7 (28%) in the pamphlet group ($P=0.005$) but the reduction in the control group to 9 (36%) was not significant ($P=0.09$). Consistent with these findings was a trend for fewer patients in the discussion group to be taking cardiac drugs: 6 (25%) patients in the control group, 2 (8%) in the pamphlet group, and 1 (4.3%) in the discussion group ($\chi^2=5.3$, $df=2$, $P=0.07$).

DISCUSSION

Providing patients with chest pain who have been referred for exercise stress testing with information about the test and an explanation of normal results before testing improved rates of reassurance and reduced the likelihood of future reports of chest pain. One month after the test, patients who had been randomised to an information pamphlet about the test and discussion about normal results had fewer reports of chest pain, were more reassured by the test, and tended not to be taking cardiac drugs than patients who had been randomised to standard advice (control group) or to a pamphlet explaining the test and normal test results. At one month most patients in the control group were not reassured by the investigation.

Reassurance scores after exercise stress test and at one month follow-up in groups		
Group	Mean (95% CI) post-test scores	Mean (95% CI) follow-up scores
Control	35.8 (31.6 to 39.9)	34.4 (30.5 to 38.4)
Pamphlet	39.2 (36.1 to 42.3)	38.4 (35.4 to 41.4)
Discussion	42.0 (39.7 to 44.2)	43.4 (41.0 to 45.8)

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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Ethical approval: This study was approved by the New Zealand Ministry of Health Ethics Committee (AKY/04/05/121).

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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.