

Cognitive behavioral therapy reduced noncardiac chest pain and use of psychological services

van Peski-Oosterbaan AS, Spinhoven P, van Rood Y, et al. *Cognitive-behavioral therapy for noncardiac chest pain: a randomized trial.* *Am J Med.* 1999 Apr;106:424-9.

QUESTION

In patients with noncardiac chest pain, is cognitive behavioral therapy (CBT) effective for reducing pain and medical service use?

DESIGN

Randomized (unclear allocation concealment*), unblinded,* controlled trial with 6- and 12-month follow-up.

SETTING

Hospital cardiology clinics in Oegstgeest, the Netherlands.

PATIENTS

72 patients who were 18 to 75 years of age and had chest pain and a normal cardiovascular system. Exclusion criteria were proven coronary artery disease or myocardial ischemia, history of angina, insufficient fluency in Dutch, psychotic disorder, organic mental syndrome, major depression, bipolar disorder, current psychiatric treatment for noncardiac chest pain, or use of psychoactive substances (except nicotine) in the previous 3 months. Follow-up was 90% at 6 months (mean age 49 y, 55% women) and 88% at 12 months.

INTERVENTION

Patients were allocated to CBT ($n = 32$) or no treatment ($n = 33$). CBT consisted of 4 to 12 weekly sessions of 45 to 60 minutes in which patients were taught breathing and relaxation techniques and shown how to identify and challenge irrational beliefs about the cause of noncardiac chest pain.

MAIN OUTCOME MEASURES

Frequency of noncardiac chest pain and medical service use.

MAIN RESULTS

More patients in the CBT group than in the control group were free of noncardiac chest pain at 6 months ($P < 0.001$) and 12 months ($P < 0.001$) (Table). At 1 year,

fewer patients in the CBT group than in the control group had used additional psychological services ($P = 0.02$); groups did not differ for visits to general practitioners (Table).

CONCLUSIONS

In patients with noncardiac chest pain, cognitive behavioral therapy reduced pain and additional use of psychological services. Visits to general practitioners were not reduced.

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*See Glossary.

Cognitive behavioral therapy (CBT) vs no therapy for noncardiac chest pain†

Outcomes	CBT	Control	RBI (95% CI)	NNT (CI)
No noncardiac chest pain at 6 mo	50%	6.1%	725% (140 to 2980)	3 (2 to 5)
No noncardiac chest pain at 12 mo	48%	13%	287% (56 to 928)	3 (2 to 8)
No visits to GPs for noncardiac chest pain at 12 mo	94%	88%	7% (-11 to 31)	Not significant
RRI (CI)				
Additional psychological service use at 12 mo	0%	19%	100% (39 to 100)	6 (3 to 16)

†GP = general practitioner; NS = not significant. Other abbreviations defined in Glossary; RBI, RRR, NNT, and CI calculated from data in article.

COMMENTARY

Recurrent chest pain in the absence of coronary artery disease is a common problem that sometimes leads to excessive use of medical care. Although many studies examine the cause of pain in these patients, few clinical trials have evaluated treatment. The study by van Peski-Oosterbaan and colleagues provides insight into the efficacy of psychological interventions for selected patients, but further studies are needed.

The study provides useful data on participants and confirms the common clinical impression that these patients show improvement without specific intervention. Only 26% of the patients screened for the trial reported episodes of pain occurring at least weekly. Of those with frequent episodes of pain, 71% reported being interested in treatment, but only half were enrolled in the treatment study. Those enrolled in the study had high levels of baseline functioning (as assessed by selected RAND 36-item Health Survey scales). Thus, this intervention may be suitable for only a few patients with noncardiac chest pain.

The authors provide sufficient details about the intervention to permit its replication. Although the study was done in the Netherlands, the treatment approach appears to be transferable to other populations. The major threats to validity of the results are that the trial was unblinded and the control group received no clinical services other than usual care. Study participants probably knew the hypothesis, which may have affected their responses to questions about symptom frequency after the intervention.

The finding of reduced psychological service use in the treatment group should be interpreted with caution. 19% of control patients used such services, whereas none of the intervention patients did. However, all of the intervention patients participated in weekly CBT sessions. These sessions were not counted as psychological services, and the data are not reported in sufficient detail to judge overall levels of psychological care between the groups.

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