Effectiveness of teaching general practitioners skills in brief cognitive behaviour therapy to treat patients with depression: randomised controlled trial

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Abstract

Objective To assess the effectiveness of teaching general practitioners skills in brief cognitive behaviour therapy.
Design Parallel group, cluster randomised, controlled trial of an educational package on cognitive behaviour therapy.
Setting General practices in north London.
Participants 84 general practitioner principals and 272 patients attending their practices who scored above the threshold for psychological distress on the hospital anxiety and depression scale.
Intervention A training package of four half days on brief cognitive behaviour therapy.
Main outcome measures Scores on the depression attitude questionnaire (general practitioners) and the Beck depression inventory (patients).
Results Doctors' knowledge of depression and attitudes towards its treatment showed no major difference between intervention and control groups after 6 months. The training had no discernible impact on patients' outcomes.
Conclusion General practitioners may require more training and support than a basic educational package on brief cognitive behaviour therapy to acquire skills to help patients with depression.

Introduction

Most people with psychological problems receive no treatment. Those who do seek help have severe problems, and most are managed by their general practitioners.[1–3] Although counselling is more frequently used in general practice, it is mainly carried out by trained professionals[4]; psychological interventions for use by general practitioners need to be evaluated.[5] Cognitive behaviour therapy is as effective as pharmacotherapy for treating depression, with the benefit of reduced rates of long term relapse.[6] It is also effective in depressed patients presenting to general practitioners.[7] Cognitive behaviour therapy is effective when delivered by general practitioners who have received extensive instruction, but most doctors do not have the time or inclination to undergo comprehensive training.[8,9] We assessed whether teaching general practitioners skills in brief cognitive behaviour therapy improved their attitudes to the management of depression and the outcomes of their patients with common mental disorders.

Methods

We undertook a parallel group, cluster randomised, controlled trial of basic training in brief cognitive behaviour therapy for general practitioners. Between October 1997 and January 1998 we contacted a random sample of general practitioners on the registers of the family health service authorities in the former North Thames Regional Health Authority.

Training

The training aimed to increase professional ease and positive attitudes towards managing patients with depression and to enable the acquisition of skills in the application of brief cognitive behaviour therapy (box).[10] Doctors in the control group were offered the course at the end of the trial but received no other advice or training at entry to the trial.

Evaluation of training

Learning objectives

General practitioners completed two questionnaires at baseline and then six months after training: the

Content of training

First half day
Clinical presentations of anxiety and depression, classification schema in general practice, recognition skills, common causes, and antidepressant treatment

Second half day
Introduction to the theory of behaviour and cognitive therapies, functional assessment of the presenting problems, and diaries, monitoring, and goal setting

Third half day
Informing patients of the cognitive model, behavioural and cognitive assessments, activity scheduling, cognitive restructuring, and therapy guidelines

Fourth half day
Problem solving, guidelines for cognitive behaviour therapy in general practice, and summing up and review

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Table 1 Characteristics and baseline scores of doctors (42 in trained group, 42 in control group) and patients (137 in trained group, 135 in control group) Values are means (SDs) unless stated otherwise

Characteristics	Trained doctors	Control doctors
General practitioners		
Age (n=82)	43.0 (7.6)	45.0 (7.7)
No (%) male	18/42 (43)	22/41 (54)
No (%) fundholders	17/42 (40)	20/41 (49)
No (%) in singlehanded practice	4/42 (10)	2/41 (5)
No (%) full time	31/42 (74)	34/41 (83)
Dimensions on depression attitudes questionnaire:		
Treatment attitude (n=80)	48.8 (10.4)	48.1 (9.5)
Professional ease (n=82)	49.4 (14.3)	46.1 (14.5)
Depression malleability (n=83)	27.1 (11.1)	27.8 (10.6)
Depression identification (n=81)	36.3 (14.7)	33.3 (14.5)
Confidence in treating depression (n=82)	26.4 (12.3)	26.4 (15.7)
Confidence in treating anxiety (n=81)	38.3 (14.1)	35.6 (15.9)
Patients		
Age		
No (%) 18-39	56/136 (41)	56/135 (41)
No (%) 40-59	45/136 (33)	59/135 (44)
No (%) ⩾60	35/136 (26)	20/135 (15)
No (%) male	45/136 (33)	35/135 (26)
Beck depression inventory (n=214)	20.0 (8.7)	19.3 (10.0)
State anxiety scale (n=205)	53.3 (12.4)	54.3 (11.7)
Trait anxiety scale (n=202)	56.2 (11.8)	55.4 (11.6)
SF-36 dimensions:		
No (%) with role limitations (emotional) in all areas queried	69/123 (56)	68/127 (54)
Social function (n=263)	50.7 (27.9)	48.8 (28.4)
Mental health (n=264)	42.4 (18.2)	43.8 (18.0)
Energy and vitality (n=259)	32.9 (19.2)	32.3 (19.7)

Standard deviations between patients for patient characteristics have been calculated with allowance for variation between doctors.

depression attitude questionnaire and a questionnaire that explores doctors' knowledge of cognitive behaviour therapy and the extent to which they feel confident in applying it in their practice.[10–12] A high score for the confidence outcomes indicates lack of confidence in treating depression or anxiety.

Patient outcomes

We used the hospital anxiety and depression scale to screen consecutive patients aged 18 and over consulting the trial doctors.[13,14] We excluded patients with psychoses, organic brain syndromes, learning disabilities, or who were unable to read English. In each practice a trained receptionist asked patients to complete questionnaires. We contacted patients with a subscale score of 11 or more for anxiety or depression on the hospital anxiety and depression scale and asked them if they would like to enter the study.

Patients were asked to complete the following questionnaires: the Beck depression inventory (high scores indicate greater depression)[15]; the state trait anxiety inventory, which measures changes in controlled trials of psychological and pharmacological therapies (high scores for the first dimension indicate greater "state" or short term anxiety, high scores for the second indicate greater "trait" or long term anxiety)[16,17]; and the short form 36 (SF-36), a brief measure of quality of life.[18]

We told the doctors which of their patients scored above the threshold on the hospital anxiety and depression scale. Doctors in the control group provided their usual care, which could include any intervention or referral.

Patient follow up

We followed up participants by post three and six months later, and again asked them to complete the three questionnaires. We collected data from the practice on consultation rates, home visits, psychotropic prescribing, referrals to mental health professionals and other health service providers, and certificated absences for sickness.

Power calculation

To plan the trial we used data from a study of a mental health facilitator in general practice.[19] Using the observed difference between psychiatrists and general practitioners on the professional ease subscale of the depression attitude questionnaire, we designed the trial to detect a difference of 0.65 standard deviations between intervention and control doctors. To provide 85% power at a two sided 5% level of significance, 43 general practitioners were needed in each group. We aimed to detect a difference of 0.5 standard deviations on the Beck depression inventory between patients attending intervention and control doctors. We needed 105 patients in each arm (2.5 patients per doctor) to provide 85% power at a two sided 5% level of significance. As up to 30% of eligible patients might not take part, we estimated we would need to identify four to five patients per doctor.

Results

Response rates

Of 116 doctors randomised, 32 subsequently withdrew because of work commitments. Overall, we screened 2412 patients consulting the participating doctors; 410 (17%) scored above the threshold for the hospital anxiety and depression scale and, of these, 272 (66%) answered questionnaires at baseline. No major differences were found at baseline between each arm of the trial for doctors or patients (table 1).

Primary outcomes

Doctors' knowledge and attitudes as measured by the depression attitude questionnaire showed little difference at six months between the intervention and control groups (table 2). The training had no discernible impact on the patients' outcomes, apart from slight evidence that the proportion of patients with role limitations due to emotional problems in the three areas queried was greater for patients registered with intervention than with control doctors (table 3).

Secondary outcomes

When adjusted for baseline scores, visual analogue scores for confidence in treating depression and anxiety showed some differences between intervention and control doctors at six months (table 2). Some evidence was found of lower scores in intervention doctors, which indicated greater confidence in treating both depression and anxiety.

Intervention doctors were more likely than control doctors to refer their affected patients (odds ratio 3.4, 95% confidence interval 1.0 to 11.3) and less likely to offer certificates for sickness (0.4, 0.2 to 1.0). These borderline differences should be interpreted cautiously given the number of outcomes examined. No differences were found for the other secondary outcomes such as the number of consultations,

Table 2 Primary and secondary outcomes in doctors after adjustment for baseline levels. Values are means (standard deviations) unless stated otherwise

	Trained doctors (n=42)	Control doctors (n=42)	Intervention effect (95% CI)*	P value
Treatment attitude	46.3 (10.9) (n=25)	48.2 (8.8) (n=24)	−1.6 (−6.9 to 3.7) (n=46)	0.54
Professional ease	42.2 (14.0) (n=24)	47.3 (13.9) (n=25)	−5.1 (−11.9 to 1.7) (n=48)	0.14
Depression malleability	30.8 (9.7) (n=25)	28.1 (12.9) (n=23)	2.0 (−2.9 to 6.8) (n=48)	0.42
Depression identification	36.3 (11.4) (n=25)	36.3 (14.4) (n=25)	−0.5 (−7.1 to 6.0) (n=48)	0.87
Confidence in treating depression	20.9 (8.3) (n=25)	29.2 (17.4) (n=26)	−8.2 (−15.4 to −1.0) (n=50)	0.03
Confidence in treating anxiety	30.3 (14.5) (n=25)	36.5 (15.9) (n=25)	−7.8 (−15.3 to −0.2) (n=49)	0.04

*Sum of numbers in intervention and control groups differs owing to adjustment for baseline levels.

Table 3 Primary outcomes in patients at 6 months. Intervention effects are estimated in a repeated measures analysis with adjustment for baseline levels. Values are means (standard deviations) unless stated otherwise

	Trained doctors (n=137)	Control doctors (n=135)	Intervention effect (95% CI)*	P value
Beck depression inventory	17.5 (9.6) (n=104)	16.6 (11.5) (n=105)	−0.2 (−2.3 to 1.9) (n=196)	0.84
State anxiety	48.6 (13.8) (n=103)	48.2 (14.9) (n=98)	0.8 (−2.4 to 4.0) (n=181)	0.62
Trait anxiety	52.3 (13.2) (n=101)	50.4 (13.7) (n=95)	0.9 (−2.0 to 3.8) (n=177)	0.53
SF-36 dimensions:				
No (%) with role limitations (emotional) in all areas queried	54/115 (47)	35/106 (33)	2.7 (1.1 to 6.4)† (n=225)	0.03
Social function	58.5/118 (29.7)	61.7/111 (29.2)	−3.1 (−9.4 to 3.1) (n=237)	0.32
Mental health	51.8/117 (20.8)	54.1/109 (21.0)	0.1 (−4.4 to 4.6) (n=238)	0.96
Energy and vitality	37.9/117 (21.7)	39.0/109 (25.1)	−1.0 (−5.7 to 3.6) (n=233)	0.66

*Sum of numbers in intervention and control groups differs owing to adjustment for baseline levels.
†Odds ratio.

whether a home visit took place, and whether psychotropic drugs were prescribed.

Discussion

Basic training in brief cognitive behaviour therapy has little effect on general practitioners' attitudes to the identification and treatment of depression or the outcome of their patients with emotional problems. Our findings run counter to other studies where brief interventions by general practitioners have been regarded as effective in problem drinking and diabetes.[20–22] However, these disorders are more clearly defined and easier to target, and the interventions were only loosely based on behaviour principles. Interventions that included the delivery of behavioural and educational self help materials have been used successfully by general practitioners for patients with depression, somatisation disorders, and obsessive-compulsive disorder.[23–25] However, our finding of no benefit is important as it suggests that acquiring more complex skills in cognitive behaviour therapy is not straightforward for general practitioners.

Our trial has several limitations. Owing to the losses to follow up among general practitioners, the impact of training on attitudes to depression was assessed within a smaller sample than planned. Although we recruited more patients than we had anticipated, we also had losses to follow up. However, since the observed intraclass correlations for the patients' primary outcomes were far lower (see bmj.com) than the value of 0.26 allowed for in our power calculations, we retained sufficient power to detect the prespecified difference in patient outcomes. Although patients with clinically worse outcomes at one time of measurement were somewhat more likely to have missing data later on, the pattern of non-response was similar for both groups and thus differential bias was unlikely.

The high threshold on the hospital anxiety and depression scale may have meant that we focused too much on patients with severe problems or those with long term difficulties who general practitioners may not have considered suitable for cognitive behaviour therapy, had they been able to express their views. Basic skills in brief cognitive behaviour therapy may assist general practitioners in dealing with patients who are less disturbed than those in our trial. Our finding that trained doctors may have referred more of their depressed patients would suggest that the doctors had acquired sufficient skills to know when their own management was likely to be unproductive. Thus training may have had a paradoxical effect in making them feel unable to deal with more complex cases. A further limitation is that we could not guarantee patients always saw the same general practitioner. Finally, our earlier feasibility work had shown it was unacceptable to collect process measures on the extent to which the new skills were applied, and we lacked power to show whether or not confidence in use of the skills was related to patient outcome.

Showing changes in patient outcomes is a challenging task in any trial of training for general practitioners. It may be possible that skills in brief cognitive behaviour therapy cannot be taught in this basic manner and that general practitioners require much more training if they are to change their attitudes and acquire skills that have a positive impact on their patients.[8] Conversely, it may be that the doctors did learn new skills but had no time to apply them. Our outcomes do not allow us to examine such possibilities. Future studies might also consider the inclusion of written materials for patients to improve adherence to and understanding of cognitive behaviour therapy.

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What is already known on this topic

Trained professionals can deliver effective cognitive behaviour therapy to depressed patients presenting to general practitioners

Limited evidence shows that cognitive behaviour therapy is effective when delivered by general practitioners who have received extensive instruction

Most doctors do not have the time or inclination to carry out such comprehensive training

What this study adds

Basic training in brief cognitive behaviour therapy has little effect on general practitioners' attitudes to the identification and treatment of depression or the outcome of their patients with emotional problems

General practitioners may require more extensive training and support if they are to acquire skills in brief cognitive behaviour therapy that will have a positive impact on their patients

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General practitioners' self ratings of skills in evidence based medicine: validation study

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Editorial by Woodcock et al

continued over

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See box and additional table on bmj.com

To practise evidence based medicine, clinicians need to understand and use terms such as "relative risk reduction," "absolute risk reduction," and "number needed to treat."[1] Self ratings represent one method of assessing competence in these skills. About a third of clinicians claim to understand such terms.[2] We evaluated the validity of self ratings and conducted a blinded validation in general practice.

Methods and results

Fifty general practitioners in Sydney, Australia, completed self administered questionnaires,[2] in which they rated their understanding of each of seven terms used in evidence based medicine as "Would not be helpful for me to understand," "I don't understand but would like to," "I already have some understanding," and "I understand this and could explain to others." We considered the last response to represent full understanding (self rating of competence). Participants sealed their responses in an envelope before participating in a structured interview with JY (who was unaware of their self rating), in which they were asked to explain each term as if to a medical student. Unprompted comments were recorded (see box on bmj.com). The study was approved by the Central Sydney Area Health Service Ethics Review Committee.

Three independent experts in evidence based medicine had been asked to identify criteria essential for showing that the participant knew the correct