Impact of an educational intervention on general practitioners' skills in cognitive behavioural strategies: a randomised controlled trial

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ABSTRACT

Objective: To evaluate the impact of an educational intervention on general practitioners' skills in cognitive behavioural strategies (CBS).

Design: Randomised controlled trial, with baseline and post-training measurement of GP competency in CBS using standardised simulated patient consultations, conducted between January 2005 and December 2006.

Participants and setting: 55 GPs in Victoria with a special interest in mental health issues.

Intervention: A 20-hour multifaceted educational program facilitated by mental health experts, incorporating rehearsal of CBS and provision of resources such as patient education material and worksheets.

Main outcome measures: Objective ratings of videotaped consultations of a standardised simulated patient using the Cognitive Therapy Scale.

Results: 32 doctors completed all phases of the intervention and the evaluation protocol. The intervention group showed greater improvements than the control group in both general therapeutic and specific CBS skills after the training.

Conclusion: Competency in CBS in highly motivated GPs can be improved by a brief training intervention.

Trial registration: International Standard Randomised Controlled Trial Number ISRCTN62481969.

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Evidence-based psychological treatments such as cognitive behaviour therapy (CBT) provided by trained psychologists are effective in treating common mental disorders such as depression and anxiety.[1] By contrast, evidence from systematic reviews for the effectiveness of general practitioner-provided cognitive behavioural strategies (CBS) — discrete elements of CBT without formal psychological training — is generally poor.[2,3] Problem-solving techniques appear to be a promising approach for GP-delivered therapy, with two studies indicating superiority to usual care or equivalence to pharmacological treatment.[4,5] However, both systematic reviews indicated that more research into GP delivery of psychological treatments is needed.[2,3]

This is relevant for recent major policy reforms in Australia, which have made specialist psychologist care much more accessible for patients through the Better Outcomes in Mental Health Care and Better Access initiatives,[6] while at the same time supporting GPs with mental health training to provide what have been termed "focused psychological strategies".[7] These strategies involve a range of approaches derived from evidence-based psychological treatments that have been adapted for general practice, such as psychoeducation, interpersonal counselling and CBS.

Providing specific psychological treatments in general practice can be challenging for GPs, who are beset with issues such as lack of time, competing demands, and variable levels of training in specific psychological skills.[8] One approach to GP mental health training is to teach some discrete elements of the CBT approach. CBT is appealing for the general practice context because it is usually time limited and highly structured, and patients are encouraged to do much of the "homework" outside the consultation.

In 2005 and 2006, we conducted the PEP (Primary Care Evidence Based Psychological Treatments) study — a randomised controlled trial of GPs undertaking a 20-hour CBS training program that met the Australian requirements for providing focused psychological strategies.[7] A range of outcomes were measured, including GP knowledge, attitudes and competence, and patient outcomes. Here, we report on the component of the study that aimed to measure the impact of an educational intervention on GP acquisition of CBS skills. Our hypothesis was that trained GPs would demonstrate greater gains in competency in CBS than the control group.

METHODS

Participants

Victorian GPs were recruited in three waves between January 2005 and December 2006 through newsletters of the Victorian Divisions of General Practice, an advertisement on the website of the Royal Australian College of General Practitioners,[9] and direct mail-out to GPs who had previously participated in courses run by the training provider. A significant incentive for GPs who completed the training was that they would become eligible to apply for access to a higher Medicare Benefits Schedule rebate to provide focused psychological strategies.[7] GPs who expressed interest were sent explanatory statements and consent forms.

The PEP study was approved by the ethics committees at Monash University and the University of Melbourne, and was lodged with the International Standard Randomised Controlled Trial Number Register (ISRCTN62481969).[10]

Interventions

The CBS training, involving face-to-face teaching with a strong emphasis on role-playing specific CBS skills in pairs, has been described previously[11-13] and is summarised in Box 1. It was a 20-hour program broken into four 5-hour sessions, usually over two weekends. Up to 14 GPs attended each training session, which was facilitated by a mental health specialist or a GP with independent mental health qualifications.

Outcomes

GP survey

At enrolment in the study, GPs completed a questionnaire that included demographic details and information about previous mental health training.

1 Aims, outline and design of cognitive behavioural strategies (CBS) training for general practitioners

Aims

GPs who complete the CBS training should be able to:

- Incorporate specific psychological treatments into routine general practice
- Identify and assess those patients most likely to benefit from a cognitive behaviour therapy (CBT) approach
- Provide limited elements of the CBT approach in a general practice setting

Outline

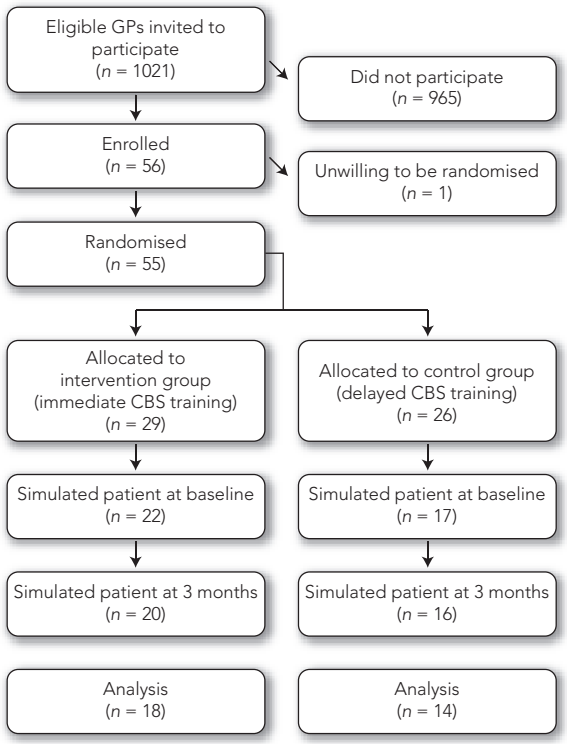
The content of the CBS training covered the following subjects:

- Integrating counselling into general practice
- Patient education
- Stress management
- Slow breathing technique
- Muscle relaxation techniques
- Sleep/wake cycle management
- Activity planning
- Structured problem solving
- CBT

Design

The training was based on medical education principles with a strong emphasis on role-play of specific skills in pairs. Video presentations of example consultations demonstrated skills, and a detailed workbook was provided to GPs, including patient education material and homework worksheets. Individualised feedback was provided to participants by the course facilitator during the training. ◆

2 General practitioner recruitment and participation



CBS = cognitive behavioural strategies. ◆

GP competency

Simulated patient consultations were undertaken at the GPs' practices to assess their skills in CBS. A female actor portrayed a 35-year-old mother of two small children with a past history of postnatal depression, who was experiencing a mixture of depression and anxiety symptoms including panic attacks, negative automatic thinking, and avoidance behaviours. GPs were aware that the patient was an actor and were provided with written material about the patient's background history to read for 5 minutes. They then had 20 minutes in which to demonstrate a brief cognitive behavioural strategy relevant to the clinical presentation. The consultations with the simulated patient were videotaped for GPs in both the intervention and control groups at baseline and at 3 months post-intervention.

Two independent observers, who were blinded to the GPs' group allocations, rated the videotaped simulated consultations using the Cognitive Therapy Scale (CTS).[14] This measure has previously been used in CBT centres and clinical studies to assess clinical competence.[15] The CTS consists of 11 items measured on a scale from 0 to 6. Items were summed to generate an overall competency score (with a total possible score of 66 and a satisfactory threshold score of 39), along with two subscales assessing general therapeutic skills (Items 1–6) and specific CBT skills (Items 7–11). A higher score indicates greater competency in delivering CBT. In a small number of cases, there was one item missing from rating scales of the videotaped consultations due to rater error. For these ratings, the missing response for the item was substituted by the average of the remaining items in the subscale to which the item belonged.

Required sample size

Based on our primary outcome measurement, we estimated that we would require a total of 72 GPs (36 in each group) to show a difference in mean competency score on the CTS of 6.6 (10% of the total score) between the intervention group and control group, with power of 80% and significance level at 5% for a two-sided test, assuming a standard deviation of 10.[15]

Randomisation and blinding

For each of the three waves of GP recruitment, the names of each participating GP were placed in a large envelope, selected at random by the research coordinator and allocated alternately to intervention (first training group) or control (waitlisted group) until all GPs had been allocated to a study group. Waitlisted GPs in the control group received the full training after the study. GPs and trainers were advised in advance when they would be undertaking training and were therefore not blinded to their group allocation.

Statistical analysis

The primary outcome was clinical competence, based on the overall CTS score and the two related subscales. For each GP, a CTS score was calculated using the average of the scores from both reviewers of the videotaped consultations. Descriptive statistics were used to compare the GP characteristics and baseline CTS scores between the intervention and control groups. Multiple linear regression was used to calculate the differences in post-intervention mean competency scores between the study groups, adjusted for baseline scores. Results are reported as differences in means between intervention and control groups for the primary outcomes,

with 95% confidence intervals and two-sided *P* values. Mean differences between the study groups were also adjusted for GP factors that were found to be imbalanced between the study groups at baseline. Analyses adjusted for the effects of chance imbalance are not reported, as the imbalance in GP factors did not affect the results.

Data were analysed using Stata, version 9.2 (StataCorp, College Station, Tex, USA).

RESULTS

Recruitment and participant flow

Invitations were sent to a total of 1021 GPs; 56 responded and agreed to participate and were randomly assigned to either the intervention or control group (Box 2). One of the GPs randomly assigned to the intervention group was unwilling to undertake training at the allocated time and dropped out of the study.

Baseline data

A total of 55 GPs participated — 29 in the intervention group and 26 in the control group. Intervention and control group GPs did not differ significantly by sex, number of consultations performed per week, or proportion who had undertaken mental health training in the past 5 years. However, a greater proportion of GPs in the control group had graduated in Australia and a greater proportion of GPs in the intervention group had received clinical supervision (Box 3).

Numbers analysed

Many GPs were reluctant to participate in the videotaped simulated consultations in their practices, causing high drop-out rates, with some GPs undertaking only one of the two scheduled videotaping sessions. In the intervention group, 18 of 29 GPs were videotaped

3 Comparison of demographic characteristics of general practitioners who agreed to undertake cognitive behavioural strategies training, by intervention and control groups

Characteristic	Intervention GPs (*n* = 29)	Control GPs (*n* = 26)	Total* (*n* = 55)
Male	11 (37.9%)	11 (42.3%)	22 (40.0%)
Female	18 (62.1%)	15 (57.7%)	33 (60.0%)
Age group (years)			
< 35	2 (7.1%)	0	2 (3.8%)
35–44	4 (14.3%)	8 (32.0%)	12 (22.6%)
45–54	12 (42.9%)	12 (48.0%)	24 (45.3%)
⩾ 55	10 (35.7%)	5 (20.0%)	15 (28.3%)
Graduated in Australia			
Yes	17 (60.7%)	18 (90.0%)	35 (72.9%)
No	11 (39.3%)	2 (10.0%)	13 (27.1%)
GP work location			
Capital city	2 (6.9%)	3 (11.5%)	5 (9.1%)
Metropolitan	15 (51.7%)	10 (38.5%)	25 (45.5%)
Rural/remote	11 (37.9%)	13 (50.0%)	24 (43.6%)
Unknown	1 (3.4%)	0	1 (1.8%)
Average number of consultations per week in the previous 3 months			
< 30	3 (12.0%)	0	3 (7.0%)
30–60	4 (16.0%)	5 (27.8%)	9 (20.9%)
61–120	9 (36.0%)	8 (44.4%)	17 (39.5%)
> 120	9 (36.0%)	5 (27.8%)	14 (32.6%)
GP has received supervision			
Yes	9 (32.1%)	1 (5.0%)	10 (20.8%)
No	19 (67.9%)	19 (95.0%)	38 (79.2%)
GP has undertaken mental health training in past 5 years			
Yes	25 (89.3%)	19 (95.0%)	44 (91.7%)
No	3 (10.7%)	1 (5.0%)	4 (8.3%)

Figures are number (%). * Totals vary due to missing responses. ◆

4 Summary measures and difference (95% CI) in mean competency scores on the Cognitive Therapy Scale for intervention and control groups*

	Mean (SD) score at baseline		Mean (SD) score post-intervention			
Competency	Intervention (*n* = 22)	Control (*n* = 17)	Intervention (*n* = 20)	Control (*n* = 16)	Difference (95% CI)†	*P*
Overall psychotherapeutic skills‡	34.8 (10.9)	33.3 (7.4)	40.1 (8.3)	36.0 (8.3)	4.3 (0.67 to 8.0)	0.02
Subscales						
General therapeutic skills§	18.9 (6.0)	18.0 (4.2)	21.3 (5.0)	19.6 (4.7)	1.7 (–0.16 to 3.5)	0.07
Conceptualisation, strategy and technique¶	15.9 (5.2)	15.4 (3.4)	18.8 (3.4)	16.4 (3.8)	2.6 (0.58 to 4.7)	0.01

* Difference and respective 95% confidence intervals and *P* values calculated using linear regression for each outcome measure, adjusted for baseline outcome score, based on 14 general practitioners in the control group and 18 in the intervention group who had complete scores at baseline and follow-up.
† Difference (95% CI) in mean post-intervention scores between intervention and control groups, adjusted for baseline scores.
‡ Out of a total possible score of 66 (satisfactory threshold score = 39). § Out of a possible score of 36. ¶ Out of a possible score of 30. ◆

at both baseline and 3 months, and in the control group, 14 of 26 GPs were videotaped both times (Box 2). Thus, analysis was carried out on data from these 32 GPs.

Outcomes and estimation

Summary measures of the competency in CBS skills at baseline and post-intervention, and the differences in mean competency scores between the two study groups, are shown in Box 4. Overall, there was moderate evidence that the intervention group had greater improvement in competency than the control group, with the greatest difference being an improvement in specific CBS skills.

DISCUSSION

This study supports our hypothesis that a short training course can improve GP skills in the provision of CBS. Only in the intervention group did the mean overall post-training competency scores increase beyond the satisfactory threshold score of 39.[15] Greater improvements occurred in specific CBS skills than in general therapeutic skills.

This study does have some limitations. Potential sources of bias include self-selection of GPs with a special interest in mental health, and high drop-out rates. While there was some imbalance in baseline GP characteristics between the groups, the adjusted analysis suggested that this did not affect the outcome. Although our actual sample size was lower than our estimated required sample size, improvements in competency were large enough to be detected.

Caution is required in generalising our study findings, as the participants represent a highly self-selected group of GPs. Our findings may more accurately apply to other GPs who have a strong interest in mental health, such as those registering to provide focused psychological strategies in Australia through the Medicare Benefits Schedule.[7]

This study adds support to existing evidence that training can improve GP skills in specific psychological strategies. Previous studies have shown that GPs can improve their psychological skills in managing a range of mental health problems.[16,17]

Whether such improvements in GP performance translate to real and sustained improvements in competence and better patient outcomes is uncertain.[2] One study suggested that competency as assessed by the CTS is associated with clinical improvements in depressed patients.[15] Subsequent analysis of our study's patient data may yield further information on this question.

From a policy perspective, a recent health economics analysis suggested that even small clinical improvements in patients receiving focused psychological strategies from GPs could render this a highly cost-effective approach.[18] However, since the commencement of our study, major mental health reforms have occurred in Australia,[6] which have greatly increased consumer access to specialist-delivered psychological treatments. In this context, future research should focus on which patients should appropriately receive specific focused psychological strategies from GPs and which should be referred for specialist psychologist treatments.

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COMPETING INTERESTS

None identified.

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