Interventions to improve management of anxiety disorders in general practice: a systematic review

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ABSTRACT

Background
Anxiety disorders are common in general practice and are associated with several problems regarding recognition and management.

Aim
To systematically evaluate the effectiveness of interventions aimed at improving recognition, diagnosis, and management of patients with anxiety disorders.

Design of study
Systematic review.

Method
MEDLINE, EMBASE, PsychINFO, and the Cochrane Clinical Trials' Register were searched up until 2003. Randomised controlled trials, controlled before/after trials, and interrupted time series for professional, organisational, financial, and regulatory interventions were eligible. Primary effect measures consisted of anxiety outcomes, diagnosis, prescription, and referral. Two reviewers independently made eligibility judgments: eight out of 563 articles were found to be eligible. Two reviewers participated independently in the quality assessment and data extraction process using a standardised form based on the Effective Practice and Organisation of Care checklist. Relative risks or standardised mean differences were calculated when possible.

Results
Four professional interventions and three organisational interventions were examined. In general, the professional interventions seemed to increase recognition, referral, and prescription as well as improving anxiety outcomes. Two out of three organisational interventions showed a positive effect on anxiety outcomes. The one study that took prescription into account showed no effect.

Conclusions
The quality of care for patients with anxiety can be improved. A combination of professional and organisational interventions in which an external expert is introduced seems to be most promising. Additional research is nevertheless necessary to determine the exact effects of such interventions using patient effect measures, economic evaluations, and feasibility studies.

Keywords
anxiety; quality of care; primary care; systematic review.

INTRODUCTION

Anxiety disorders have a high prevalence among the general population and in general practice. The lifetime prevalence of anxiety disorders is about 14%, and the 1-year prevalence of consultation with a GP is about 10%.[1–3] Patients with anxiety disorders experience high levels of distress and impaired social functioning.[4,5] Anxiety disorders are associated with a high use of medical services and high costs,[5] and patients with such disorders also frequently tend to suffer from a depressive disorder.[1]

Although anxiety disorders are common, they often go unrecognised. Compared with standardised psychiatric assessment, GPs identify about 60% of all patients suffering from an anxiety disorder, irrespective of the specific diagnosis. Some 35–65% of patients with an anxiety disorder receive an accurate specific diagnosis.[3]

Much research evaluated the effectiveness of therapies to treat patients with anxiety disorders: longitudinal studies of the cause of anxiety disorders, specific diagnosis, and the need for treatment have often found to be lacking.[6,7] In most countries,

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How this fits in

Anxiety disorders are associated with high prevalence, high patient burden, and high use of medical services. Increased efforts to improve the quality of general practice care for patients with anxiety disorders are clearly called for and merited. However, it's not evident which quality improvement interventions are most effective. This review showed that professional and organisational interventions seemed to increase recognition, referral and prescription and to improve anxiety outcomes. A combination of professional and organisational interventions appears to be most promising to improve the quality of care for patients with anxiety disorders. It is probable that the introduction of an external expert to provide education or actively participate in the care for the patients with anxiety disorders will contribute to the effectiveness of such interventions.

guidelines for the treatment of anxiety disorders are available for specialised mental health care[8–11] and general practice,[12–15] however, general practice care for anxiety disorders is not always in line with the standards provided by such guidelines. Although GPs perceive the diagnosis of anxiety disorders to be their task, the treatment of anxiety disorders is not necessarily perceived to be such.[16] A number of problems with regard to the recognition and management of anxiety disorders have been identified (E van Rijswijk *et al*, unpublished data, 2005),[17,18] such as lack of time for elaborate diagnosis, long waiting lists for specialised mental health care, and limited skills or time for the cognitive behavioural treatment of such disorders.

Given the high prevalence of anxiety disorders, the patient burden, and the problems detected with the recognition and management of these disorders, increased efforts to improve the quality of general practice care for patients with anxiety disorders are clearly called for and merited.[19] Professional, organisational, regulatory, and financial interventions to improve the recognition, diagnosis and management by GPs and to modify clinical behaviour are — in fact — numerous.[20,21] Several reviews to identify those interventions that are most effective in improving the quality of care for patients with mental health problems have already been published. One of the reviews that was specifically concerned with the quality of care for patients with depressive disorders showed that several types of interventions effectively improved their recognition, diagnosis, and management.[22,23] The question of which interventions most effectively improve these aspects in the care of patients with anxiety disorders in particular has yet to be answered. Given the high degree of comorbidity for depressive and anxiety disorders, however, it seems reasonable to study the interventions to improve the quality of care for such disorders in concert.[1] The aim of the present review was, therefore, to determine the effectiveness of interventions to improve GPs' diagnosis and management of patients with anxiety disorders, who either have or do not have a comorbid depressive disorder.

METHOD

Search strategy

The present review was conducted according to the methodology of the Effective Practice and Organisation of Care (EPOC) module from the Cochrane Library.[24] Electronic searches were undertaken of MEDLINE (1966–January 2003), EMBASE (1966–January 2003), PsychINFO (1966–January 2003), and the Cochrane Clinical Trials' Register (CCTR, Cochrane Library, 2003 Issue 1). The strategy, used to identify relevant trials, was adapted to the specific search criteria required for each database; this was based on four sets (Supplementary Box 1). The first set (primary care) was used to identify studies with an appropriate study design; the second to identify those studies with relevant improvement of quality interventions; the third set to restrict the studies examined to those concerned with primary care; and the fourth to restrict the studies examined to those concerned with patients with an anxiety disorder, as defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM). The reference lists from the included studies and reviews were also searched for additional studies. The search was restricted to English-language publications. The complete search can be found at (www.wokresearch.nl).

Inclusion criteria

Only studies aimed at improving the recognition, diagnosis, and management of patients with an anxiety disorder in general practice through the introduction of quality improvement interventions were included in the present review. Studies in which different specific therapies were compared and studies in which the quality improvement interventions were neither aimed at the GP nor aimed at a substitution of general practice care by other professionals were not taken into account. According to the EPOC guidelines, randomised controlled trials, controlled before/after trials, and interrupted time series were included. Due to, for example practical or ethical considerations, the effectiveness of quality improvement interventions cannot always be studied using a randomised controlled design.[25] In these cases it is advocated to use non-randomised designs, such as controlled before/after trials or interrupted time series to provide useful evidence, taking into account the strengths and weaknesses of the different designs. Using EPOC criteria to judge the quality of these specific designs ensured that only studies of sufficient quality were considered in this review. Furthermore, all interventions

that EPOC judges to be quality improvement interventions were taken into account such, as professional, organisational, financial, and regulatory interventions. The primary effect measures consisted of anxiety outcomes, diagnosis, prescription, and referral. The secondary effect measures consisted of other patient and process-of-care effect measures such as social functioning and other management outcomes. Studies of patients with anxiety disorders as well as patients with anxiety disorders and depression were eligible for inclusion in the review.

Data extraction and validity assessment

Two reviewers independently provided initial eligibility judgments based on the titles and abstracts of the articles. A total of four reviewers participated in the data extraction and quality assessment process using a standardised form based on the EPOC data abstraction form (www.epoc.uottawa.ca/tools.htm). Any disagreements were resolved through discussion with an extra reviewer until consensus could be reached.

Data synthesis

Using the standardised form based on the EPOC data abstraction form, included studies were first assessed with regard to methodological quality using a total of eight methodological criteria:

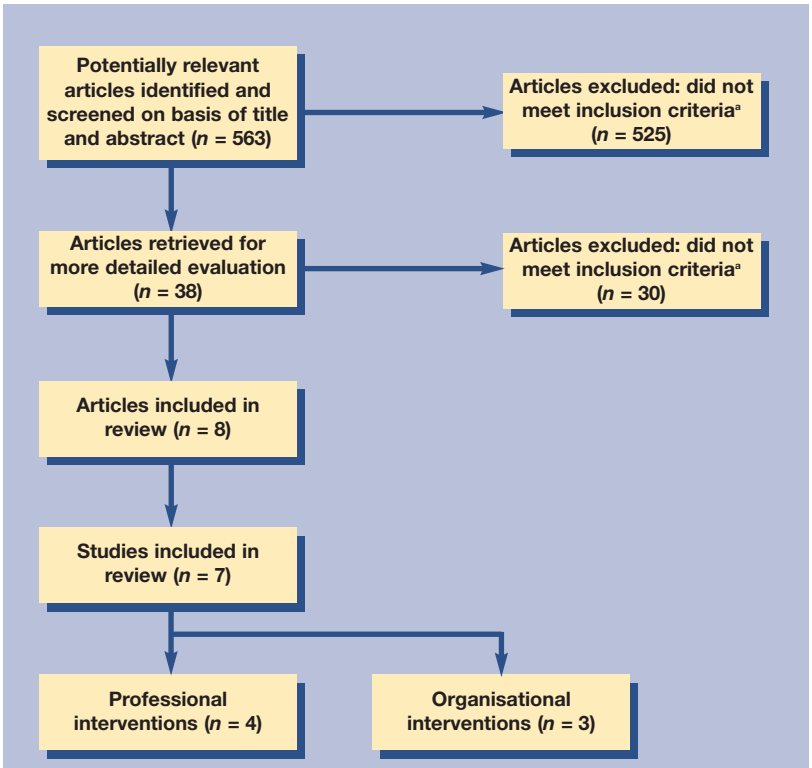
- power calculation;
- concealment of allocation;
- follow-up of patients;
- follow-up of professionals;
- blinded assessment of primary outcome measures;
- comparability of control and intervention groups at baseline;
- reliability of primary effect measures; and
- protection against contamination.

The studies were next classified according to intervention type. The effects of the interventions were then described with respect to the various patient and process-of-care measures. Only the results for the primary effect measures (that is, anxiety outcomes, diagnosis, prescription, and referral) are described here. The results for the secondary effect measures are outlined in the Tables 1 and 2. Three different types of intervention were observed: audit and feedback (one study); brief education (one study); and educational outreach (two studies). Two different types of organisational interventions were observed: nurse substitution (one study); and collaborative care (two studies). When possible, the absolute difference and the standardised mean differences for continuous outcomes or risk ratios for dichotomous outcomes were calculated using the original data.[26] When this was not possible, only the absolute difference (that is, the difference in mean score at post-measurement between the intervention and the control group) or the difference of the differences (the difference in change scores between the intervention and the control group) was calculated. A meta-analysis using statistical pooling was not undertaken because the relevant studies involved very different interventions and outcome measures.

RESULTS

Flow chart of the included studies

Out of the initial 563 abstracts that were found using the search strategy, those studies not meeting the criteria for study design, outcome measures, or intervention type were excluded (Figure 1). This left 38 articles that were retrieved for more detailed inspection. After this inspection, another 30 articles did not meet the criteria for study design, outcome measures, or intervention type and were excluded. Finally, a total of eight articles representing seven studies met our inclusion criteria. Three different types of professional interventions were observed: audit and feedback,[27] brief education,[28] and educational outreach. Two different types of organisational



[a]Main reasons for exclusion: study could not be defined as a randomised controlled trial, controlled before/after trial or interrupted time series; study was not aimed at patients with anxiety or anxiety and depression according to DSM; study did not include any of the primary effect measures (anxiety outcomes, diagnosis, prescription, and referral); and interventions could not be defined as professional, organisational, legal, or financial.

Figure 1. Flow chart of the included studies.

Table 1. Patient effect measures of the included studies.

Study	Health status		(Social) functioning	
Professional interventions				
Audit and feedback[27]	Global Anxiety Score (range 40–81)[a]	AD = -1.04 SMD = -0.18 (-0.35 to -0.01)	Labour force participation rates	RR = 0.88 (0.8 to 0.96)
	Global Severity Index (range 40–81)[a]	AD = -0.70 SMD = -0.09 (-0.26 to 0.08)	Improvement in functional status	RR = 1.24 (1.01 to 1.53)
	Highest Anxiety Subscale Score (range 30–81)[a]	AD = -0.21 SMD = -0.04 (-0.21 to 0.13)	SF-36 social functioning (range = 0–100)[b]	AD = 0.89 SMD = 0.04 (-0.13 to 0.21)
	SF-36 mental health (range 0–100)[b]	AD = 1.20 SMD = 0.07 (-0.10 to 0.24)	SF-36 role-physical (range = 0–100) [b]	AD = -3.71 SMD = -0.10 (-0.27 to 0.07)
	Improvement in anxiety symptoms[b]	RR = 1.25 (1.01 to 1.53)	SF-36 role-emotional (range = 0–100) [b]	AD = 4.49 SMD = 0.11 (-0.05 to 0.28)
Organisational interventions				
Nurse substitution[33]	Main problem (range 0–8) [a]	AD = -2.8 ΔΔ = 3.1		
	Fear questionnaire global phobia (range 0–8)[a]	AD = -1.8 ΔΔ = 2.2		
	Fear questionnaire total phobia (range 0–120)[a]	AD = -22 ΔΔ = 15		
	Fear questionnaire anxiety-depression (range 0–40)[a]	AD = -6 ΔΔ = 4		
Collaborative care[31]	Predefined level of recovery (PDSS)[b]	RR = 1.38 (1.07 to 1.77)		
	Predefined level of recovery (ASI)[b]	RR = 2.29 (1.29 to 4.06)		
	Number of anxiety-free days per patient [b]	AD = 79.8 SMD = 4.15 (3.49 to 4.80)		
Collaborative care[32]	Predefined level of recovery (SQDP)[b]	RR = 1.27 (1.0 to 1.58)		

AD = absolute difference between intervention and control group (Iafter-Cafter). SMD = standardised mean difference (95% CI). RR = risk ratio (95% CI). ΔΔ = difference of the difference ([Ibefore-Iafter]-[Cbefore-Cafter]). [a]A negative AD/SMD; positive ΔΔ or RR<1 indicates that outcome in intervention group is better. [b]A positive AD/SMD or RR>1 indicates that outcome in intervention group is better. PDSS = Panic Disorder Severity Scale. ASI = Anxiety Severity Index. SQDP = Shedler Quick Diagnostics Panel.

interventions were observed:[29,30] collaborative care[31,32] and nurse substitution.[33]

Studies of regulatory or financial interventions were not found. All of the professional interventions were single interventions. Two out of three organisational interventions also included an educational component and could, therefore, be characterised as multifaceted.[31,32] Further information on the characteristics of the interventions can be found in Supplementary Table 1.

All studies on collaborative care, except for one,[32] concerned patients with anxiety disorders alone.[27–33] The sample sizes ranged from 67 to 618 patients and from 20 to 286 providers. The review included two studies on professional interventions and two studies on organisational interventions from the US,[27,28,31,32] two studies on professional interventions from Australia,[29,30] and one study on an organisational intervention from the UK.[33] The studies from the US were aimed at primary care physicians (such as those concerned with family medicine, internal medicine, gynaecology); the other studies were aimed exclusively at GPs.

Quality of the included studies

The studies included in the review involved six randomised controlled trials and one controlled before/after trial. The methodological quality of the studies varied greatly and details such as power calculations and concealment of allocation were often simply lacking. Concealment of allocation was found to be adequate for only one study[31] and unclear on the basis of the information provided for the other studies. Follow-up was greater than 80% in three studies[27,29,30] and less than 80% in two studies.[31,33] In only one study was a power calculation reported and sufficient participants included, who were still present in the study at follow up.[30] Protection against contamination was considered adequate for five studies[27,30–33] and inadequate for one study.[28] Two studies took several primary outcome measures into account[27,31,34] and some studies even used several different instruments to measure comparable

Table 2. Process-of-care effect measures of the included studies.

Study	Diagnoses		Management	
Professional interventions				
Audit and feedback[27,34]	Combined recognition treatment rates[a]	RR = 1.71 (1.27 to 2.29)	Prescription of psychotropic medication[b]	RR = 1.01 (0.65 to 1.58)
	Chart notation[a]	RR = 1.68 (1.23 to 2.30)	Referral[b]	RR = 2.94 (1.33 to 6.51)
			Reported time GP spent talking[a]	RR = 3.16 (1.58 to 6.32)
			Reported GP being more proactive[a]	RR = 2.04 (1.66 to 2.50)
Brief education[28]	% of physicians that diagnosed correctly:		Importance of treatment in primary care of (scale 1–5)	
	Agoraphobia with panic attacks[a]	RR = 1.32 (1.24 to 1.42)	Agoraphobia with panic attacks	AD = -0.29
	Panic disorder[a]	RR = 1.14 (1.07 to 1.21)	Panic disorder	AD = -1.04
	Generalised anxiety disorder[a]	RR = 1.53 (1.38 to 1.69)	Generalised anxiety disorder	AD = -0.13
	Adjustment disorder with anxious mood[a]	RR = 1.12 (1.04 to 1.21)	Adjustment disorder with anxious mood	AD = -0.22
Educational outreach[29]			Bz prescription rate per 100 diagnoses of anxiety[b]	AD = 2.7 ΔΔ = 7.3
Educational outreach[30]			Bz prescription rate per 100 diagnoses (all diagnoses of anxiety)	AD = -7.2 ΔΔ = 3.4
			Bz prescription rate per 100 diagnoses (new diagnoses of anxiety)[b]	AD = -5.9 ΔΔ = 5.4
Organisational interventions				
Collaborative care[31]			Appropriate type of medication[b]	RR = 1.20 (0.85 to 1.70)
			Adequate dose and duration[b]	RR = 1.45 (0.91 to 2.29)
			Adherence >25 days[a]	RR = 1.41 (0.87 to 2.29)

AD = absolute difference between intervention and control group (Iafter-Cafter). RR = risk ratio (95% CI). ΔΔ = difference of the difference ([Ibefore-Iafter]-[Cbefore-Cafter]. [a]RR>1 indicates that outcome in intervention group is better. [b]A positive ΔΔ or RR>1 indicates that prescription/referral is higher in intervention group. Bz = benzodiazepine.

outcome measures.[27,31,33,34] Further details on the characteristics and the quality of the included studies can be found in Supplementary Table 2.

Effectiveness of professional interventions

Four studies involved the implementation of professional interventions. One study examined an audit and feedback intervention in which primary care physicians met on an individual basis with a study physician;[27] another examined the effectiveness a 3.5-hour educational seminar.[28] The remaining two studies examined the effectiveness of an educational outreach intervention focused on the management of benzodiazepine use.[29,30]

Patient effect measures

Only the study of audit and feedback took patient effect measures regarding anxiety outcomes into account.[27] No differences were detected with regard to improvement over time on a variety of anxiety scales (Global Severity Index, Highest Anxiety Subscale Score and the score on the subscale mental health of the Medical Outcome Study 36-item Short Form Health Survey (MOS SF-36)). Patients in the intervention group improved more regarding their Global Anxiety Score and experienced a higher self-reported improvement in anxiety symptoms (relative risk [RR] = 1.25; 95% confidence interval (CI) = 1.01 to 1.53)[27] (Table 1).

Process-of-care effect measures

All four studies involving professional interventions reported on process-of-care effect measures, although they varied greatly with regard to the type of outcomes reported (Table 2). In only two studies, outcomes with regard to recognition or diagnosis of anxiety disorders were reported[28,34] while prescription was considered in three studies.[29,30,34] One study reported on referral.[34]

In the study of audit and feedback, the recognition and treatment rates were relatively higher for the intervention group (RR = 1.71; 95% CI = 1.27 to 2.29)

as was the rate of chart notation (RR = 1.68; 95% CI = 1.23 to 2.30).[27,34] In the study of brief education, the percentage of primary care physicians who correctly diagnosed agoraphobia with panic attacks (RR = 1.32; 95% CI = 1.24 to 1.42), panic disorder (RR = 1.14; 95% CI = 1.07 to 1.21), generalised anxiety disorder (RR = 1.53; 95% CI = 1.38 to 1.69), and adjustment disorder with anxious mood (RR = 1.12; 95% CI = 1.04 to 1.21) was found to be higher for the intervention group than for the control group.[28]

Audit and feedback did not result in higher prescription rates;[34] the studies on educational outreach revealed no consistent effects on prescription rates.[29,30] Only the study of audit and feedback reported on the number of referrals and found patients in the intervention group more likely to be referred to mental health specialists than patients in the control group (RR = 2.94; 95% CI = 1.33 to 6.51)[34] (Table 2).

Effectiveness of organisational interventions

Three studies implemented organisational interventions to improve the quality of care for patients with anxiety disorders. In one study, GPs were aided by nurse therapists who worked as part of these teams and undertook behavioural therapy with the relevant patients.[33] This intervention was considered as a professional intervention in which changes are made in the nature of services provided in general practice. The other two studies examined the effects of collaborative care.[31,32] In one of these studies,[31] systematic patient education was provided as well as visits and additional phone calls with an on-site consulting psychiatrist. The primary care physicians also received education. In the other,[32] the effects of an integrated primary care/mental health model were examined with the psychologist devoting 50% of his time to direct treatment and 50% to collaborative activities. Both the patients and the primary care physicians received education in this study.

Patient effect measures

All three studies concerned with organisational interventions measured the effects on anxiety outcomes. In the study of the nurse substitution intervention, the intervention group improved more than the control group on scores on main problem, the fear questionnaire for global phobia, the fear questionnaire for total phobia, and the fear questionnaire for anxiety-depression.[33] One of the studies examining the effectiveness of collaborative care showed more patients in the intervention group meeting a predefined level of recovery on the Panic Disorder Severity Scale (RR = 1.38; 95% CI = 1.07 to 1.77) and on the Anxiety Severity Index (RR = 2.29; 95% CI = 1.29 to 4.06); patients in the intervention group also had on average 79.8 more anxiety-free days per patient than patients in the control group.[31] In the other study of collaborative care, involving a psychologist in the treatment and collaborative care activities, no differences were seen between the patients in the intervention group and the patients in the control group with regard to a predefined level of recovery on the Shedler Quick Diagnostics Panel (RR = 1.27; 95% = CI 1.0 to 1.58)[32] (Table 1).

Process-of-care effect measures

Only one of the studies involving an organisational intervention examined process-of-care effect measures.[31] No significant differences were found for appropriate type of medication, adequate dosage, duration or percentage of patients adhering to medication for more than 25 days. (Table 2).

DISCUSSION

In order to identify the most effective interventions to improve the quality of care for patients with anxiety disorders, a sensitive search of the different types of interventions was undertaken. The search was considered sensitive because it was based on the search used by EPOC to retrieve all sorts of quality improvement interventions. Combining this search with different sets of search criteria to restrict studies to the appropriate study design, to primary care, and to patients with an anxiety disorder as defined in the DSM, made the search more specific. The search produced a small number of methodologically sound and rigorous studies involving only professional or organisational interventions. Studies of regulatory or financial interventions were not found. Although the designs of the studies included in the present review were quite similar, the differences in the interventions and outcome measures precluded performance of a meta-analysis using statistical pooling.

Summary of main findings

Closer examination of the organisational interventions showed that two out of three interventions included an educational component, which means that they can be characterised as multifaceted. The lack of studies of financial or regulatory interventions can be explained by the fact that studies of the effects of such interventions are probably not aimed at a specific disorder.

Professional and organisational interventions seemed to increase recognition, referral, and prescription and to improve anxiety outcomes.

In three out of four studies of professional interventions — as well as in all three studies of organisational interventions — an external expert (such as a nurse therapist or psychologist) was introduced to provide education or actively participate in the care of the patients with anxiety disorders. It may be that the

introduction of such an expert constitutes a key factor for effective improvement in the quality of care for patients with anxiety disorders and that such intervention therefore merits greater attention.

Strengths and limitations of the study

The present review has several limitations. First, it was restricted to English-language publications only. Second, the reporting of the results was found to be incomplete for some of the studies. Several attempts were made to contact the authors to recover potentially relevant but unpublished results. Most attempts were unsuccessful, which means that the possibility of a publication bias cannot be ruled out. Furthermore, the methodological quality of the studies was found to vary greatly, which means that both the internal and external validity of the present results are open to question and the results should be interpreted with caution. Finally some studies took several primary outcome measures into account or even used several different instruments to measure comparable outcome measures. To ensure that positive results in these studies were not based on merely chance (α error), a close examination was done to see whether the results of this study were pointed in the same direction. If a study reported on several outcomes, the direction of the results of the different outcome measures tended to be in the same direction so the chance of an α error occurring was small.

Implications for future research

The results of our review are in line with the results of other reviews concerned with the improvement of the quality of care for patients with mental health disorders. Studies of depression and other mental health problems, for example, have shown positive results for both patient and process-of-care effect measures.[22,23,35,36] In line with the present findings, a more rigorous review on depression found multifaceted interventions, including enhanced care for depression and the involvement of an external expert, to clearly improve the care and outcome for depression. Educational activities were only found to be effective when existing as part of a complex organisational intervention.[22,23]

Other reviews of mental health care also show professional interventions to only be effective when embedded in some sort of organisational intervention.[35,36] In other words, it seems that a combination of professional and organisational interventions appears to be most promising to improve the quality of care for patients with mental health problems — in general and anxiety disorders in particular — but the best combination of elements remains unclear. In general a range of interventions have been shown effective in changing professional behaviour but multifaceted interventions, educational outreach visits, and interactive educational meetings are more likely to be effective.[37,38] The elements of these interventions are comparable to the elements that this review concluded to be more effective.

More rigorous research with long-term follow-up is needed to determine whether professional and organisational interventions to improve the diagnosis and management of patients with anxiety disorders are indeed as promising as cautiously concluded here. This research should focus on the provision of multifaceted interventions involving a mixture of professional and organisational elements. It is recommended that both patients with anxiety disorders and patients with depression be considered in light of the high degree of comorbidity for the two disorders. Interventions including an external expert should certainly be investigated in greater detail.

To improve possibilities for meta-analyses, studies should use validated instruments. They should focus on validated screening instruments based on the DSM to determine the amount of correctly diagnosed patients or the proportion of patients that recovered. To measure health-related quality of life a more general instrument, such as the MOS SF-36 should be used. In addition specific instruments to measure levels of anxiety could be used. Subsequently, referral and prescription should be reported in a uniform way such as prescription and referral rate.

Furthermore, interventions should also address the barriers that GPs experience in care for patients with anxiety disorders and/or depression. The knowledge and skills of GPs within this domain might be improved, for example, by education and complementary organisational interventions. These organisational interventions could, for example, be aimed at further elucidation of the GP's tasks, improving collaboration between GPs and mental health professionals as well as resolving structural problems, such as long waiting lists.

The design of future quality-of-care intervention studies should cover a sufficiently long period of time to determine the endurance of any effects and reveal any potential effects on patient outcomes. The ultimate goal of such interventions is, after all, to improve the quality of the care to the benefit of the patient. Although it is difficult to accurately measure the effects of such interventions on patient outcomes, such measurement is nevertheless needed to provide insight into the effectiveness of interventions aimed at primary care. Finally, future research should also include economic evaluations and feasibility studies to determine the possibility of implementing quality-of-care interventions that have proven effective on a larger scale.

Supplementary information

Additional information accompanies this article at http://www.rcgp.org.uk/journal/index.asp

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Ethics committee

None

Competing interests

None

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