Evaluation of an educational programme to improve the recognition of psychological illness by general practitioners

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SUMMARY

Background. *Take Care is a commercially sponsored educational package for the detection and management of depression by all members of the primary health-care team.*

Aim. *This study was designed to evaluate whether the educational package affects the recognition of psychological illness by general practitioners.*

Method. *General practitioners working in 13 practices in North West England or Trent Regional Health Authorities took part the evaluation. Patients who scored more than eight on the depression or anxiety component of the Hospital Anxiety and Depression (HAD) scales, and who were thought by their general practitioner to have a totally physical problem or no illness, were deemed to have a psychological illness that had been 'missed' by the doctor. Changes in the proportion of missed cases before and after exposure to Take Care were estimated.*

Results. *When all practices were considered together, the general practitioners missed a depressive illness in 24.1% of patients before Take Care, and 17.1% afterwards; absolute decrease 7.0% [95% confidence interval (CI) −2.0 to −12.0%]. An improvement was seen in most practices (Wilcoxon matched-pair test P < 0.05). The programme was also associated with a small reduction in the overall proportion of episodes of anxiety missed by the doctor (absolute decrease 4.5%; 95% CI −1.0 to −8.0%) a reduction was found in most practices (Wilcoxon matched-pair test P < 0.05). There was no material difference in the diagnostic false-positive rate of the doctors before and after the introduction of the programme.*

Conclusion. *Exposure to an educational package for depression was associated with improved recognition of psychological illness by general practitioners.*

Keywords: depression; education; recognition of psychological illness.

Introduction

CURRENT estimates suggest that about one in 20 adults in the general population suffer from a depressive illness at any one time.[1] Many episodes are likely to go undetected and untreated.[1] In order to raise the level of awareness of the disorder within the health profession, the Royal College of Psychiatrists and the Royal College of General Practitioners launched the Defeat Depression campaign in January 1992.[2] The Government has also recognized the importance of depression by identifying deaths from suicide as a key area for improvement in its *Health of the Nation* strategy for England.[3]

Take Care complements these important initiatives by providing an educational package about the recognition and management of depression by all members of the primary health care team. The programme includes a handbook on depression, an *aide-mèmoire* for assessing patients with depression, some Hospital Anxiety and Depression (HAD) scales, patients information leaflets and videos, and a poster to display in the practice. The handbook has a modular design, and contains four main sections on the detection and diagnosis of depression, its initial and continuing management, and the value of a multidisciplinary approach to the problem. More recent modules include protocol development, audit and problem solving. Another key component of Take Care is access to a regionally based depressive care advisor who is an experienced registered mental health nurse. These advisors visit each practice regularly in order to help develop its preferred way of managing patients with depression. Practices are free to work through the programme at their own pace, concentrating on the elements that they feel most appropriately address their needs.

The programme has been produced under the guidance of a steering committee of general practitioners, psychiatrists, practice nurses, academics and health service managers (Appendix). Although sponsored by SmithKline Beecham, great care has been taken to ensure that the programme is non-promotional, especially with respect to the role of any particular class or brand of antidepressant treatment.

Take Care was launched in June 1993, when 100 practices in eight regional health authorities in England (North East, North West, North East Thames, North West Thames, South West Thames, Trent, West Midlands and Yorkshire), South Wales and Scotland were offered the opportunity to participate. Each practice had four or more partners and employed a practice nurse. By May 1994, 1040 practices had expressed interest in participating in the programme, and 520 had completed the original four modules. This paper examines whether the programme has affected the recognition of psychological illness by general practitioners.

Method

Selection of practices for the evaluation

In May 1993, the 200 practices in the North West England and Trent regional health authorities who were going to be invited to enrol for Take Care were approached by the Royal College of General Practitioners' Manchester Research Unit asking for their help in the programme's evaluation. The practices were given brief details of Take Care and the evaluation exercise. Eighteen practices agreed to help; 13 in the North West England region and five in Trent. Full details of the evaluation procedure were then provided, either at an evening meeting or during a visit to the practice. The research staff involved in the evaluation had no direct involvement in the running of the Take Care programme

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itself. After the preliminary visit, communication between the collaborating practices and the Manchester Research Unit was deliberately minimized to reduce the effects that this might have on the results. However, we were requested by several ethics committees to supply the practices with the study numbers of patients who may have had a missed episode of depression after each part of the evaluation.

Baseline assessment before exposure to Take Care

The baseline assessment was conducted between May and July 1993, before the practices had received any written educational material or been visited by the nurse advisor. Each practice was asked to distribute the HAD scales to 300 consecutive surgery attendees aged 16 years and above. Patients who were unable or unwilling to complete the questionnaire were excluded from the evaluation. The HAD scales consist of 14 questions about anxiety and depression and can be used as a self-reporting screening questionnaire to identify individuals who have a high probability of suffering from anxiety or depression. Although the scale was originally designed for the hospital setting,[4] it has been validated in general practice.[5]

The patients completed the HAD scale in the waiting room, and returned it to the person distributing the questionnaires before seeing the general practitioner. 'Blind' to its result, the doctor conducted a normal consultation before indicating on a separate assessment sheet which category most accurately described the nature of the patient's illness: totally physical, predominately physical, predominately psychological, totally psychological or no illness present. Most, if not all, of the partners in each practice completed the assessment exercise. Trainees were allowed to be included, but only if they were going to be present for both assessments.

The completed HAD scales and assessment sheets were returned to the RCGP Manchester Research Unit for data processing but only the general practitioners were able to identify individual patients.

Follow-up assessment after exposure to Take Care

The second assessment was conducted approximately 3 months after the practice had completed the recognition of depression module of the programme. The practices took a varying length of time to complete this first module, and therefore, the follow-up assessment was performed over a 5-month period between November 1993 and March 1994. The practices were asked to distribute another 300 HAD scales to consecutive surgery attendees. In order to obtain approximately comparable groups in both parts of the evaluation, the practices were provided with the initials and surgery times of the doctors who completed the baseline assessment so that the new set of questionnaires could be distributed in roughly the same pattern. Five practices were unable to complete the follow-up assessment, mainly because of workload pressures. These practices were scattered throughout the regions without any obvious clustering.

'Missed' psychological illness

Patients who scored more than eight on the depression scale and who were thought by the doctor to have a totally physical problem or no illness were deemed to have a depressive illness that had been 'missed' by the general practitioner. The threshold of eight was chosen because previous work in general practice has shown this value to be the best compromise between sensitivity and the false-positive rate.[5] The probability of a patient with a HAD score of more than eight being diagnosed as having depression during a psychiatric research interview (positive predictive value) is 81%.[5] A threshold of eight on the anxiety scale was similarly used to identify patients with a missed case of anxiety.

The 95% confidence intervals (CI) for the difference in the overall proportion of missed cases of depression and anxiety before and after exposure to Take Care were calculated using the confidence interval analysis program.[6] In addition, because there was evidence of variation in the detection of psychological illness between practices, the non-parametric Wilcoxon matched-pairs test[7] was used to test whether the 'average' level of missed cases decreased across most practices.

Power of the study

Previous research has found that about one-third of patients consulting their general practitioner have an anxiety and/or depressive state.[5] On this basis, it was estimated that each practice would have to assess 255 patients before and after exposure to Take Care in order to detect an improvement in the recognition of psychological illness from 50 to 75% (5% significance, 90% power, two-sided test).

Results

The 13 practices which participated in both parts of the evalua-

Table 1. Number and characteristics of patients included in the assessments before and after participating in Take Care.

	Before	After
Total number of HAD scales returned	4107	3582
Total number of complete HAD scales	3863	3395
Total number of patients aged 16 + years with complete HAD scales and GP assessment	3390	2973
Males	1161 (34.2%)	993 (33.4%)
Females	2077 (61.3%)	1851 (62.3%)
Unknown	152 (4.5%)	129 (4.3%)
Mean age: males	48.0 years	48.7 years
females	44.3 years	44.6 years
Patient completed HAD scales:		
high* for depression only	72 (2.1%)	70 (2.4%)
high* for anxiety only	1027 (30.3%)	861 (29.0%)
high* for both depression and anxiety	443 (13.1%)	405 (13.6%)
low* for both depression and anxiety	1848 (54.5%)	1637 (55.1%)

* Low ≤8; high > 8.

tion provided 3390 sets of fully completed HAD scales and doctor assessments before exposure to Take Care, and 2973 sets afterwards (Table 1). The age and sex of the patients in both parts of the exercise was very similar, as were the results of the HAD scales, suggesting that the matching of clinics in both assessments was good. Approximately 2% of patients had high scores on the depression scale alone, 30% on the anxiety scale alone and 13% on both scales. Thus, about 15% of patients had scores on the depression scale in the morbid range, as previously established by Zigmond & Snaith.[4] This is similar to another study based in primary care.[5]

Tables 2 and 3 detail the distribution of the results of the HAD scales and doctor's assessment before and after exposure to Take Care. On both occasions, patients who had high scores on both the anxiety and depression scales were more likely to be assessed by their general practitioner as having a psychological problem than those with high scores on the anxiety or depression scales alone. When all practices were considered together, the general practitioners missed a depressive illness in 24.1% (124/515) of patients before Take Care, and 17.1% (81/475) afterwards; absolute decrease 7% (95% CI –2.0 to –12.0%). The Wilcoxon matched-pairs test was statistically significant ($P < 0.05$), reflecting the fact that, individually, most practices (nine) showed an improvement in the recognition of depression (Table 4).

The Take Care programme does not include much information about the detection and management of anxiety and so a change in the detection of this problem was not expected. However, using a threshold of eight on the anxiety scale as indicative of such a problem, overall 34.4% (505/1470) of cases of anxiety were missed before exposure to Take Care and 29.9% (378/1266) afterwards; absolute decrease 4.5% (95% CI –1.0 to –8.0%). Again, most practices (10) showed an improvement (Wilcoxon matched-pairs test $P < 0.05$) (data not shown).

The improvements in the recognition of depression and anxiety did not occur at the expense of an increase in the false positive rate of the general practitioner's diagnosis. Before Take Care, 9.9% of patients had low scores on both the anxiety and depression scales but were thought by their general practitioner to have a totally or predominantly psychological problem (Table 2). The corresponding figure after exposure to Take Care was 10.8% (Table 3) (absolute difference 0.9%; 95% CI –2.9 to 1.2%).

The patients from the five practices that completed only the first part of the evaluation were similar, in terms of age, sex and HAD scores, to those from the 13 practices that completed both parts of the exercise (data not shown). The practices that dropped out did not appear to have a particularly high (or low) proportion of missed cases of depression at the baseline assessment, compared with the other practices (Table 4).

Table 2. Distribution of patient completed had scales by the general practitioner's assessment of the nature of the illness, before participating in take care.

General practitioner assessment of nature of the Illness	H A D scales: High* for depression and anxiety		High* for depression only		High* for anxiety only		Low* for depression and anxiety		Total	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)	Number	(%)
Totally psychological	111	(25.1)	1	(1.4)	115	(11.2)	43	(2.3)	270	(8.0)
Predominantly psychological	120	(27.1)	11	(15.3)	183	(17.8)	140	(7.6)	454	(13.4)
Predominantly physical	118	(26.6)	30	(41.7)	318	(31.0)	570	(30.8)	1036	(30.6)
Totally physical	84	(19.0)	28	(38.9)	380	(37.0)	980	(53.0)	1472	(43.4)
No illness	10	(2.3)	2	(2.8)	31	(3.0)	115	(6.2)	158	(4.7)
Total	443	(100.0)	72	(100.0)	1027	(100.0)	1848	(100.0)	3390	(100.0)

* Low ≤8; high > 8.

Table 3. Distribution of patient completed HAD scales by the general practitioner's assessment of the nature of the illness, after participating in take care.

General practitioner assessment of nature of the Illness	H A D scales: High* for depression and anxiety		High* for depression only		High* for anxiety only		Low* for depression and anxiety		Total	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)	Number	(%)
Totally psychological	115	(28.4)	2	(2.9)	69	(8.0)	29	(1.8)	215	(7.2)
Predominantly psychological	99	(24.4)	16	(22.9)	172	(20.0)	147	(9.0)	434	(14.6)
Predominantly physical	127	(31.4)	35	(50.0)	306	(35.5)	602	(36.8)	1070	(36.0)
Totally physical	60	(14.8)	17	(24.3)	292	(33.9)	793	(48.4)	1162	(39.1)
No illness	4	(1.0)	0		22	(2.6)	66	(4.0)	92	(3.1)
Total	405	(100.0)	70	(100.0)	861	(100.0)	1637	(100.0)	2973	(100.0)

* Low ≤8; high > 8.

Table 4. Number of HAD scales returned by each practice, percentage of missed cases of depression before and after exposure to take care, and difference.

Practice	Number of HAD scales returned*		Missed cases of depression		
	Before Take Care	After Take Care	Before Take Care (%)	After Take Care (%)	Difference (%)
A	321	327	47.3	26.4	-20.9
B	222	181	35.6	14.9	-20.7
C	159	109	22.7	8.0	-14.7
D	274	126	27.9	18.2	-9.7
E	329	263	17.0	8.6	-8.4
F	245	218	27.8	20.5	-7.3
G	243	308	11.8	5.3	-6.5
H	316	240	25.4	23.8	-1.6
I	161	199	32.1	31.8	-0.3
J	245	200	20.7	21.2	+ 0.5
K	241	162	16.1	18.9	+ 2.8
L	283	289	10.7	13.9	+ 3.2
M	350	349	7.8	11.5	+ 3.7
N	260		19.1	-	-
O	235		27.9	-	-
P	286		31.4	-	-
Q	85		36.4	-	-
R	295		44.0	-	-

* Not all of the HAD scales could be used because the scale was incomplete, there was no accompanying general practitioner assessment or the patient was younger than 16 years.

Discussion

An important limitation of this evaluation was the absence of a comparison group of practices who had not been exposed to Take Care. Therefore, the improvement in the detection of depression could be the result of other influences such as the Defeat Depression campaign. The participating doctors were asked in a questionnaire sent after the evaluation whether they had been aware of any other initiatives about depression during the study period. One doctor stated that he knew of a local audit of suicide and parasuicide, and another was conducting his own research into depression. There was also some knowledge of the Defeat Depression campaign (mentioned by seven doctors), drug promotions for specific preparations (two) and awareness of the Health of the Nation target for suicide reduction (one). In most cases, the doctors were usually aware of the general publicity surrounding these initiatives rather than specific local activities. Therefore, it seems unlikely that other initiatives will have contributed materially to the observed effects.

It is possible that the apparent beneficial effects of the programme occurred because of the requirement imposed by several local ethics committees to inform the practices, after each assessment, of patients who may have had a depressive illness missed by the general practitioner. Little is known about whether such feedback affects subsequent detection rates by general practitioners. A study of hospital physicians providing primary care services to residents of Baltimore, Maryland, USA, found a slightly higher proportion of patients with a documented episode of psychiatric illness after a randomized trial of the feedback of the results of another screening instrument for depression, the General Health Questionnaire (21% after, compared with 16% before).[8] However, the authors were unable to tell whether the difference was the result of changes in the recording of illness and/or an increased sensitivity to psychiatric problems. Any effects of feedback would have to be long lasting if they were to influence our results, since the interval between baseline and follow-up assessment was at least 4 months.

The study assessed only the patient's illness on the day of surgery attendance. Some patients may have been known to have depression but consulted for another problem on the day of the assessment. For example, a depressed woman may have seen her doctor for oral contraception. In this instance, the woman will have had a high HAD scale score but the general practitioner would have assessed her as not having an illness as the cause of that particular consultation, and consequently, will have been deemed to have 'missed' her depression. The number of occasions in which these circumstances arose were probably small. Furthermore, provided that the doctors completed the assessment sheets in an identical manner in both parts of the evaluation, before and after comparisons remain valid.

The general practitioners in the study were all volunteers. Although this means that the results do not necessarily reflect the effect of Take Care on other practitioners, it does not invalidate the internal 'before and after' comparisons. Arguably, the volunteer doctors were more likely to be interested in psychiatric illness, and more able to recognize such problems before Take Care. The effect of such volunteer bias would have been to underestimate the true effect of the educational programme. We were unable to collect any information about the patients who did not participate in the study. Some may have refused because of language difficulties, problems which could also affect the presentation and recognition of depression. However, it is unlikely that the proportion of patients with such difficulties will have been large. Furthermore, the same problems should have affected the baseline and follow-up assessments, so internal comparisons remain valid.

General practitioners were chosen for this evaluation because they are the members of the primary health-care team most likely to have received some training in the recognition and management of depression. The results do not necessarily represent the experience of other members of the team. Greater benefits may be observed among other members of the team, especially practice nurses. It is noteworthy that practice nurses appear to be more responsive to the Take Care programme than general practitioners (Jo Newton, SmithKline Beecham, personal communication).

This evaluation looked only at the short-term effects of the Take Care programme. Further work is needed in order to determine whether the benefit appears to persist and to identify which aspect of the programme (such as the provision of the nurse advisor) is responsible for the change.

With the increasing demand for continuing professional development and training, more educational programmes like Take Care are likely to be produced. As with any intervention in medicine, these initiatives should be evaluated. We have shown that this can be done, provided that the methodology is kept simple and does not impose unreasonable work on participating clinicians.

Appendix

Members of the Steering Committee were: Professor Chris Thompson (Chairman), Dr David Baldwin, Dr Stuart Bootle, Dr Ralph Burton, Jan Cox, Brian Edwards, Dr Simon Fradd, Atie Fox, Dr Philip Hannaford, Dr Simon Holmes, Mark Jones, Dr Chris Manning, Professor Roy McClelland and Dr Robert Peveler.

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