Hampshire Depression Project: changes in the process of care and cost consequences

Tony Kendrick, Lesley Stevens, Amanda Bryant, Jonathan Goddard, Andrew Stevens, James Raftery and Chris Thompson

SUMMARY

Records of patients included in a trial of educating practice teams about the management of depression were examined to determine changes in the process of care. There were no significant differences in the proportions recognised or treated for depression. Only 15% of those with possible, and 26% of those with probable, major depressive disorder were prescribed recommended doses and duration of antidepressants. The education apparently delayed a switch away from tricyclics while achieving a similar outcome. However, health service costs were mainly non-psychiatric, and there were no significant savings as a result.

Keywords: *depression; antidepressants; disease management; health economics.*

A Kendrick, MD, FRCGP, FRCPsych, professor of primary medical care, Department of Primary Care; L Stevens, MRCPsych, research fellow; A Bryant, BSc, research assistant; and C Thompson, MD, FRCPsych, professor of psychiatry, Department of Mental Health; J Goddard, MSc, statistician, Health Care Research Unit, University of Southampton. A Stevens, MA, MSc, professor of public health, Department of Public Health and Epidemiology; and J Raftery, PhD, professor of health economics, Health Services Management Centre, University of Birmingham.

Address for correspondence

Professor A Kendrick, Aldermoor Health Centre, Aldermoor Close, Southampton SO16 5ST. E-mail: ark1@soton.ac.uk

Submitted: 20 October 2000; Editor's response: 5 February 2001; final acceptance: 14 May 2001.

Introduction

THE Hampshire Depression Project was a large controlled trial of educating practice teams about the recognition and management of depression.[1] While it had no impact on the six-month outcome, recovery among recognised patients was significantly better at six weeks in the intervention arm, suggesting short-term improvements in the management of identified cases. To determine how management changed, and the cost consequences, we examined practice records of depressed patients seen before and after the intervention, looking for changes in psychiatric and non-psychiatric care.

Methods

The study was approved by the local ethics committees. Eight of the original 55 practices declined to participate, and 10 non-computerised practices were excluded (handwritten records were frequently incomplete), leaving 16 intervention and 21 control practices.

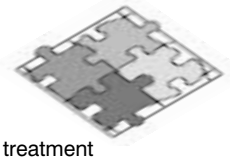
Data on patients scoring 8 or more for depression on the Hospital Anxiety and Depression scale[1] (HAD-D score) were collected for 12 months following screening, including data on consultations, prescriptions, investigations, referrals, and hospital admissions. Therapeutic doses of antidepressants were considered to be 125 mg per day for tricyclics, 140 mg for lofepramine, 20 mg for fluoxetine and paroxetine, and 50 mg for sertraline. Clustered logistic regression was used to determine odds ratios and 95% confidence intervals for the effect of the group-phase interaction for each categorical variable. Continuous variables were analysed using a mixed linear model. All models included group and phase as fixed effects and practice as a random effect.

Results

The baseline phase included 273 depressed patients in the intervention practices and 460 in the controls, and 205 and 412 respectively in the post-seminar phase.

The table shows that there were no significant differences in the proportions of depressed patients recognised, prescribed antidepressants, or referred for psychiatric reasons. However, while levels of tricyclic prescribing decreased in control practices, they were maintained at a significantly higher level in the intervention group. There was no significant difference in the proportion prescribed therapeutic doses, or mean duration of antidepressant prescribing, (respectively, 201 and 205 days in intervention and control groups at baseline and 214 and 187 after the seminars; regression coefficient 28.9 [95% CI = 23.0–80.9], $P = 0.27$). Only around 15% of the total of 1350 patients with 'possible' major depression (HAD-D score = 8+) received a thera-

HOW THIS FITS IN



What do we know?

The majority of depressed patients in general practice receive less than the recommended doses and duration of treatment according to clinical practice guidelines.

What does this paper add?

This trial of educating practice teams about the management of depression demonstrated no changes in the process of care. Most patients recovered despite receiving less than recommended treatment. Changes in the management of depression are unlikely to result from educational interventions alone.

peutic dose of antidepressants for four months (Table 1). The corresponding proportion among the 472 patients with 'probable' major depression (HAD-D score = 11+) was 26%.

No significant differences were found in consultation rates, total prescriptions, investigations, referrals or admissions (Table 1). Around 60% of depressed patients underwent physical investigations in the 12 months following screening, around 90% were prescribed medication (including analgesics as frequently as antidepressants), and around 40% were referred to outpatients, suggesting high levels of physical co-morbidity.

Discussion

The apparent advantage in short-term outcome among recognised patients in the intervention arm[1] was probably a chance finding, given the lack of differences in the process of care. The large majority of depressed patients recovered within six months,[1] despite receiving what guidelines would suggest was an inadequate dose or duration of antidepressants.[2]

During the study, prescribing of selective serotonin re-uptake inhibitors (SSRIs) increased nationally.[3] Our results suggest that the education halted or delayed a switch from tricyclics, while achieving a similar outcome. However, drug costs were not significantly reduced as a result (difference between groups in mean fall in cost per patient treated = £3.55, $P = 0.66$). The cost of the intervention, an average of 3.5 hours of seminars,[4] was £174 per practice. Mason *et al* claimed that simply posting information to practices was followed by an 8% shift in SSRI prescribing, for a cost of only £25 000 for distribution to all practices in England, suggesting that intensive practice-based education is not a cost-effective way of influencing antidepressant prescribing.[3]

The rates of investigation, prescribing, and referral suggest high levels of physical symptoms which may have led

Table 1. Management of patients with 'possible' major depressive disorder (scoring 8+ on the HAD-D scale) before and after the educational intervention.

	Baseline phase (12 months)		After intervention (12 months)			
	Intervention *n* (%)	Control *n* (%)	Intervention *n* (%)	Control *n* (%)	Odds ratio (95% CI) for effect of group-phase interaction	*P*-value for significance of effect
Total number of depressed patients (HAD-D score = 8+)	273 (100)	460 (100)	205 (100)	412 (100)	–	–
Recognised as depressed by the general practitioner	98 (35.9)	163 (35.4)	79 (38.5)	140 (34.0)	1.16 (0.72–1.86)	0.55
Prescribed an antidepressant	101 (37.0)	159 (34.6)	63 (30.7)	132 (32.0)	0.86 (0.53–1.39)	0.53
Prescribed a tricyclic antidepressant	59 (58.4)[a]	113 (71.1)[a]	38 (60.3)[a]	69 (52.3)[a]	2.31 (1.01–5.32)	0.049
Prescribed a selective serotonin re-uptake inhibitor	55 (54.5)[a]	72 (45.3)[a]	36 (57.1)[a]	82 (62.1)[a]	0.63 (0.27–1.45)	0.29
Antidepressant prescribed at a therapeutic dose	66 (24.2)	92 (20.0)	45 (22.0)	93 (22.6)	0.75 (0.44–1.29)	0.30
Antidepressant prescribed for at least four months	66 (24.2)	103 (22.4)	40 (19.5)	78 (18.9)	0.91 (0.53–1.57)	0.73
Antidepressant prescribed at a therapeutic dose and for four months	44 (16.1)	66 (14.4)	31 (15.1)	62 (15.1)	0.85 (0.46–1.55)	0.59
Referred to a psychiatrist, psychologist, or counsellor	9 (3.3)	22 (4.8)	3 (1.5)	15 (3.6)	0.59 (0.20–1.74)	0.34
Admitted to a psychiatric hospital ward	1 (0.4)	0	0	1 (0.2)	Too sparse	Too sparse
Any physical investigation performed	163 (59.7)	261 (56.7)	136 (66.3)	226 (54.9)	1.36 (0.84–2.20)	0.21
Prescribed any medication	252 (92.3)	410 (89.1)	187 (91.2)	358 (86.9)	0.97 (0.46–2.08)	0.95
Referred to secondary care (any specialty)	102 (37.4)	189 (41.1)	84 (41.0)	154 (37.4)	1.32 (0.82–2.12)	0.25
Admitted to hospital (any specialty)	19 (7.0)	18 (3.9)	19 (9.3)	25 (6.1)	1.27 (0.70–2.32)	0.43

[a]Denominator = number prescribed an antidepressant.

to decisions not to label patients as depressed and not to prescribe antidepressants, on the basis that treating the physical problems would in turn reduce psychological distress. In doing this, practitioners may be going along with patients' unwillingness to engage on a psychological level.[5] However, while patients with minor depression usually recover anyway, there is evidence that patients with major depression do benefit from antidepressant treatment, regardless of whether there are understandable causes including physical illness.[2] The fact that only 26% of patients with probable major depression received what guidelines would recommend as an adequate dose and duration of antidepressants therefore remains a cause for concern.

Overall, we must conclude that changes in the management of depression in primary care are unlikely to be achieved through this kind of education alone. Significant improvements in outcome for those with major depression have resulted from more intensive multifaceted interventions in the United States, usually involving placing or training more specialised workers in primary care.[6] Such approaches should now be evaluated in the UK.

References

1. Thompson C, Kinmonth A-L, Stevens L, *et al*. A randomised controlled trial of the effects of a clinical practice guideline and practice-based education on the detection and outcome of depression in primary care: the Hampshire Depression Project. *Lancet* 2000; **355:** 185-191.
2. Anderson IM, Nutt DJ, Deakin JFW. Evidence-based guidelines for treating depressive disorders with antidepressants: a revision of the 1993 British Association for Psychopharmacology guidelines. *J Psychopharmacol* 2000; **14:** 3-20.
3. Mason J, Freemantle N, Young P. The effect of the distribution of *Effective Health Care Bulletins* on prescribing selective serotonin re-uptake inhibitors in primary care. *Health Trends* 1999; **30:** 120-122.
4. Stevens L, Kinmonth A-L, Peveler R, Thompson C. The Hampshire Depression Project: development and piloting of clinical practice guidelines and education about depression in primary health care. *Med Educ* 1997; **31:** 375-379.
5. Kessler D, Lloyd K, Lewis G, Pereira Gray D. Cross-sectional study of symptom attribution and recognition of depression and anxiety in primary care. *BMJ* 1999; **318:** 436-439.
6. Wells KB, Schoenbaum M, Unutzer J, *et al*. Impact of disseminating quality improvement programs for depression in managed primary care. *Arch Fam Med* 1999; **8:** 529-536.

Acknowledgements

Thanks are due to the participating practices and patients. This study was funded by the NHS Executive R&D Directorate, South East Region. Professor Ann-Louise Kinmonth was a lead investigator in the original Medical Research Council funded Hampshire Depression Project outcome study.