Deciding who gets treatment for depression and anxiety: a study of consecutive GP attenders

Julia Hyde, Jonathan Evans, Debbie Sharp, Tim Croudace, Glynn Harrison, Glyn Lewis and Ricardo Araya

ABSTRACT

Background
Most research has focused on recognition by GPs of the common mental disorders: depression and anxiety. However, less is known about the factors that determine whether patients with those disorders that are recognised receive any active treatment.

Aim
To investigate factors associated with receiving active treatment among consecutive attenders identified by GPs as having a common mental disorder.

Setting
Data were collected as part of a cluster randomised controlled trial in 30 general practices in the south of Bristol, UK, on the impact of mental health guidelines in primary care.

Method
We studied 439 consecutive general practice attenders aged 16–64 years who were given a diagnosis of depression, anxiety, or chronic mixed anxiety and depression by their GP. The main outcome measure was the provision of any active treatment, whether pharmacological or psychological, for these disorders. Patient, GP, and practice level data, including sociodemographic, clinical, and administrative data were explored as predictors in a logistic regression model. Huber White variance estimates were used to account for hierarchical clustering.

Results
Of those patients identified as having a common mental disorder by the GP, 54% were offered active treatment. Higher symptom score, as measured by the General Health Questionnaire (GHQ) (odds ratio [OR] = 1.09; 95% confidence interval [CI] = 1.06 to 1.13; $P<0.001$) and being male (OR = 1.54; 95% CI = 1.13 to 2.09; $P = 0.006$), were both associated with an increased likelihood of being offered active treatment. Patients with anxiety (OR = 0.24; 95% = CI 0.14 to 0.41; $P<0.001$), or chronic mixed anxiety/depression (OR = 0.41; 95% CI = 0.23 to 0.73; $P = 0.003$) were less likely to be offered active treatment than those considered to have depression.

Conclusion
When deciding to offer active treatment for common mental disorders, GPs appear to be influenced by the severity of symptoms rather than their 'understandability' in relation to recent life stresses or the social context of distress. Further research is needed to investigate why men are more likely and those with an anxiety disorder less likely, to be offered active treatment.

Keywords
anxiety; common mental disorder; depression; general practitioners; primary care; treatment.

INTRODUCTION

Much research has focused on GP recognition of common mental disorders in primary care[1-3] and studies suggest that GPs identify only 50% of those individuals with common mental disorders among primary care attenders.[4] However, little research has investigated what proportion of individuals who are thought to have a common mental disorder by their GP are subsequently offered active treatment and what factors determine whether treatment is offered to those individuals.

The main options available to GPs for managing common mental disorders in primary care in the UK are:

- watchful waiting;
- psychotropic medication;
- counselling; and
- referral to other psychological services.

***J Hyde**, BSc, MSc, PhD student, King's College London Institute of Psychiatry, Health Psychology Section, Kings College London. **J Evans**, MBChB, MRCPsych, MD, consultant senior lecturer; **G Harrison**, MD, FRCPsych, professor of mental health; **G Lewis**, Phd, FRCPsych, professor of psychiatric epidemiology and head of academic unit; **R Araya**, MRCPsych, PhD, reader in psychiatry, Academic Unit of Psychiatry; **D Sharp**, BM, BCh, FRCGP, PhD, professor of primary health care and head of academic unit, Academic Unit of Primary Health Care, University of Bristol. **T Croudace**, PhD, MSc, BSc, Dip App Psych, senior lecturer in psychometric epidemiology, Department of Psychiatry, University of Cambridge.*

Address for correspondence
Jonathan Evans, Academic Unit of Psychiatry, University of Bristol, Cotham House, Cotham Hill, Bristol BS6 6JL.
E-mail: J.Evans@bris.ac.uk

Submitted: 25 August 2004; **Editor's response:** 21 December 2004; **final acceptance:** 4 May 2005.

However, the availability of counselling and psychological services is limited. Recent guidelines recommend antidepressant medication for both depression and anxiety disorders[4–6] and the prescription of antidepressants is rising. In England in 2003, over 27 million prescriptions for antidepressants were issued costing £395 million.[7] In the same year over 16 million hypnotics and anxiolytics were issued in England costing over £37 million.[7]

The limited research carried out on factors associated with treatment for common mental disorders concerns the prescription of medication. The majority of these studies have been conducted in the US and are, therefore, of limited applicability to the UK.[8,9] Research conducted in the UK has tended to use large generic databases such as Prescribing Analysis and CosT data (PACT), which provide detailed prescription information. However, to date, it has not been possible to link this information with the clinical characteristics of patients.[10,11]

This article investigates an important limitation of previous research.[12-16] Most previous studies on characteristics of those receiving antidepressants have been unable to distinguish the factors associated with the decision to treat individuals perceived to have a common mental disorder from those associated with the onset or the detection of these disorders. In contrast, Kisely *et al*[12] have investigated factors associated with the prescription of psychotropic drugs for patients who have been diagnosed with a psychiatric disorder by their physician. A range of sociodemographic characteristics were associated with the prescription of psychotropics in their study. However, there was no investigation of how understandability could impact on the treatment decision: that is, how GP perceptions of understandable distress as a reaction to social adversity may impact on their treatment decisions.

Other empirical research, although with methodological limitations, have suggested along with qualitative research that patients experiencing notable social problems are less likely to be offered treatment as the 'understandability' of their psychological disorder in the context of such problems may mean that pharmacological treatment is perceived as less appropriate.[15,16] Furthermore, the diversity of Kisely *et al*'s international sample limits the generalisability of their findings to factors associated with treatment decisions in UK general practices. Patient data were collected from primary care centres in 14 different countries with only one centre from the UK (Manchester).

How this fits in

Much research has focused on GP recognition of common mental disorders in primary care. However, little research has investigated what determines whether active treatment is subsequently offered to those individuals who are thought to have a common mental disorder by their GP. Contrary to literature that criticises the management of common mental disorder in primary care, according to our data, GPs' treatment decisions were influenced by severity of symptoms and those at higher risk of suicide but not by recent life stresses or the social context of deprivation.

Given the limited evidence for the factors associated with the offer of any kind of active treatment among patients identified by a GP as having a common mental disorder, we chose to investigate this further by secondary analysis of a randomised controlled trial based in primary care. The factors analysed in this study include information on patient, GP, and practice level influences with a particular focus on patient demographic and clinical factors, including recent life stress.

METHOD

The data used in this study were collected for a cluster randomised controlled trial on the impact of mental health guidelines in primary care carried out between 1997 and 1999.[17] This was conducted in general practices in the south of Bristol, UK, comprising mixed urban and rural populations. All 43 practices in the area were eligible for the study and 30 practices agreed to take part.

These 30 practices were randomly assigned to an intervention arm based on mental health guidelines, or to a no-intervention control arm. Pre- and post-trial measures were assessed in both groups of practices and data from the intervention and control practices, pre- and post-trial, were included in the analyses. There were no notable differences between those practices that agreed and declined to take part in the study on the variables measured. The mean practice list size, for example, was 4090 for those practices in the intervention group, 4395 for those in the control group and was 4275 for those practices that declined to take part.

Patient characteristics

Data were collected from consecutive attenders to routine surgeries held at participating general practices pre- and post-trial intervention. Details of recruitment are given elsewhere.[17] Research workers visited each practice for at least two randomly selected surgeries to distribute copies of

the GHQ-12 to all surgery attenders aged between 16 and 64 years who gave verbal consent to participate in the study.[18] Additional information about current employment status, education level reached, age, sex, and whether subjects had experienced certain life stresses (bereavement, divorce/separation, significant physical illness or injury, or being made unemployed in the previous 3 months) were recorded.

During these surgeries, GPs completed a physician encounter form[19] for each patient. Practitioners were asked to record reasons for consultation, presenting symptoms, severity of disorder, and diagnoses selected from a list based on the International Classification of Disease-10 Primary Health Care (ICD-10 PHC) chapter headings.[20] Where no disorder was present, they were asked to indicate 'no diagnosis of psychological disorder'.

Since we were interested in what factors were associated with active treatment offered for common mental disorder by GPs, only those patients considered to have depression or an anxiety disorder were considered. These are common mental disorders for which clear guidance is available on pharmacological and psychological treatment. We grouped these disorders as depression, anxiety disorders (generalised anxiety, panic disorder, and phobic disorders), and chronic mixed anxiety and depression according to the GP diagnosis using the list based on ICD-10 PHC. Patients with alcohol or drug use disorder, adjustment disorder, unexplained somatic complaints, bereavement, chronic fatigue, or other disorders were excluded.

GPs provided information on the management offered during the current consultation using a physician encounter form. Response options on the form included: no action taken, medication prescribed (whether a new or repeat prescription), discussion of problems only, counselling by GP, refer to practice counsellor, refer to other member of primary care team, refer to community mental health team, or refer to non-statutory agency. We defined active treatment as the prescription of psychotropic medication and/or psychological treatment, including referral to other agencies and secondary mental health services. As there was considerable overlap between those receiving medication and psychological treatment, a single treatment category was appropriate. We categorised those for whom no action was taken, or there was discussion of problems only, as receiving supportive, rather than active, treatment. This dichotomous distinction was necessary for the purpose of conducting the analysis. The data were not available to enable alternative meaningful comparisons of the treatment categories.

GP characteristics

Data were also collected by postal questionnaire from participating GPs including basic demographic information and their interest in mental health. Differences between GPs who participated in the intervention study and those who declined to take part were small on these variables. For example 14% of the GPs in the intervention study declared an interest in mental health compared with 13% of those who declined to take part.

Practice characteristics

Information on the size of the practice population and the Mental Illness Needs Index (MINI) score — a measure related to social deprivation used to calculate the need for psychiatric services of an area — were calculated for the area covered by each practice using a health authority database.[21]

Data analysis

We calculated the proportion of patients considered to have a common mental disorder by their GP, who were offered different forms of treatment, namely psychotropic medication, psychological therapy, both, or no active treatment (supportive treatment) for all patients.

We described the characteristics of those individuals within our restricted sample for: age, sex, presence of life stress, severity of psychological disorder, as indicated by the GHQ, and diagnostic groupings. Although the GHQ was designed as a screening tool, there is evidence that it can also give a good indication of severity of common mental disorder.[22] The presence of life stress in the previous 3 months was assessed by summing the data for the four life-stress variables to produce a single life-stress score. We also described the characteristics of the GPs and practices.

Unadjusted and adjusted odds ratios (ORs) with their 95% confidence intervals (CIs) were estimated using logistic regression modelling including Huber White Robust Variance Estimator to account for the effect of clustering by practice. We calculated unadjusted ORs for being offered any active treatment for three sets of independent variables: patient characteristics, GP characteristics, and practice level characteristics.

The patient and practice level variables were included in a subsequent regression model to derive adjusted ORs. A missing data category was created for the variables with the greatest number of missing observations to account for this missing

Table 1. Likelihood of receiving treatment for cases of common mental disorder according to patient and practice level variables.[a,b]

Variable	Offered treatment (%)	*n*	Odds ratios (95% CI)		Odds ratios (95% CI) *n* = 358	
			Unadjusted	*P*-value	Adjusted	*P*-value
Female	148 (50.68)	292	1.00[c]		1.00[c]	
Male	90 (61.22)	147	1.54 (1.13 to 2.09)	0.006	1.60 (1.04 to 2.48)	0.034
Age (years)						
16–25	20 (54.05)	37	1.00[c]		1.00[c]	
26–35	57 (57.00)	100	1.13 (0.53 to 2.37)	0.75	1.45 (0.62 to 3.36)	0.39
36–45	60 (56.60)	106	1.11 (0.49 to 2.48)	0.80	1.02 (0.47 to 2.21)	0.96
46–55	57 (49.14)	116	0.82 (0.37 to 1.83)	0.63	0.59 (0.28 to 1.23)	0.16
56–75	44 (55.00)	80	1.04 (0.41 to 2.66)	0.94	1.13 (0.46 to 2.77)	0.79
GHQ total score, mean (SD), range	33.11 (7.83) 14–48	30.88[d] (7.65) 14–48	1.09 (1.06 to 1.13)	<0.001	1.08 (1.05 to 1.12)	<0.001
Life-stress score						
0	121 (52.84)	229	1.00[c]		1.00[c]	
1 (mild)	60 (56.07)	107	1.14 (0.76 to 1.71)	0.53	0.72 (0.43 to 1.22)	0.22
2 (moderate–high)	16 (55.17)	29	1.1 (0.58 to 2.09)	0.78	0.43 (0.17 to 1.09)	0.08
Depression	142 (71.00)	200	1.00[c]		1.00[c]	
Anxiety disorder	66 (36.87)	179	0.24 (0.14 to 0.41)	<0.001	0.33 (0.17 to 0.65)	<0.001
Chronic mixed anxiety and depression	30 (50.00)	60	0.41 (0.23 to 0.73)	0.003	0.42 (0.23 to 0.78)	0.006
Practice MINI score, mean (SD), range[e]	97.42 (7.67) 83.23–109.71	97.65[d] (7.69) 83.23–109.71	0.99 (0.96 to 1.02)	0.54	0.98 (0.94 to 1.01)	0.20
Practice type						
Intervention group	91 (52.00)	175	1.00[c]		1.00[c]	
Control group	125 (57.08)	219	1.23 (0.69 to 2.18)	0.48	1.23 (0.71 to 2.14)	0.47
Trial time period						
Pre intervention	131 (56.96)	230	1.00[c]		1.00[c]	
Post intervention	107 (51.20)	209	0.79 (0.58 to 1.09)	0.16	0.68 (0.45 to 1.03)	0.068
Total	238 (54.21)	439				

[a]Huber White Robust Variance Estimator used to account for clustering by practice. [b]GP level variables excluded from this table and are presented in Table 2. [c]Baseline. [d]Not offered treatment. [e]Values for practice variable relate to patient cases not individual practices. SD = standard deviation.

data in the adjusted analysis. This was necessary as without these categories, the number of observations involved in the analysis with all covariates would have been greatly reduced. GP-level variables were analysed separately from the model in order to minimise the number of missing data categories involved, as the inclusion of these GP variables did not increase the number of observations further and they were not significantly associated with the offer of treatment on unadjusted analysis.

Cross tabulations were performed comparing male and female patients offered active treatment against the sex of the GP. Additionally, an interaction test was performed to determine whether there was a relationship between the sex of the GP and the sex of the patient in terms of treatment being offered.

Allocation to the guideline intervention group had no effect on recognition of depression in the trial[17] and, therefore, we did not expect there to be an effect of group depending on whether participants were from control or intervention groups on treatment outcome in this study. However, we included the trial grouping and data collection time-period (that is, pre- and post-intervention) variables into the analysis to determine whether these factors had an impact on the offer of active treatment in the restricted group of those patients who were recognised as having a common mental disorder.

We repeated the analyses comparing those offered any psychotropic medication with those offered supportive treatment or psychological treatment only. We could not repeat similar analyses for those receiving psychological treatment only as the numbers were too small.

RESULTS

Of 2328 patients who took part in the original

cluster randomised controlled trial, 2173 (93%) were matched with GP data. Of these, 496 (23%; 95% CI = 21.1 to 24.6) were considered by their GP to have a common mental disorder categorised as either: depression, anxiety disorder, or chronic mixed anxiety and depression. Of our total patient sample of consecutive GP attenders (n = 2149), 13% (95% CI = 11.9 to 14.7; n = 286) was prescribed psychotropic medication; 10% (95% CI = 8.4 to 10.9; n = 201) of the total sample (n = 2095) was offered some form of psychological treatment.

Of the 496 identified by the GP as having a common mental disorder, we had treatment data on 439 (89%). The rest of the results referring to this group and the characteristics of this sample are shown in Table 1. Of those 439 patients, 46% (95% CI = 40.9 to 50.2; n = 200) had depression, 41% (95% CI = 36.2 to 45.4; n = 179) had an anxiety disorder, and 14% (95% CI = 10.5 to 16.9; n = 60) had chronic mixed anxiety and depression. The majority of these patients were female (67%; n = 292) and the mean age was 43 years. Of the 365 patients with common mental disorder, for whom information on life stress is available, the majority (63%; n = 229) reported no current life stress, 29% reported one life stress, and only 8% (n = 29) had experienced two or more stressful events. A total of 54% (95% CI = 49.6 to 58.9) of those 439 patients with common mental disorders were offered treatment in the form of psychotropic medication and/or psychological therapy.

The mean MINI score for the practices was 97.61 (range = 83.23–109.71).

Most of the GPs were males (61%) and had over 10 years of experience in general practice (63%). Some 49% of GPs were aged between 35 and 44 years. The majority did not have a specific interest in mental health (85%).

Patients with anxiety (unadjusted OR = 0.24; 95% CI = 0.14 to 0.41; P<0.001) or chronic mixed anxiety/depression (unadjusted OR = 0.41; 95% CI = 0.23 to 0.73; P = 0.003) were significantly less likely to be offered active treatment than patients with a diagnosis of depression. Greater severity of disorder (unadjusted OR = 1.09; 95% CI = 1.06 to 1.13; P<0.001), as measured by GHQ-12 total score, and male sex of the patient (unadjusted OR = 1.54; 95% CI = 1.13 to 2.09; P = 0.006) were significantly associated with an increased likelihood of being provided with active treatment. These variables remained independently associated when adjusted for each other and the other patient and practice variables. There was no evidence to suggest that age of patient, life stress score, morbidity of practice, sex of GP, and GP interest in mental health were associated with active treatment (Tables 1 and 2).

Although male patients were significantly more likely than females to be offered active treatment by a male GP (unadjusted OR = 1.90; 95% CI = 1.20 to 3.20; P = 0.007), there was no significant sex difference when active treatment was offered by a female GP. No significant interaction was found between the sex of the GP and the sex of the patient in terms of whether active treatment was offered or not (Wald Z = 1.76; degrees of freedom = 1; P = 0.08).

The trial grouping (intervention or control) and data collection time period (pre and post intervention) did not have a significant impact on the offer of active treatment.

We repeated these analyses comparing the prescription of psychotropic medication compared with psychological treatment only, or no active treatment. There were no statistically significant differences and, therefore, although the results of these repeated analyses are available from the authors, they are not presented here.

Table 2. Likelihood of receiving treatment for cases of common mental disorder according to GP level variables.[a]

Variable	Offered treatment (%)	n	Odds ratios (95% CI) unadjusted	P-value
Female GP[b]	82 (50.31)	163	1.00[c]	
Male GP[b]	134 (58.01)	231	1.45 (0.84 to 2.50)	0.18
GP interested in mental health[b]	25 (45.45)	55	1.00[c]	
GP not interested in mental health[b]	191 (56.34)	339	0.59 (0.33 to 1.05)	0.07
Total	238 (60.41)	394		

[a]*Huber White Robust Variance Estimator used to account for clustering by practice.*
[b]*Frequencies for GP variables relate to patient cases not individual GPs.* [c]*Baseline.*

DISCUSSION

Summary of main findings

This study uses survey data to investigate the factors associated with the provision of active treatment (psychotropic or psychological) in the UK for patients perceived by their GP to have an anxiety or depressive disorder.

Our results indicate that about half of those diagnosed by their GPs as suffering from a common mental disorder were offered active treatment. Men — those considered to have depression rather than anxiety or chronic mixed anxiety and depression and those with greater severity of symptoms as measured by the GHQ-12 — were more likely to be offered active treatment. We also found, contrary to our expectation, that

neither recent life stresses nor morbidity of the practice area, as measured by the MINI, appeared to influence the offer of active treatment by GPs.

Strengths and limitations of this study

The strengths of this study are that it used data collected from a pragmatic trial set in the real-world context of primary care in the UK.[17] There was a good response rate from practices, practitioners, and patients. However, our analysis was secondary and, hence, there was no choice over which factors to investigate. Furthermore, the data collected was from a cross-sectional survey and, although active treatment may not have been offered to patients at the time of data collection, it may have been offered at subsequent appointments. Importantly, from our data it was not possible to distinguish those patients offered an initial prescription of psychotropic drugs from those offered a repeat prescription. Some GPs may have recorded patients on repeat prescriptions as receiving no active treatment if a prescription was not provided at that appointment. Similarly it was not possible to determine which patients were offered a form of psychological treatment for the first time and which patients were already receiving such treatment. We could not analyse data from patients receiving psychological treatment only as the treatment outcome as the number of observations were too small. However, the rarity of this treatment outcome in this sample is of interest in its own right.

One surprising factor was that we expected that if anxiety or depression could be considered understandable in the context of concurrent life stress and deprivation, GPs would be less likely to provide active treatment. However, our failure to detect a larger effect may have been due to low statistical power in our sample and that our measure was rather crude. Furthermore, life stress, was ascertained by patient report. It might only be GP knowledge of patient life stress that influences the treatment decision.[23]

Although the study was opportunistic, cross-sectional and, hence, explorative rather than theoretically based, the findings are still relevant and informative regarding factors associated with treatment decisions and provide stimuli for further research.

Although the measures of stress and GP interest in mental health may have been crude, these were the only such variables available and provide information of interest in this area of treatment decisions that might help to generate hypotheses in future studies. However, potential mitigation and exacerbation via coping strategies and other psychological variables that could influence stress should be considered in a more comprehensive way in future studies.

Although data collection occurred during the late 1990s when GPs were actively encouraged to treat depression more often,[24] the results of the study are still relevant to GP prescribing behaviour today. Despite recent guidance from the National Institute of Clinical Excellence,[25] which recommends that GPs do not treat mild depression with antidepressants, prescribing behaviour does not seem to have changed dramatically, as evidenced by the continuing rise in antidepressant prescriptions for England.[7] Undoubtedly this is also influenced by other factors, such as the limited availability of alternative psychological services or counselling.

This study was carried out in the context of a trial testing the implementation of mental health guidelines and, thus, a sampling bias could have been introduced. However, we found little difference between those GPs who participated and those who refused in terms of reported interest in mental health.

Comparison with existing literature

Previous studies have found that sociodemographic and clinical factors are associated with the prescription of psychotropic drugs within primary care.[12-16] However, the majority of previous research has focused on psychiatric morbitity detected by patients' questionnaires rather than on patients identified by their GP as having a common mental disorder.

Kisely *et al*[12] have investigated factors associated with the prescription of psychotropic drugs for patients who have been diagnosed with a psychiatric disorder by their physician, as have Kendrick *et al*.[23] However the Kendrick *et al* study does not look at anxiety disorders as well as depression, and the treatment focus is on antidepressants. Sociodemographic characteristics associated with the prescription of psychotropics in the Kisely *et al*[12] study include: older age, patient sex, and loss of spouse due to divorce, separation, or bereavement. Physician characteristics associated with prescribing included their attitude towards psychiatry. Those with an interest in psychiatry were less likely to prescribe psychotropic medication. In this study, male sex was the only sociodemographic factor associated with being offered active treatment; this is contrary to Kisely *et al*'s[12] result that found women were more likely to be offered treatment than men. The international nature of the Kisely *et al* sample could offer an explanation for this, however, as cultural differences

concerning the perception of sex differences and treatment provision could have been an influence. It is not possible from their study to determine results in the UK centre.

The growing concern about psychiatric morbidity of males, following the widely reported upward trend in young male suicide rates,[26] may be one explanation regarding why in our study men were more likely to be offered active treatment. GPs may also consider them less likely to return for a subsequent appointment and, therefore, offer active treatment at the first appointment.[27,28] The finding is unlikely to be explained by men having a higher threshold for consultation for depression, as male sex remained significantly associated with the offer of active treatment even after adjustment for severity as measured by the GHQ. Although it was not possible in this study to compare GP ratings of severity with GHQ scores (in relation to patient sex in particular) and treatment decisions, it would be of interest for further research. Qualitative studies with GPs suggest that male patients presenting with symptoms of depression are perceived to be more unwell than their female counterparts presenting with similar symptoms.[27, 28]

The possibility of a GP–patient interaction by sex regarding the offer of active treatment was investigated. Although male patients were more likely than females to be offered active treatment by a male GP, this was not the case for female GP prescribing and no significant interaction was found. This suggests that male and female GPs might be influenced by similar clinical factors in their prescribing decision making.

As with previous studies,[6,12,28] including Kendrick *et al*,[23] we found that severity of symptoms was associated with the likelihood of being offered active treatment. However Kendrick *et al*[23] found that although antidepressant prescribing was associated with perceived severity, GPs' perceptions did not correspond to severity on the Hospital Anxiety and Depression questionnaire (HAD-D).[29] Active treatment in this study was associated with greater severity in accordance with a validated screening instrument, the GHQ. The evidence supporting guidelines for depression management in primary care suggest that, the greater the severity of the patient's disorder the more likely they are to be offered active treatment.[6]

Patients diagnosed with depression by the GP are more likely to be offered active treatment than those with a diagnosis of anxiety or of chronic mixed anxiety and depression. It is possible that the GPs having decided to offer active treatment, in particular an antidepressant, then chose the term depression retrospectively to describe the symptoms rather than making the diagnosis beforehand. However, it is also possible that less is known by GPs about the use of antidepressants for the treatment of anxiety, while benzodiazepines are developing a reputation for being habit forming.[30]

Implications for clinical practice and future research

Controversy exists around the management of depression in primary care particularly with regard to the prescription of antidepressants.[1-4] Contrary to literature that criticises GP treatment behaviour, the findings of this study present this in a positive light. This study suggests that GPs recognise the importance of severity of disorder and those at higher risk of suicide (males) in the decision, and that this has an impact on their decision to provide active treatment.

The GPs in this study were not influenced by whether the disorder followed a life-stress experience or lay within a context of social deprivation. This seems to suggest that the GPs were not strongly influenced by the view that common mental disorders cannot be treated in primary care, as they are often the result of social adversity. However, we do not know to what extent the GPs were aware of their patients' life stresses and, although we did not find an association between life stress and the treatment decision, further investigation is warranted in this area.

Kendrick *et al*[23] found evidence to suggest that, in the face of adverse life events, active treatment for depression would be less likely. Although this finding was not replicated with a more recent group of GPs in the Kendrick study,[23] qualitative research suggests that the social context of depressive symptoms is an important factor in the decision-making process around the offer of active treatment for patients with depressive symptoms.[28]

Future studies are needed to identify factors determining the type of active treatment offered to patients with common mental disorder, and why patients with an anxiety disorder had a lower probability of being offered active treatment than those with depression.

Funding body

The trial on which these analyses are based was funded by the Department of Health (JR126/0634)

Ethics committee

United Bristol Healthcare Trust Local Research Ethics Committee (E3690)

Competing interests

Glyn Lewis, Jonathan Evans and Glynn Harrison have received payment from the pharmaceutical industry for lectures. Deborah Sharp has provided consultancy to two pharmaceutical companies.

REFERENCES

1. Wang PS, Berglund P, Kessler RC. Recent care of common mental disorders in the United States. Prevalence and conformance with evidence-based recommendations. *J Gen Intern Med* 2000; **15:** 284–292.
2. Kessler D, Lloyd K, Lewis G, Gray DP. Cross sectional study of symptom attribution and recognition of depression and anxiety in primary care. *BMJ* 1999; **318:** 436–439.
3. Borowsky SJ, Rubenstein LV, Meredith L.S, *et al.* Who is at risk of non-detection of mental health problems in primary care? *J Gen Intern Med* 2000; **15(6):** 381–388.
4. Paykel ES, Priest RG. Recognition and management of depression in general practice: consensus statement. *BMJ* 1992; **305:** 1198–1202.
5. Lader M. Treatment of anxiety. *BMJ* 1994; **309:** 321–324.
6. Anderson IM, Nutt DJ, Deakin JF. Evidence-based guidelines for treating depressive disorders with antidepressants: a revision of the 1993 British Association for Psychopharmacology guidelines. British Association for Psychopharmacology. *J Psychopharmacol* 2000; **14(1):** 3–20.
7. Department of Health Prescription Statistics. Prescription cost analysis: England 2003. http://www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsStatistics/PublicationsStatisticsArticle/fs/en?CONTENT_ID=4081720&chk=kVOup3 (accessed 11 Oct 2005)
8. Ornstein S, Stuart G, Jenkins R. Depression diagnoses and antidepressant use in primary care practices: a study from the Practice Partner Research Network (PPRNet). *J Fam Pract* 2000; **49(1):** 68–72.
9. Simon GE, von Korff M, Wagner EH, Barlow W. Patterns of antidepressant use in community practice. *Gen Hosp Psychiatry* 1993; **15(6):** 399–408.
10. Donoghue JM, Tylee A. The treatment of depression: prescribing patterns of antidepressant prescribing in primary care in the UK. *Br J Psychiatry* 1996; **168(2):** 164–168.
11. Dunn RL, Donoghue JM, Ozminkowski RJ, *et al.* Longitudinal patterns of antidepressant prescribing in primary care in the UK: comparison with treatment guidelines. *J Psychopharmacol* 1999; **13:** 136–143.
12. Kisely S, Linden M, Bellantuono C, *et al.* Why are patients prescribed psychotropic drugs by general practitioners? Results of an international study. *Psychol Med* 2000; **30(5):** 1217–1225.
13. Bradley CP. Factors which influence the decision whether or not to prescribe: the dilemma facing general practitioners. *Br J Gen Pract* 1992; **42:** 454–458.
14. Hohmann AA. Gender bias in psychotropic drug prescribing in primary care. *Med Care* 1989; **27(5):** 478–490.
15. Chew-Graham CA, Mullin S, May CR, *et al.* Managing depression in primary care: another example of the inverse care law? *Fam Pract* 2002; **19(6):** 632–637.
16. Sleath B, Shih YC. Sociological influences on antidepressant prescribing. *Soc Sci Med* 2003; **56(6):** 1335–1344.
17. Croudace T, Evans J, Harrison G, *et al.* Impact of the ICD-10 Primary Health Care (PHC) diagnostic and management guidelines for mental disorders on detection and outcome in primary care. Cluster randomized controlled trial. *Br J Psychiatry* 2003; **182:** 20–30.
18. Goldberg D, Gater R, Sartorius N, *et al.* The validity of two versions of the GHQ in the WHO study of mental illness in general health care (ICD-10 PHC) in England. *Fam Pract* 1997; **27(1):** 191–197.
19. Ustun TB, Sartorius N. *Mental illness in general health care: an international study.* London: John Wiley & Sons, 1995.
20. World Health Organisation. *Diagnostic and management guidelines for mental disorders in primary care: ICD 10 Chapter V primary care version.* Gottingen: Hogrefe & Huber, 1996.
21. Glover GR, Robin E, Emami J, Arabscheibani GR. A needs index for mental health care. *Soc Psychiatry Psychiatr Epidemiol* 1998; **33(2):** 89–96.
22. Goldberg DP, Williams P. *The user's guide to the General Health Questionnaire.* Windsor: NFER–Nelson, 1988.
23. Kendrick T, King F, Albertella L, Smith PWF. General practitioner treatment decisions in depression: an observational study. *Br J Gen Pract* 2005; **55:** 280–286.
24. Paykel ES, Tylee A, Wright A, *et al.* The Defeat Depression Campaign: psychiatry in the public arena. *Am J Psychiatry* 1997; **154(6 Suppl):** 59–65.
25. National Institute for Clinical Excellence. *Depression: core interventions in the management of depression in primary and secondary care.* National Clinical Practice Guideline, Second Draft for Consultation. NICE: London, 2003.
26. Lewis G, Sloggett A. Suicide, deprivation and unemployment: record linkage study. *BMJ* 1998; **317:** 1283–1286.
27. Andersson SJ, Troein M, Lindberg G. Conceptions of depressive disorder and its treatment among 17 Swedish GPs. A qualitative interview study. *Fam Pract* 2001; **18(1):** 64–70.
28. Hyde J, Calnan M, Prior L, *et al.* A qualitative study exploring how general practitioners decide to prescribe antidepressants. *Br J Gen Pract* 2005; **55:** 755–762.
29. Zigmond AS, Snaith RP. The Hospital Anxiety and Depression Scale. *Acta Psychiatr Scand* 1983; **67(6):** 361–370.
30. Lader M. Clinical pharmacology of benzodiazepines. *Annu Rev Med* 1987; **38:** 19–28.

1/4