Evaluating a mental health assessment for older people with depressive symptoms in general practice: a randomised controlled trial

Antony J Arthur, Carol Jagger, James Lindesay and Ruth J Matthews

SUMMARY

Background: *There is a lack of evidence on the most effective primary care management of older people with minor depression.*

Aim: *To evaluate a follow-up assessment by the community mental health team (CMHT) for older people with depressive symptoms identified by practice nurses at a health check for people over the age of 75 years.*

Design of study: *A pragmatic randomised controlled trial.*

Setting: *A single large general practice in Leicestershire.*

Method: *Patients receiving a health check administered by a practice nurse and scoring 5 or more on the 15-item Geriatric Depression Scale (GDS15) were randomised to either follow-up by the CMHT, or routine general practitioner (GP) care. The GDS15 score was measured at the subsequent health check 18 months later.*

Results: *Forty-seven patients were randomised to CMHT assessment and 46 to routine GP care. Uptake of the intervention was 72% (n = 34). At the follow-up health check a greater proportion of the control group had improved GDS15 scores (P = 0.08). Following assessment, the CMHT recommended their further involvement in the care of 12 patients and this was authorised by patients' GPs in six cases.*

Conclusions: *A follow-up mental health assessment by a member of the local CMHT was not effective in improving outcomes for mildly depressed older people. Other than random error, possible reasons for this include the length of follow-up and a failure to meet raised expectations among the intervention group. If complex referral procedures do not improve outcomes for this group, then specialist community services should play a more prominent part in the training of practice staff to care for their depressed older patients.*

Keywords: *aged; depression; randomised controlled trial; community mental health services.*

A J Arthur, RGN, PhD, senior lecturer in elder care, School of Nursing, University of Nottingham; C Jagger, PhD, professor of epidemiology; R J Matthews, BA, MSc, research associate in statistics, Department of Epidemiology and Public Health; J Lindesay, DM(Oxon), MRCPsych, professor of psychiatry for the elderly, Department of Psychiatry, University of Leicester.

Address for correspondence

Dr Antony J Arthur, School of Nursing, Faculty of Medicine and Health Sciences, University of Nottingham, Queens Medical Centre, Nottingham, NG7 2UH. E-mail: tony.arthur@nottingham.ac.uk

Submitted: 29 January 2001; Editor's response: 27 June 2001; final acceptance: 29 August 2001.

Introduction

DEPRESSIVE syndromes deemed to be clinically relevant affect 13.5% of older people.[1] Since minor depression accounts for the majority of these cases, the impact on health services is felt at the level of primary care. Reports that general practitioners (GPs) frequently miss depression among older people may be a reflection of the lack of evidence for the most appropriate treatment strategies for this age group.[2] The evidence that exists applies to uncomplicated major depression, which accounts for only 15% of depressed older people seen in primary care.[3]

Detection of depression on its own does not improve outcomes[4] but antidepressants, the most widely available treatment option, may not always be acceptable for older patients with minor depression.[5] There is evidence that depressed older people may benefit from nurses acting as case managers[6] or from multi-disciplinary psychogeriatric team interventions.[7] In the case of the nurse intervention, a follow-up study suggested that this brief intervention might have benefits for up to two years.[8]

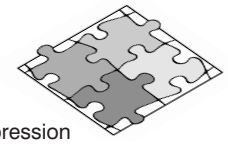
This type of intervention could be incorporated into routine practice through the annual health checks for people aged 75 years and over. These were introduced to United Kingdom general practices in 1990.[9] However, their implementation since then has been patchy, in part owing to the lack of consistent evidence from studies to show a beneficial effect on outcomes among older people.[10] A two-stage process comprising a brief initial assessment to identify individuals in need of a more in-depth assessment has been advocated, both to avoid unnecessary assessment for those in good health and to manage more effectively older people requiring further investigation.[11] If practice nurses could utilise the services of specialist community mental health teams (CMHTs) for older people whom they identify as depressed then this might enable more systematic and appropriate management of depression late in life. The aim of this study was to evaluate the routine follow-up by the CMHT of older people identified as depressed at an over-75 health check.

Method

Recruitment

The study took place in Melton Mowbray, Leicestershire, where one large general practice, with a list size of 32 500, is the sole provider of primary care services. Potential participants were identified during one round of over-75 health checks, which took place between June 1996 and February

HOW THIS FITS IN



What do we know?

There is a lack of evidence for the effectiveness of treatment for mild depression among older people in primary care. A health check for people over the age of 75 years can potentially identify older people with depression, but a mechanism is required to fully assess and manage depression once it has been identified.

What does this paper add?

This paper highlights the difficulties in carrying out randomised controlled trials to evaluate multi-disciplinary interventions that cross service boundaries. In this study, a follow-up mental health assessment by a member of a local CMHT was not effective in improving outcomes for mildly depressed older people.

1998. Full details of the organisation of the health checks have been reported elsewhere[12] but are summarised here. Patients were sent a letter explaining that a nurse would be visiting and the nature of the check, with a tear-off slip and pre-paid envelope provided for those who wished to decline the offer.

Practice nurses carried out the health checks in the older person's usual place of residence. The check covered the areas of social support, sensory impairment, self-reported health, physical functioning, cognitive impairment, and depressive symptoms. Physical functioning was measured by the patient's ability to perform seven activities of daily living (ADLs) and cognitive impairment was measured by the information/orientation (IO) subtest of the Clifton Assessment Procedures for the Elderly (CAPE).[13] Blood pressure was also recorded and urine tested for glucose and protein.

Depressive symptoms were measured using the 15-item version of the Geriatric Depression Scale (GDS15),[14] which was administered by the practice nurse as part of the health check, with missing items coded as if the patient had given a 'depressed' response. Patients were eligible for the study if they had a GDS15 score of 5 or more. In this particular setting a cut-point of 5 or more has been shown to be 60% sensitive and 89% specific in identifying ICD10 mood and affective disorders.[15] If a patient was eligible for the trial then the nurse randomised the patient into one of two arms using batches of sealed, opaque, numbered envelopes. To avoid too great a difference between the size of the two groups, randomisation was carried out in blocks of eight and nurses were given the envelopes in batches of ten so that they would be unable to predict the content of the envelopes towards the end of each batch. Assuming that one-third of the control group and two-thirds of the intervention group would have fewer depressive symptoms at follow-up,[6] we calculated that 32 patients would be required for each of the two groups to obtain power of 80% (with a 5% significance level).

Intervention

The intervention consisted of a mental health assessment by a member of the CMHT for patients who had agreed to the follow-up visit. The CMHT would aim to see the patient within three weeks of the referral, when they would carry out a full mental health history, review current medication needs in relation to mental health problems, and assess the likely impact of further CMHT interventions. A report was then forwarded to the patient's GP, which included recommendations for further management as thought necessary by the team member. Any recommendation for ongoing management by the CMHT had to be formally accepted by the patient's GP.

Control group patients were managed as they would have been prior to the start of the study. If the patient's GDS15 score, along with other information available from the health check, indicated that the patient was depressed then the nurse would discuss this with the patient and encourage them to make an appointment to see their doctor. Following the visit the health-check card would be returned to the patient's doctor, who was required to sign the card to acknowledge the information from the practice nurse visit. Access to the CMHT was still available for control group patients, but occurred independently from the trial.

Follow-up

Patients were assessed at their subsequent health check, which took place a year to 18 months later. Between the date of recruitment and endpoint, the data for the number of face-to-face contacts with the patient's GP or practice nurse were collected and any prescribing of antidepressants recorded in the GP medical records, was noted.

The subsequent round of health checks was organised in such a way that patients were seen in the same order as during recruitment. The nurse who saw the patient at the recruitment health check was not allocated the same patient for the subsequent health check in an attempt to minimise the chance of the nurse being aware of which arm of the trial the patient had been allocated.

Statistical analysis

Intention-to-treat analysis was carried out, comparing the proportion of people in each group who had fewer depressive symptoms at follow-up, as measured by GDS15 score. Logistic regression was used to control for any confounding that occurred in spite of randomisation.

Results

The flow of patients through the study is illustrated in Figure 1. Of the 2080 patients who were offered the health check 1629 (78.3%) were visited by a practice nurse. Those who refused tended to be younger, with a median age of 79 years compared with 80 years, and they were more likely to have refused a health check in previous years than those who accepted the offer. During the recruitment period a GDS15 score was obtained in 1464 (90%) health checks. Of the 114 patients who scored above the GDS15 cut-point, 93 (82%) were randomised into the trial.

Baseline characteristics of the intervention and control groups are compared in Table 1. Overall, the female to male ratio was 3.2:1 and this was slightly greater in the control

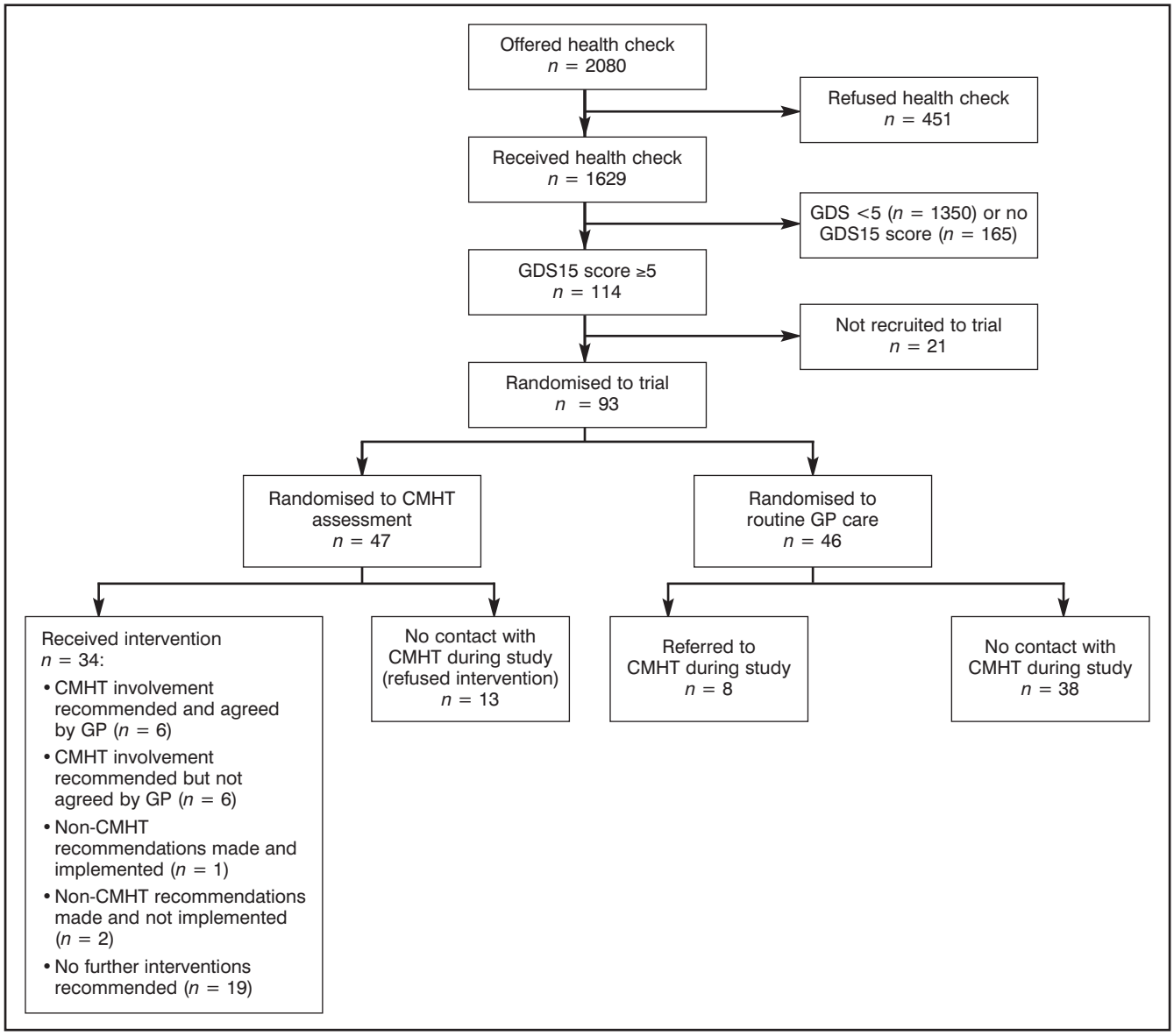


Figure 1: Progress through the trial.

group (4.8:1). The median age of the intervention group was higher than that of the control group by three years. However, the most important baseline difference between the two groups was the median GDS15 score, which was 1.5 points higher in the intervention group than in the control group (8 compared with 6.5).

Of the 47 people randomised to the intervention, 34 (72%) actually received the CMHT assessment (Figure 1). Six patients did not consent to the intervention but did not give reasons for this. Of those who did consent, one patient died shortly after the health check and a further six patients refused the intervention visit when they were contacted by the CMHT member; however, the CMHT member did not attempt to establish the reasons for refusal.

In 19 of the 34 patients who received the CMHT assessment no further intervention by the CMHT was required. Of the remaining 15 patients, recommendations were made for further CMHT involvement (n = 12) or further non-CMHT involvement (n = 3). For the 12 patients for whom the CMHT proposed that further intervention by their service would be potentially beneficial, the offer was taken up by the GP in six cases. Antidepressant medication was recommended by the CMHT for four of these 12 patients, and three patients were prescribed them subsequently. In the three cases where non-CMHT recommendations were made, antidepressant medication was recommended for two patients (one of whom was subsequently prescribed antidepressants) and day care from social services was recommended for the third patient; however, this was not accepted by the patient. During the study period, eight patients from the control group were referred to the CMHT.

Outcomes for the 93 study patients are reported in Table 2. Of these, two refused the subsequent health check, four left the practice, and 13 died, leaving 74 (80%) follow-up health checks that were completed successfully. At follow-up, less than one-third of patients had a lower or 'improved'

Table 1. Baseline characteristics of the intervention and control groups.

	Intervention group (*n* = 47)	Control group (*n* = 46)
Demographic data		
Female sex	33	38
Median age (interquartile range)	82 (78–87)	79 (76–81)
Home circumstances		
Alone	24	24
Not alone	17	19
Nursing home/residential care	6	3
Depression		
Median GDS15 score (interquartile range)	8 (6–9)	6.5 (6–8)
Prescribed antidepressants		
Yes	7	9
No	40	37
Other health data		
ADLs performed with difficulty or requiring help		
0	10	6
1	14	10
2	4	10
3	19	20
Median IO score (interquartile range)	12 (11–12)	11.5 (10–12)
Self-reported health		
Good	7	9
Fair	26	23
Poor	10	14
Missing	4	0

Table 2. Outcome for patients randomised into trial for intervention and control groups.

		Randomised to intervention group (*n* = 47)	
	Randomised to control group *n* (%)	All *n* (%)	Received intervention *n* (%)[a]
Improvement in GDS15 score			
Yes	18 (39.1)	12 (25.5)	9 (26.5)
No	28 (60.9)	35 (74.5)	25 (73.5)
No change	5	3	3
Worse	16	17	14
Score missing	2	1	1
Patient died	3	10	6
Patient moved away	1	3	0
Refused health check	1	1	1
Odds ratios[b]		0.39 (*P* = 0.08)	0.46 (*P* = 0.18)

[a]Analysis excludes those randomised to, but not receiving, intervention. [b]Odds ratio of intervention group achieving positive outcome compared to control group, adjusted for age, sex, baseline GDS15 score and ADL dependency. *P*-values were obtained from log likelihood ratio tests.

GDS15 score compared with baseline. When controlling for baseline differences the intervention group were less likely to achieve an improved GDS15 compared with any other outcome — including those lost to follow-up for any reason — than the control group, although this was not statistically significant (OR = 0.39 [95% CI = 0.14–1.15]). This was also true when those patients who were randomised to, but did not receive, the CMHT assessment were excluded from the analysis (OR = 0.46 [95% CI = 0.16–1.45]).

Discussion

This study found no evidence that a routine follow-up assessment by a CMHT member improved outcomes for depressed older people. These results should be viewed by placing them within the context of the way services were organised at the time of the study. The study was originally designed to evaluate the ongoing management by the CMHT, but in 1996 the fundholding practice was concerned by the potential costs of CMHT services. They therefore reserved the right to restrict authorisation for further CMHT management to the patient's GP following the CMHT assessment.

This affected the study in a number of ways. First, the intervention as originally designed was diluted and therefore the original estimate of the effect size that could be expected was too ambitious. Secondly, the continuity of the intervention (practice nurse health check and CMHT referral) was hindered by the requirement for the GP to agree with the need for further CMHT involvement. Thirdly, patients may have had their expectations raised by the CMHT assessment, which were not met when their GP did not agree to the

referral for ongoing CMHT management. It is not clear from patients' notes why these decisions were made, but they may have been based on a greater understanding of the medical history of the patient or a better insight into their patients' wishes.

This was a pragmatic trial that can show the likely effect of the intervention in a general practice setting. The method of identifying older people with depressive symptoms used a system that is a contractual obligation for all general practices. The response rates to the initial health check (78%) and to the CMHT assessment (72%) indicate that both were acceptable to the groups targeted.

In addition to the issues of contamination between study arms and the power of the study to detect a difference, there were other limitations to our study. Although all of the patients were registered with one large practice there is no reason to suppose that the registered list is not representative of a wider population, and all patients in the study had access to the same range of services. Unfortunately, 21 patients who fulfilled the inclusion criteria were not recruited to the trial. By placing the responsibility of recruitment with the nurse administering the health check it is possible that recruitment was overlooked when there were other pressures on the nurse's time.

The baseline differences between the two groups are less easy to explain if they did not occur by chance. The patients in the intervention group were older, more likely to be male, and were less likely to have difficulty or to require help in performing ADLs. They were also more likely to have a higher GDS15 score. The possibility that this may have been owing to the way the practice nurse asked or coded responses to the individual GDS15 questions cannot be ruled out. However, to determine eligibility the randomisation occurred after the GDS15 was administered and therefore it seems that there is little incentive for the nurse to have acted in this way. All of these baseline differences were controlled for in the final analysis.

The 18-month follow-up period in this study was based on the length of time taken to carry out one round of health checks. This was longer than other studies of similar interventions,[6,7] although more recent evidence had suggested that the benefits of such interventions may be longer-term.[8] It is possible that improvements in the intervention group might have been apparent at an earlier point in the study.

A short scale (the GDS15) which could be used by practice nurses as part of a short health assessment, determined the presence of depressive symptoms. Our decision to code missing items as if patients had given a 'depressed' response was based on the nurses' experience of administering the GDS15, which suggested that, for certain patients, some of the questions were inappropriate and occasionally upsetting. This decision is unlikely to have affected the results of our trial. Of the 93 patients in the trial, seven had one missing GDS15 item at baseline, one patient had two missing items at baseline, and two patients had one missing item at follow-up. Furthermore, for patients with missing GDS15 items at either baseline or follow-up, there were no instances in which recalculating the score would have altered their outcome category.

We did not use a diagnostic instrument to establish the presence or absence of a depressive disorder. Structured diagnostic tools are too time consuming to form part of routine primary care and the job of discriminating between those with and without a clinically relevant depressive syndrome was part of the purpose of the CMHT follow-up assessment. To dichotomise our outcome of GDS15 score at <5 versus 5+ would place too great a weight on that particular cut-point as a measure of depression/non-depression. One of the reasons for carrying out this study was the lack of evidence available for the primary care management of older people with minor depression who do not necessarily fulfil diagnostic criteria.[3]

Interventions that cross service and professional boundaries can only work if services work together closely. Difficulty in getting assessment recommendations for depressed older people implemented by GPs has been reported elsewhere[16] and there is evidence that where those involved in assessing older people have control over implementations, improved patient outcomes are more likely.[17] Among younger age groups practice nurses have been used to both identify and manage depression within primary care.[18] If complex referral procedures do not improve outcomes among mildly depressed older people, then specialist community services should play a more prominent part in the training of practice staff to care for their depressed older patients.

Acknowledgements

The authors would like to thank the partners, staff, and practice nurses of Latham House Medical Practice for their cooperation during this study; Mrs J McGarry and Mrs K Russell for carrying out the health checks; the CMHT (Melton) for providing the intervention assessment; Mrs S Gilbert for office management, and Mrs J Slater for data entry. Dr A Arthur was funded by a Trent Health Services Research Training Fellowship.

At the time the study was carried out Antony Arthur was a research fellow at the Department of Epidemiology and Public Health, University of Leicester.

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