Effectiveness of collaboration in the management of depression in the elderly in primary care

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Abstract

Introduction: Elderly patients with depression suffer specific care deficits. A model adherent to primary care practice may decrease morbidity.

Objective: to evaluate the efficacy of MEAPT compared to the usual treatment alternative.

Methods: A controlled, open, cluster-randomized, cluster-randomized primary care study was conducted.

Results: The estimated adjusted remission rate in the intervention group was 25.6% (95% confidence interval, [18.3, 32.8]).

Conclusions: A significant benefit of the collaborative care model compared to usual primary care treatment was revealed.

Keywords: primary care, depression, elderly, collaborative care source: DeCS

Resumen

Introducción: Los pacientes ancianos con depresión sufren déficits de cuidados específicos. Un modelo adherido a la práctica de atención primaria puede disminuir la morbilidad.

Objetivo: evaluar la eficacia de MEAPT en comparación con la alternativa de tratamiento habitual.

Método: Se realizó un estudio controlado, abierto, aleatorizado por conglomerados, en la atención primaria por grupos.

Resultados: La tasa de remisión ajustada y estimada en el grupo de intervención fue del 25,6 % (intervalo de confianza del 95 %, [18,3; 32,8]).

Conclusiones: Se reveló un beneficio significativo del modelo de atención colaborativa en comparación con el tratamiento habitual en atención primaria.

Palabras clave: atención primaria, depresión, ancianos, atención colaborativa fuente: DeCS

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Introduction

Depression is one of the most common mental illnesses affecting people aged 65 years and older, with an annual prevalence of 14%. Approximately 10% of elderly patients in primary care suffer from depression. This highly prevalent condition is clinically significant because it affects functional capacity and quality of life, elevates suicide mortality, and worsens concomitant somatic illnesses[1,2].

Elderly patients with depression suffer from specific care deficits. Depression is often more difficult to diagnose in the elderly because of concomitant somatic illnesses and a tendency for manifestations of depression to have a somatic orientation[3]. The elderly rarely receive psychotherapy even when indicated and are less likely to be treated according to guidelines. Reasons for this include negative attitudes toward aging that cause patients, physicians, and psychotherapists to have low expectations about the treatability of depression, lack of information, fear that patients will be stigmatized, and inadequate network integration of physicians and psychotherapists. Most elderly patients with depression are treated only in primary care. Elderly patients, as well as younger patients, may need psychosocial intervention; it has been found that elderly patients are more likely to receive this type of treatment if the diagnosis is established by a primary care physician[4].

Newer models of care address these attention deficits. One of the most successful is the "Enhancing Mood: Promoting Access to Collaborative Treatment" (MEAPT) model[5], in which the depressed patient is treated collaboratively by the primary care physician, a care manager, and a supervising psychiatrist or psychotherapist. This model was developed in the USA, and studies there have shown it to be beneficial; it has since been implemented in other countries and has also been found to be beneficial there[6], so, the study evaluated its efficacy in comparison with the usual treatment alternative.

Method

A controlled, open-label, cluster-randomized study was conducted to compare the MEAPT model with treatment as usual (TA) in primary care in a cluster trial. After inclusion in the study, participating physicians' practices were randomly assigned to either the intervention group (IG) or the control group (CG). Despite the cluster-randomized study design, the focus of the study, intervention, and data collection was on the individual patient. The primary care physician determined the current severity of depressive manifestations with the Patient Health Questionnaire-9 (PHQ-9), informed the patient about the study and obtained his or her consent to participate in the study. Data relevant for statistical evaluations were acquired by all study centers uniformly by postal questionnaire, at baseline (t0), at 6 months (t1), and at the end of the intervention, i.e., at 12 months (t2). The study was conducted from September 2017 (start of recruitment) to August 2020 (end of all interventions) in primary care practices in Puyo, Pastaza, Ecuador. This study was approved by the Universidad Regional Autónoma de Los Andes (UNIANDES).

Step-by-step treatment was administered within the framework of the study, which was oriented to each patient's current condition. The primary care physician, care manager, and supervisor provided treatment in a collaborative effort. The primary care physician diagnosed depression and initiated his or her treatment. He or she was in regular contact with the care manager to share information about the patient's course and any necessary changes in treatment.

The control treatment consisted of treatment as usual by the primary care physician, i.e., without the involvement of a care manager. Patients in the control group had full access to all care options in the healthcare system and thus showed the usual treatment pattern.

There were no requirements or restrictions on drug prescribing for patients in either arm of the study.

Men and women with clinically diagnosed unipolar depression were included in the study. Subjects were 60 years or older and had moderate depressive manifestations, i.e., a CSP-9 score of 10 to 14 points[7]. Patients with severe depression (>14 points) were excluded; it was recommended that they be referred for secondary (specialized) treatment as recommended by the relevant guidelines.

Patients were excluded if they had a known substance dependence disorder or marked cognitive impairment (e.g., dementia) or were already in psychotherapy at the time of recruitment. In addition, patients with bipolar disorder, psychotic manifestations, severe behavioral disturbances, or suicidal tendencies at the time of recruitment were also excluded.

The primary focus of the study was the change in depressive manifestations, as measured by the CSP-9, throughout the study, i.e., one year. Remission of depressive manifestations at 12 months was the primary treatment goal and, therefore, the study's primary endpoint; it was operationalized as a CSP-9 score below five

points (a commonly accepted cut-off value). Secondary endpoints were: response to treatment, defined as a reduction in manifestations by at least 50%; dimensional change in manifestations; health-related quality of life, as measured by the EQ-5D-3L index score[8]; anxiety manifestations (Generalized Anxiety Disorder Scale [GAD-7][9]; depression-related behavior[10], problem-solving skills (HRP); and resilience (Resilience Scale, abbreviated form [RS-13][11].

In the primary intention-to-treat analysis, a mixed-effects logistic regression model was used to compare the percentage of patients in remission 12 months after the start of the intervention. The database and statistical processing of the data were performed and analyzed in SPSS 26 statistical software (SPSS Inc., Chicago, IL, USA). Descriptive statistics were used for the results collection, presentation and interpretation.

Results

Finally, 248 patients from the practices of 71 primary care physicians were included in the study, and baseline data were obtained from them. Twelve months after the intervention (t2) started, 210 patients returned a completed questionnaire. Unfortunately, three patients died during the study for reasons unrelated to study participation.

The mean age was 71 years (SD = 7.5 years). Approximately 75% of the patients were women. At baseline (t0), the mean CSP-9 score in the intervention group was 10.76 points (SD 4.1), while in the control group, it was somewhat lower (9.73; SD 3.7). In addition, the percentage of patients living alone was higher in the intervention group (52.9%) than in the control group (38.9%).

The adjusted and estimated remission rate in the intervention group was 25.6 % (95 % confidence interval, [18.3; 32.8]). This was significantly (p = 0.004) higher than the corresponding value in the control group, which was 10.9 % [5.4; 16.5]) (Table 1).

Table 1. Results of the intention-to-treat analyses

Final points	**Adjusted marginal means, GI [95% confidence interval].**	**Adjusted marginal means, GC [95% confidence interval].**	**p-value**
CSP-9 referral (<5)	0,26 [0,183; 0.328]	0,11 [0,054; 0.165]	0.004
CSP-9 Response (50% reduction)	0,23 [0,146; 0.305]	0,11 [0,041; 0.169]	0.029
CSP-9 dimensional	8,13 [7,42; 8.85]	9,38 [8,79; 9.96]	0.009
GAD7	6,75 [6,05; 7.45]	7,15 [6,61; 7.70]	0.38
Depression-related behavior	3,02 [2,83; 3.21]	2,97 [2,79; 3.14]	0,67
RS-13	59,25 [57,11; 61.40]	59,34 [57,27; 61.41]	0.96
HRP	15,94 [15,45; 16.42]	15,58 [15,14; 16.02]	0.29
Index EQ-5D	0,57 [0,52; 0,61]	0,66 [0,61; 0.70]	0.005

Source: statistical analysis, p ≤ 0.05, GI, intervention group; CG, control group; CSP-9, Patient Health Questionnaire; GAD-7, Generalized Anxiety Disorder Scale; RS-13, Resilience Scale (short form); HRP, problem-solving skills; EQ-5D-3L, health-related quality of life questionnaire.

The treatment response rate was higher in the intervention group (22.5% [14.6, 30.5]) than in the control group (10.5% [4.1, 16.9]; p = 0.029). At the estimated mean level, lower depressive scores were found in the intervention group (8.13; [7.42, 8.85]) than in the control group (9.38; [8.79, 9.96]; p = 0.009). The intervention also affected the quality of life (EQ-5D-3L index score, p = 0.005). The mean adjusted estimated value was 0.66 [0.61, 0.70] in the intervention group and 0.57 ([0.52, 0.61]; p = 0.005) in the control group, on a scale from 0 (very poor) to 1 (best possible). Only slight differences were observed in general manifestations of anxiety, depression-related behavior, individual mental resilience, and problem-solving skills.

Discussion

In the present study, the effects of a collaborative approach to treating depression in elderly patients in primary care were studied in a cluster-randomized controlled trial compared with treatment as usual. One year after the start of treatment, the remission rate in the intervention group was approximately twice that in the control group. Thus, there was a statistically significant and clinically relevant effect on the study's primary endpoint.

The study was designed according to high scientific standards and was conducted in typical care settings. Thus, for example, primary care physician assessment and screening results in the primary care setting were deliberately used to establish the diagnosis of depression and check the inclusion and exclusion criteria, as these procedures should be able to be implemented under routine conditions[12,13].

Limitations of the study include the large percentage of physicians initially contacted who declined to participate and the low number of subjects recruited among the patients of participating physicians. It was initially expected that primary care physicians would be more willing to participate and that a greater number of patients per physician practice would be recruited than later turned out to be the case. Both rates are in the usual range for studies conducted in realistic primary care settings[14,15]. A large number of participating practices and the low number of patients recruited per practice positively affected the study's statistical power. As a result, the statistical power target initially set during study planning was achieved in the end, despite the relatively small study sample. In addition, the number of potential subjects that were identified serves as no more than a rough estimate of the actual recruitment potential because, for some patients, documentation of a depressive disorder in the medical record referred to findings of an older date and was, therefore of limited informative value as to the current presence or absence of depressive manifestations. It was also not required or stated that patients identified as potential study subjects visited their primary care physician's practice during the recruitment period. Another limitation arose from the cluster-randomized study design. The number of physicians who did not participate in patient identification or inclusion was somewhat higher in the control group than in the intervention group.

It seems likely that assignment to the control group (in which no additional intervention would be provided) decreased physicians' motivation to include patients in the study. In addition, it is clear that sampling bias is more likely to arise in cluster-randomized trials than when randomization is conducted at the individual patient level; however, for this study, the nature of the intervention made patient-level randomization or blinding of patients to the intervention impossible. Finally, significant effects were only found for depressive manifestations and quality of life. These two endpoints, however, are the most relevant for evaluating interventions against depression[16,17].

Regarding the size of the therapeutic effect, the observed doubling of the remission rate of depressive manifestations is a clinically relevant result, although even in the intervention group, only about a quarter of the patients achieved remission. A higher remission rate would have been desirable. It also seems surprising at first glance that the response and remission rates were comparable. This is mainly because, at baseline (time T0), patients in both groups had mean scores of approximately 10 points. From this baseline, a reduction of five points is the criterion for remission and response to treatment.

In the study by Unnützer et al.[5], 8% of patients in the control group and a quarter of patients in the intervention group were in remission at 12 months. Another study yielded an adjusted mean value difference of 1.36 CSP-9 points, which is

also consistent with our findings[18]. Finally, a Dutch study yielded remission rates of 6.3% with standard treatment and 20.7% in the intervention group; both figures are lower than in our study[19].

Aside from the observed effect of the intervention, its implementation in the healthcare system is important. The participating primary care physicians gave the intervention an overall positive rating. Most of them described the involvement of care managers as a helpful support measure that lightens the burden on the physician[20,21,22].

Conclusions

This study revealed a significant benefit of the collaborative care model compared to treatment as usual in primary care. Therefore, this model can be strongly supported by research evidence. From the perspective of the participating physicians, the collaborative care model represents a significant improvement in care that can significantly lighten the burden on the primary care physician. All results available to date imply that the collaborative care model is beneficial.

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