Effectiveness of a primary care intervention to improve health goals in the elderly

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Abstract

Introduction: Healthcare systems worldwide are reorganizing primary care to be proactive rather than reactive.

Objective: To determine the effectiveness of the EPFC intervention in identifying and achieving health objectives.

Methods: A pragmatic, unblinded, pragmatic randomized controlled trial involving a delayed intervention was conducted in 32 primary care practices.

Results: There was a lower mean rate of hospital admissions in the intervention group compared to the control group (mean ± SD of 0.09 ± 0.33 vs. 0.23 ± 0.60).

Conclusions: EPFC did not improve goal attainment and many patient-reported outcomes or experiences.

Keywords: intervention, primary care, quality of care, effectiveness

source: DeCS

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Resumen

Introducción: Los sistemas de atención médica en todo el mundo están reorganizando la atención primaria para que sea proactiva en lugar de reactiva.

Objetivo: Determinar la efectividad de la intervención EPFC en la identificación y el logro de los objetivos de salud.

Método: Se realizó un ensayo controlado aleatorizado pragmático, no cegado, que incluyó una intervención diferida en 32 prácticas de atención primaria

Resultados: Hubo una tasa media más baja de ingresos hospitalarios en el grupo de intervención en comparación con el grupo de control (media ± DE de 0,09 ± 0,33 frente a 0,23 ± 0,60)

Conclusiones: EPFC no mejoró el logro de objetivos y muchos resultados o experiencias informados por los pacientes.

Palabras clave: intervención, atención primaria, calidad de la atención, efectividad

fuente: DeCS

Introduction

Countries with well-functioning primary care systems have achieved better health outcomes and health equity[1]. Healthcare systems around the world are reorganizing primary care to be proactive rather than reactive, to focus on prevention rather than a disease, to better connect with medical and social care, to address multimorbidity, and to emphasize individualized team-based comprehensive care and flexible care tailored to the needs of the community[2].

Health team interventions that promote patient experience through quality strengthening (EPFC) are designed to improve person-centered, team-based primary care. It combines new healthcare elements with the current system's strengths. The program promotes the principles of optimal aging through components that aim to improve system navigation, including the use of trained volunteers, enhance interprofessional primary care teams, and use of new technologies in the home and community engagement to plan care based on participants' goals, risks, and needs[3].

Because the support of health care volunteers is therapeutic for patients[4], EPFC expanded the concept of the health care team to include volunteers who link with primary care in a manner comparable to the activities of a community or lay health workers[5]. This study applies the EPFC intervention to older adults, a growing proportion of the population who are the largest consumers of health care spending and, therefore, a growing focus of activity within primary care[6].

The primary research question was, "What is the effectiveness of the EPFC intervention in identifying and achieving an individual's health goals in older adult participants compared to individuals not receiving the EPFC intervention after six months?" The hypothesis is that EPFC would enable individuals to achieve their health goals more effectively.

Method

A pragmatic, unblinded, randomized controlled trial (RCT) included a delayed intervention to encourage recruitment by allowing all participants to receive the intervention eventually. It excluded patients in long-term or palliative care if they were out for more than 50% of the trial duration. It did not focus on specific diseases or levels of health. Instead, it identified potential patients using electronic medical records, and family physicians screened them for exclusions. The authors sent invitation letters to eligible patients, and the recruitment occurred between January 23 and October 30, 2020, in 32 primary care practices in Ambato. This study was approved by the Universidad Regional Autónoma de Los Andes (UNIANDES).

Older adults were randomized (1:1) to EPFC (n = 158) or control (n = 154). Using electronic forms, training community volunteers collected information on goals, needs, and risks from individuals in their homes. Interprofessional primary care teams reviewed summaries and addressed problems.

The authors did not tell patients, caregivers, and volunteers whether patients were in the initial or deferred intervention group. Care team members knew that a patient received the intervention once an EPFC report was reviewed, but they were masked (not blinded) to the assignment.

The control group received the usual care and had no voluntary visits. There was no restriction to receiving care from the same team members as the intervention group; however, control patients were not discussed in the reunion groups.

They followed patients in both groups throughout implementation and for six months. Clinical follow-up was determined according to patients' needs. The primary outcome was goal attainment, as determined by the six-month goal attainment scale. Secondary outcomes assessed were self-efficacy; quality of life; perception of optimal aging (4-point scale); social support; caregiver strain; satisfaction with health care (10-point scale); access; comprehensiveness; patient empowerment; patient-centeredness; physical activity; falls; and primary care, hospital, and emergency department visits for any reason.

The data were analyzed using multiple linear regressions for continuous variables and logistic regressions for categorical variables, adjusting for baseline scores or events. For continuous outcomes with skewed distributions, data were transformed and analyzed using analysis of covariance. For dichotomous outcomes, odds ratios (ORs) adjusted for baseline with corresponding 95% confidence intervals (CIs) from logistic regression were reported. In addition, incidence rate ratios adjusted to baseline with corresponding 95% CIs were

reported for count variables. The statistical significance criterion was set a priori at α = 0.05. 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

Medical screening reduced the number of potential participants from 2581 to 1998. Consent was received from 605 respondents (30% response rate). Of these, 360 individuals were enrolled, representing 312 randomized units (264 individuals and one member of 48 couples, resulting in 158 intervention and 154 control participants).

There were no statistically significant differences between groups in participants' self-efficacy ratings, quality of life, optimal aging, social support, patient empowerment, or perceived access to or comprehensiveness of the healthcare system (Table 1).

Table 1. Achievement of goals and other patient-reported measures.

	Intervention, n (%) *		Control, n (%)		Estimated effect (95 % CI)
Variable	Baseline n = 158	6 months = 140	Baseline n = 154	6 months = 138	
Goal attainment scale score, mean ± SD	N / A	57,79 ± 19,86	N / A	58,94 ± 19,70	-1,50 (-6,51 a 3,50)
Self-efficacy score for the management of chronic diseases, mean ± SD	7,56 ± 1,73	7,91 ± 1,72	7,55 ± 1,61	7,75 ± 1,65	2,34 (-2,38 a 7,06)
Quality of life (score), mean ± SD	0,80 ± 0,13	0,82 ± 0,12	0,81 ± 0,13	0,81 ± 0,13	0,02 (-0,014 a 0,058)
Optimal aging					
Poor	13 (8.23)	12 (8,57)	12 (7,79)	14 (10.14)	0,78 (0,33 a 1,84)
Good	47 (29,75)	49 (35,00)	50 (32,47)	43 (31.16)	
Very good	60 (37,97)	53 (37,86)	57 (37,01)	59 (42,75)	
Excellent	31 (19,62)	26 (18.57)	27 (17.53)	21 (15.22)	
Patient empowerment, mean ± SD	3,01 ± 0,80	3,04 ± 0,88	3,02 ± 0,76	2,85 ± 0,94	0,172 (-0,02 a 0,36)
Social network score, mean ± SD	8,84 ± 1,52	8,75 ± 1,52	8,74 ± 1,61	8,69 ± 1,53	0,038 (-0,25 a 0,33)
Social satisfaction score, mean ± SD	18,89 ± 2,41	18,96 ± 2,87	19,19 ± 2,37	19,04 ± 2,76	0,102 (-0,35 a 0,55)
Access to health care resources					
without difficulty	128 (81,01)	117 (83,57)	121 (78,57)	118 (85,51)	1,173 (0,594 a 2,317)
Difficulty once	16 (10.13)	16 (11.43)	16 (10.39)	12 (8,70)	
Difficulty several times	9 (5,70)	6 (4,29)	9 (5,84)	7 (5.07)	
Completeness, mean ± SD	7,22 ± 2,86	7,41 ± 3,29	7,85 ± 2,89	7,14 ± 3,08	0,37 (-0,42 a 1,16)

Patient-centered, mean ± SD	2,76 ± 0,77	2,72 ± 0,83	2,71 ± 0,75	2,60 ± 0,82	0,103 (-0,071 a 0,276)
Physical activity (measured by IPAQ)					
Total	2339 (3410)	2061 (3583)	2303 (3197)	1658 (1941)	0,464 (-0,025 a 0,953)
Vigorous	863 (2043)	739 (1703)	767 (2008)	611 (1278)	0,681 (-0,199 a 1,561)
Moderate	897 (1387)	650 (1688)	978 (1891)	603 (1078)	0,453 (-0,374 a 1,280)
Walking	592 (891)	673 (790)	576 (808)	455 (506)	1,130 (0,306 a 1,953)
Moderate or vigorous	1754 (2906)	1389 (3109)	1731 (2959)	1210 (1784)	0,689 (-0,127 a 1,505)
Minutes seated	360 (193)	319 (162)	337 (175)	342 (149)	-0,111 (-0,218 a -0,005)

Source: statistical analysis, p ≤ 0.05, CI = confidence interval, IPAQ = International Physical Activity Questionnaire, NA = not applicable, SD = standard deviation.

There was a statistically significant difference between groups in self-reported walking time per week, an increase of 81 minutes in the intervention versus a decrease of 120 minutes in the control groups (p = 0.004). There were no statistically significant differences between groups in other aspects of physical activity, although the intervention group reported higher levels for all categories of physical activity. Suboptimal physical activity scores (i.e., ≤ 600 min/week task metabolic equivalents) were reported in 24.3% of the intervention group and 32.8% of the control group at six months.

The number of primary care visits increased in the intervention group; a mean ± SD of 4.93 ± 3.86 visits in the intervention group compared to 3.50 ± 3.53 visits in the control group; and an adjusted absolute difference at baseline of 1.52 (95% CI 0.84 to 2.19).

There was a lower mean rate of hospital admissions in the intervention group compared with the control group (mean ± SD of 0.09 ± 0.33 vs. 0.23 ± 0.60; adjusted incidence rates 0.37 [0.18 to 0.77]) and the odds of having one or more hospital admissions was lower for the intervention vs. control group (6.96 % vs. 14.94 %; OR 0.44 [95 % CI 0.20 to 0.95]). Fewer people had one or more emergency department visits in the intervention group (8.86 % vs. 13.64 %), but the odds of having an emergency department visit were not statistically significant (0.58 [95 % CI 0.28 to 1.20]). At six months, fewer medications were used in the intervention compared with the control group (mean ± SD of 4.77 ± 3.78 vs. 5.39 ± 3.59; adjusted incidence rate 0.86 [0.78 to 0.96]).

The implementation assessment conducted with those involved in the intervention (patients, volunteers, health care providers) showed that the most common clinically important alert generated was suboptimal physical activity (78.5% of participants) which was notable because it was a common goal and intervention participants spent more time walking. Other key alerts included interest in advanced care planning information (53.8 %), nutritional risk (46.8 %), and loss of bladder control (35.4 %). In addition, volunteers completed 265 home visits, including 151 initial visits.

Discussion

The EPFC intervention did not improve the primary outcome of goal attainment but did show signs of changes in care use by reducing hospital admissions and increasing primary care participation. Despite the inclusion of generally healthy older adults, most participants reported suboptimal physical activity and other health risks (e.g., falls) or conditions (e.g., urinary incontinence) not previously identified, and most

participants had multimorbidity. In addition, the intervention identified gaps in care, allowing for intervention by various primary care team members[21,22].

These findings are somewhat consistent with a larger recent trial that also studied a multifaceted, patient-centered primary care approach in people with multimorbidity and found improvements in measures of patient experience but no differences in other outcomes, such as quality of life, disease burden, or treatment after 15 months[7]. Although the findings are mixed, EPFC aligns with accepted guidelines for personal care planning[8], provides patient-centered or goal-directed care for older adults managing multiple chronic conditions[9,10] and Starfield's primary care principles[11] and, for people with chronic disease, care coordination strategies that improve health and outcomes. In addition, the intervention is well aligned with ongoing healthcare system redesigns in Ecuador and elsewhere[12] and incorporates key elements recommended by the World Health Organization for integrated healthcare for older people[13].

Volunteers showed great enthusiasm and a sense of purpose regarding their role. Community volunteers support the health of communities worldwide and can benefit from volunteering[14,15].

The study has several strengths. First, its pragmatic nature optimizes applicability to real-world practice. Second, potential participants responded well to invitation letters (patients) and advertisements (volunteers). Third, the training of volunteers was feasible. Fourth, transmitting information about critical incidents identified by volunteers enabled early intervention in cases such as elder abuse and mental health. Finally, the study evaluated implementation and sustainability from multiple perspectives[16,17].

This study has several notable limitations. The lack of differences found in measures of patient-reported experiences and patient-reported outcomes, including our primary outcome, was likely influenced by higher-than-expected baseline scores, improvements in both groups, variable strength in target areas, and brief intervention. Few structured tools are available to assist with goal-directed primary care[18]. The goal attainment scaling process applies well in multimorbidity, as it is individualized according to patients' priority areas. Although participants chose their own goals, almost half identified physical activity as a priority goal. However, despite the pilot testing of the intervention, it was challenging for volunteers to discuss goals with patients, given the time required and the complexity of having such conversations[19,20].

Conclusions

EPFC did not improve goal attainment and many patient-reported outcomes or experiences; however, it did improve certain clinically relevant indicators and showed several signs of change from reactive to proactive and preventive care.

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