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Original Research

Contextualizing the Effectiveness of a Collaborative Care Model for Primary Care Patients with Diabetes and Depression (Teamcare): A Qualitative Assessment Using RE-AIM

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ABSTRACT

Objective: We evaluated the implementation of an efficacious collaborative care model for patients with diabetes and depression in a controlled trial in 4 community-based primary care networks (PCNs) in Alberta, Canada. Similar to previous randomized trials, the nurse care manager-led TeamCare intervention demonstrated statistically significant improvements in depressive symptoms compared with usual care. We contextualized TeamCare's effectiveness by describing implementation fidelity at the organizational and patient levels.
Methods: We used the Reach, Effectiveness, Adoption, Implementation and Maintenance (RE-AIM) framework to evaluate TeamCare. Qualitative methods used to collect data regarding the RE-AIM dimensions of Implementation and Effectiveness included interviews with PCN staff and specialists (n=36), research team reflections (n=4) and systematic documentation. We used content analysis, and Nvivo 10 for data management.
Results: TeamCare was implemented as intended but with suboptimal fidelity. Deviations from the model included limited degrees of collaborative care practised within the PCNs, including varying physician participation, limited comfort in practising collaborative care and discontinuity of care managers. Despite suboptimal fidelity, respondents identified several implementation facilitators at the organizational level: training, ongoing implementation support, professional and personal qualities of the care manager and pre-existing relationships. Without knowledge of the effectiveness of the intervention in our controlled trial, respondents anticipated improved patient outcomes due to the main intervention components, including active patient follow up, specialist consultation and treat-to-target principles.
Conclusions: Despite suboptimal implementation in Alberta's primary care context, TeamCare resulted in improved outcomes similar to those demonstrated in previous randomized trials. A stronger culture of collaborative care would likely have yielded greater implementation fidelity and possibly better outcomes.

Mots clés :
soins en collaboration
dépression
méthodes mixtes
recherche qualitative
Reach, **E**ffectiveness, **A**doption, **I**mplementation and **M**aintenance, soit

RÉSUMÉ

Objectif : Nous avons évalué la mise en œuvre d'un modèle efficace de soins en collaboration chez des patients souffrant de diabète et de dépression au cours d'un essai comparatif dans 4 réseaux de soins primaires (RSSP) communautaires de l'Alberta, au Canada. Comme dans les essais à répartition aléatoire précédents, l'intervention TeamCare menée par des gestionnaires en soins infirmiers a démontré des améliorations statistiquement significatives des symptômes de la dépression comparativement aux soins habituels. Nous avons contextualisé l'efficacité de la TeamCare en décrivant la fidélité de la mise en œuvre à l'échelon organisationnel et à l'échelon du patient.

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portée, efficacité, adoption, mise en œuvre et maintien (RE-AIM)
diabète de type 2

Méthodes : Nous avons utilisé le cadre **R**each, **E**ffectiveness, **A**doption, **I**mplementation and **M**aintenance, soit la portée, l'efficacité, l'adoption, la mise en œuvre et le maintien (RE-AIM) pour évaluer la TeamCare. Les méthodes qualitatives utilisées pour recueillir les données concernant les dimensions de la mise en œuvre (*Implementation*) et de l'efficacité (*Effectiveness*) du RE-AIM comprenaient les entrevues avec le personnel et les spécialistes (n = 36) des RSSP, les réflexions de l'équipe de recherche (n = 4) et la documentation systématique. Nous avons utilisé l'analyse de contenu et le NVivo 10 pour prendre en charge les données.
Résultats : La TeamCare a été mise en œuvre comme prévu, mais a démontré une fidélité sous-optimale. Les déviations du modèle comprenaient le degré limité des soins en collaboration pratiqués dans les RSSP, dont la participation variable des médecins, le peu d'aisance dans la pratique des soins en collaboration et la discontinuité des gestionnaires de soins. En dépit de la fidélité sous-optimale, les répondants ont déterminé de nombreux facilitateurs de la mise en œuvre à l'échelon organisationnel: la formation, le soutien continu à la mise en œuvre, les qualités professionnelles et personnelles des gestionnaires de soins et les relations préexistantes. Sans connaître l'efficacité de l'intervention dans notre essai comparatif, les répondants ont anticipé l'amélioration des résultats cliniques des patients en raison des principales composantes de l'intervention, dont le suivi actif des patients, la consultation de spécialistes et les principes du *treat-to-target* (atteindre les objectifs du traitement).
Conclusions : En dépit de la mise en œuvre sous-optimale dans le contexte des soins primaires en Alberta, la TeamCare a entraîné une amélioration des résultats cliniques qui est similaire à celle démontrée lors des essais à répartition aléatoire précédents. Une véritable culture des soins en collaboration aurait probablement généré une plus grande fidélité de la mise en œuvre et éventuellement de meilleurs résultats cliniques.

Introduction

Comorbidity is a growing problem in Canada, with more than one-third of adults and one-half of seniors reporting 2 or more chronic conditions such as diabetes (1). Moreover, 75% of people with diabetes report having 2 or more additional chronic conditions, including mood disorders (1). People with type 2 diabetes have a 30% to 40% greater chance of experiencing depressive symptoms compared to the general population (2,3). Despite the reality of comorbidity, most chronic disease interventions focus on a single condition (4). Collaborative care, on the other hand, has been shown to improve depression outcomes in those with or without comorbidities (5–7). However, most of this evidence comes from the United States (8–10) and the United Kingdom (5,11,12). In addition, there is a lack of research concerning collaborative care conducted in primary care (13), including the innovative model of primary care networks (PCNs) in Alberta, Canada. Furthermore, few collaborative care interventions for diabetes care that have proven efficacious in randomized trials have been translated into practice (14).

To address the need for comprehensive translational research on team-based models, we evaluated the implementation of a collaborative care model for depression and diabetes in 4 nonmetropolitan PCNs. TeamCare was a 12-month intervention led by a nurse care manager, who coordinated the care of patients with type 2 diabetes and depression or depressive symptoms. It was adapted from a model previously proven efficacious in randomized trials in the American-managed context called TEAMcare (8,9). In our nonrandomized pragmatic controlled trial (15), we recently demonstrated that the TeamCare intervention was clinically effective in improving depressive symptoms in people with type 2 diabetes in Alberta's primary care context (16) and showed an effect size similar to that reported in other trials (5,6,8).

Our goal was to present a more complete picture of the overall effectiveness of TeamCare. Therefore, we employed the Reach, Effectiveness, Adoption, Implementation and Maintenance (RE-AIM) framework (17–20) a priori and used a mixed-methods approach for a more comprehensive evaluation (21). To contextualize the evidence of the clinical effectiveness of TeamCare in Alberta's primary care setting (16), we examined qualitative data collected during the intervention related to the RE-AIM dimensions of I (implementation) and E (perceived effectiveness). Given the amount of data collected for our comprehensive evaluation (21), we report our findings related to the other RE-AIM dimensions elsewhere, in previous (16) and accompanying papers (22,23). Here, we describe the degree of implementation fidelity of the TeamCare intervention at the organizational level, including the delivery of intervention components, to determine whether its execution affected its effectiveness. *Implementation fidelity* refers to the extent to which an intervention is implemented as intended (24) or adheres to the original model (25). The degree to which an intervention is implemented with fidelity will affect its demonstrated outcomes or effectiveness. Also, we describe the perceived effectiveness of TeamCare in improving patients' management of diabetes at the individual level from the perspectives of those responsible for its implementation because that could have implications for the future dissemination and sustainability of the intervention. For example, if the healthcare providers responsible for implementing an intervention do not think it will be effective, they may not adhere to the intervention model, thereby affecting its effectiveness. We might not recommend scaling-up an intervention in which the people delivering it believe it is ineffective, even if study outcomes show it is effective.

Methods

Setting: primary care networks

Registered nurse care managers (CMs) implemented TeamCare in 4 nonmetropolitan PCNs in central Alberta. PCNs are similar to the medical home model in the United States (26). The 4 PCNs represented 140 family physicians serving 10 000 patients with type 2 diabetes. All 4 PCNs employed a centralized model with dedicated staff, office and clinic space to deliver PCN programs and services, including TeamCare.

TeamCare intervention, training and qualifications

We have described the study design and the TeamCare intervention elsewhere (15,16). Briefly, patients with depressive symptoms were identified through a mailed screening process using the Patient Health Questionnaire that was sent to those registered with the PCN as having type 2 diabetes. A CM worked with enrolled patients to develop individualized care plans over a