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Benefits of an asthma education program provided at primary care sites on asthma outcomes

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Summary
Background: Although it is a key-recommendation of all recent asthma guidelines, self-management education is still insufficiently offered in primary care settings.
Aims of the study: To demonstrate the benefits of an educational program offered at the site of primary care (Family Medicine Clinics- FMC) by trained asthma educators on patient outcomes and healthcare use.
Methods: This was a one-year pre-post intervention study. Patients with a diagnosis of mild to moderate asthma were enrolled from six FMC. After an initial encounter by the educator, an assessment of educational needs and a spirometry were done, followed by 3 follow-up visits at 4–6 weeks, 4–6 months and one year. Expiratory flows, asthma control criteria, knowledge about asthma, adherence to medication and healthcare and medication use were assessed at each visit.
Results: Data from 124 asthma patients (41M/83F), aged 55 ± 18 years, were analyzed. After initiating the intervention, there was a progressive increase in asthma knowledge and an improvement in medication adherence. The number of unscheduled visits for respiratory problems went from 137 to 33 ($P < 0.0001$), the number of antibiotic treatments from 112 to 33 ($P = 0.0002$) and the number of oral corticosteroids treatments from 26 to 8 (NS). Marked improvements were observed in regard to inhaler technique and provision of a written action plan.

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Conclusion: This study shows that an educational intervention applied at the site of primary care can result in significant improvements in patient asthma outcomes and reduce unscheduled visits and inappropriate use of medications such as antibiotics.

Introduction

Despite significant progress in our understanding of what could be the optimal management of asthma, this common disease is still frequently uncontrolled, resulting in a significant morbidity and acute healthcare use [1,2]. Insufficient understanding of the disease and its treatment by the patient is one of the main reasons proposed to explain this insufficient control of asthma [3,4]. Self-management asthma education is among key-recommendations of all recent guidelines on asthma management but it is still too infrequently provided [5,6].

In order to improve this situation, training programs for asthma educators and education networks have been developed in the last decades [7,8]. In the province of Quebec, the Quebec Asthma and Chronic Obstructive Pulmonary Disease (COPD) Network (QACN) has helped develop more than 100 asthma and COPD Education Centers and regularly trains the educators offering free educational interventions in these institutions [7,9]. Unfortunately, despite the availability of this service, referral for asthma education is still infrequent [8,10]. Among factors explaining such low rate of referral by primary care physicians are the non-integration of structured education into care, insufficient time or resources, and unwillingness of patients to attend [10,11]. Furthermore, many patients have not been informed about these educational services or have difficulties with the usually exclusive daytime availability of educators.

In a previous study, we reported that offering access to spirometry was not increasing the rate of referral to asthma education centers although an "automatic" referral program at the Emergency Department (ED) resulted in a marked increase in such referral [10]. However, a significant proportion of patients were not interested to take part to the educational program. Otherwise, spirometry is not often available or used in primary care, resulting, combined to a poor assessment of asthma control criteria, in inappropriate assessment of asthma severity/control and improper assessment of treatment needs [12—14]. In this regard, when the results of a spirometry are available, physicians often change the treatment offered [13].

To address this barrier to referral for asthma education, the QACN has developed an initiative to offer the services of an experienced asthma educator at the point of care of primary care clinics. The goal of this study was to determine if availability of educational services in Family Medicine Clinics could improve asthma outcomes and healthcare use for asthma.

Methods

Participants

Patients were recruited from six Family Medicine Clinics (FMC/Groupes de médecine familiale) from the Quebec City metropolitan area between January 2013 and August 2013. Patients could be referred to the educator by the physicians practicing at these clinics if: 1) they were using an inhaler for what was considered to be asthma, 2) they had evidences of poor asthma control, or 3) if the physician wanted to better assess patient asthma severity/medication needs. Patients had to be 18 years and older. In order to be included in the analyses, patients had to complete all four visits. A consent form was signed by each patient to proceed with data collection and analysis of the educational program results. Before further analyses, all data were anonymized.

About 1 patient out of 10 did not want to meet with the asthma educator and refused the educational intervention. These did not sign the consent form and were therefore not included in the recruitment flowchart (Fig. 1). From a total of 451 patients enrolled, ten patients were less than 18 years old and were not included in the analyses. From the remaining 441 adult patients, 262 did not complete all

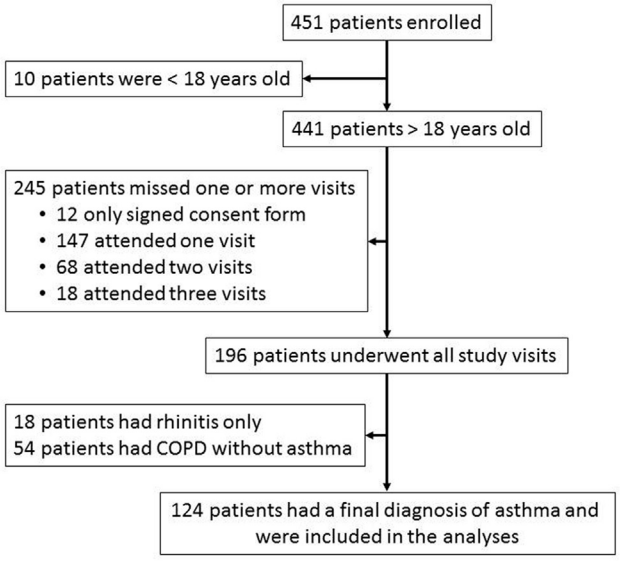

Figure 1 Flowchart of patients' recruitment.