Asthma care in the primary care setting: experience of the Police Clinic

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ABSTRACT

Introduction: Asthma is common and is still associated with preventable mortality. Most asthma patients are managed in the outpatient settings and management follow standardised guidelines. The constituents of good management of asthma need to be evidence-based and every clinic needs to assess their management plan to assess conformity to guidelines in order to provide the best care to patients. This study assess the management of asthma in a government outpatient clinic. **Materials and Methods:** A retrospective review was performed to evaluate care given to patients with asthma at the Police Medical Clinic within a 12-month study period. Evaluation was compared to several evidence-based measurements. **Results:** There were 242 patients suitable for analysis. A recording of asthma review, inhaler-technique check, and peak expiratory flow rate (PEFR) assessment were found in 51 (21%), 6 (2%), and 25 (14%) patients respectively. There were 26 (11%) patients who had their smoking status recorded, and none who had a recording of a written action plan given. There were 15 (33%) patients who had their occupation status recorded, 41 (80%) patients who had an assessment of symptom control recorded at reviews, and six (86%) patients who had their compliance to medication assessment recorded. **Conclusion:** Care given to asthmatic patients in the clinic was of suboptimal quality in several aspects, due to suspected issues centred on patients' behaviour, doctors' practice, recording system, and accuracy of diagnosis.

Keywords: Asthma management, control, primary care, exacerbation

INTRODUCTION

Asthma is common and is still associated with preventable mortality. Most asthma patients are managed in the outpatient setting and management follow standardised guidelines. Complete control of asthma requires good management by healthcare providers. The constituents of good management need to be evidence-based. Proactive scheduled clinical reviews of patients with asthma, true for any conditions, as opposed to unscheduled reviews, have been associated with improved clinical outcomes. [1] The frequency of review depends on the severity of the disease, but it should be at least once annually. [1] The ideal content of an asthma review consultation is uncertain. [1]

During a review, inhaler-technique

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check allows the doctor to spot any incorrect steps, for which education of the correct and proper technique can be delivered. Regular charting of peak expiratory flow rate (PEFR) is useful to assess lung function and trend over time, especially in patients with poor perception of asthma symptoms or when no objective assessment tools are being used. [2] Weight reduction in obese patients with asthma has been shown to lead to improved asthma control. [3] Enquiring into the past and current smoking status enable estimation of degree of exposure to cigarette smoke. Smoking can reduce the effectiveness of therapy leading to poor symptom control. [1] Smoking cessation in adults have been associated with improvement in asthma-specific quality of life. [4] In children with asthma who are 'passive smokers', smoking exposure cessation or reduction has been shown to lead to decrease in asthma severity. [5, 6] Doctors should also consider occupational factors in adult patients who are symptomatic or who present for the first time, [1] and also periodically assess any impact on their occupations. Having and discussion of written action plans at each review have been strongly associated with improved clinical outcomes. [7]

Assessment of symptom control using the Royal College of Physicians (RCP) 'Three Key Questions', the Asthma Control Test (ACT), or other similar tools enables the doctor to search for causes of suboptimal asthma control such as poor adherence. [8] This study assesses the standard of care of asthma in an outpatient Police Clinic, one of many government clinics providing healthcare services to patients outside of the specialised settings of hospitals.

MATERIALS AND METHODS

The quality of care given to all patients in the asthma registry at Police Medical Clinic within the 12-month period (1st August 2012 to 31st July 2013) was retrospectively reviewed. Medical record files were retrieved and reviewed in detail.

The asthma registry consisted of two Excel workbooks. Combining information from these two registries revealed that five patients had duplicated registrations, 25 registration numbers being shared amongst 51 patients, and 21 registration numbers being skipped and unallocated to patients. After rectification of these errors, there were 292 identified patients in the registry. Twenty-one patients (7%) were under the care of specialist services or another health centre, and 29 patients (10%) files could not be retrieved and they were excluded from the analyses. This left 242 (83%) patients for the study.

Data extracted included; age at review, gender, race, weight, occupation, smoking status, number of reviews in the study period, inhaler technique, peak expiratory flow rate (PEFR), written action plan, symptom-control assessment, compliance to medication, and inhaler prescription. A 'symptom-control assessment' meant an assessment of asthma control using the ACT or stating comments on one or more of the following: daytime or night-time or exertional symptoms, limitation of activities, frequency of exacerbations, absenteeism at school or work, and frequency of usage of a reliever inhaler. The collected data was manually entered into and then analysed in Microsoft Excel worksheets. Statistical calculations and graphs were generated using Microsoft Excel functions.

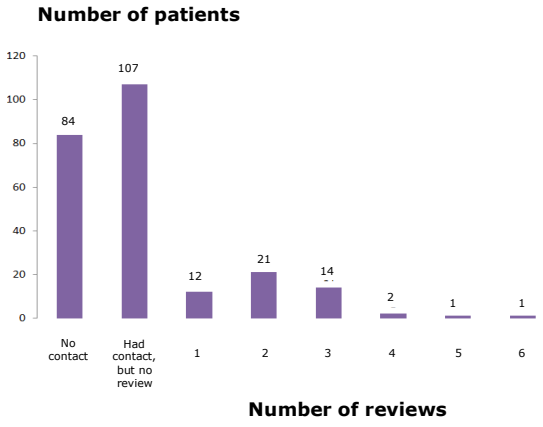

Fig. 1: Number of reviews recorded in the study period.

RESULTS

Among the 242 patients, 130 (54%) were males, the age range was 0-57 (mean 25 ± 15) years. There were 36 patients (15%) who overweight or obesity (weight of >80 kg).

At least on contact was recorded in 158 (65%) patients for whatever purpose within the study period.

Key findings are shown in figure 1. This showed that a large proportion of patient had no contact or had contact with the clinic but no formal reviews. Of those who had review, most had two reviews within the study period.

Among the parameters assessed had a weight of 80kg or more within the study period, likely suggestive of patients had any action plan documented in their case notes (Table 1).

Among patients who had contact with the clinic or doctors, most did not have any documentation of techniques check ever or within the 12 months study period (Figure 2).

With regards to PEFR check or documentations, this was better than inhaler techniques check (Figure 3).

Most patients (171, 71%) did not have a recorded prescription of any inhaler within the 12-month period. Among those who had, salbutamol inhaler (n=64, 90%) was prescribed more frequently than terbutaline inhaler (n=7, 10%).

DISCUSSION

Underestimation was possible in each of the findings. Some of the assessments or activi-

Table 1: Findings of the individual parameters.

Measurements	n (%)
a) Review of their asthma at least once within the previous 12 months (n=242)	51 (21.1)
b) Inhaler technique checked and recorded at least once within the previous 12 months (n=242)	6 (2.5)
c) Patients aged 12 years or older that had their PEFR assessed and recorded at least once within the previous 12 months (n=178)	25 (14.0)
d) Smoking status recorded at least once within the previous 12 months (n=242)	26 (10.7)
e) Given written action plans and such being recorded at least once within the previous 12 months (n=242)	0 (0)
f) Patients aged 18 years or older and had attended at least one review within the previous 12 months that had their occupation status recorded at least once within that 12-month period (n=46)	15 (32.6)
g) Attended at least one review within the previous 12 months that had an assessment of symptom control done and recorded at least once within that 12-month period (n=51)	41 (80.3)
h) Found at reviews within the previous 12 months to be symptomatic in terms of symptom-control assessment that had their compliance to medications assessed and recorded at least once within that 12-month period (n=7)	6 (85.7)

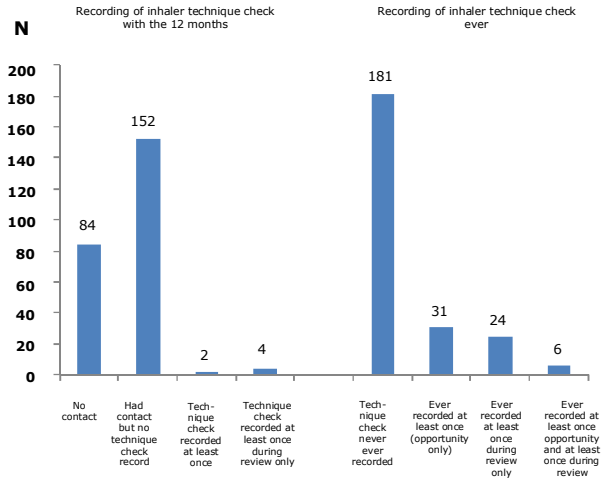

Fig. 2: Documentations of inhaler techniques checks or assessment.

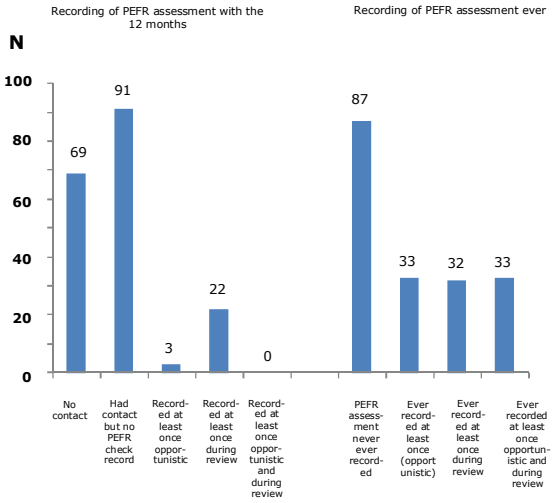

Fig. 3: Documentations of peak expiratory flow rate (PFER) checks or assessment.

ties might had actually occurred but not recorded, or had been recorded but missed out during data collection due to reasons such as inconspicuous or illegible writing. Better recording can be achieved by using a computerized health-record system that enables easy and quick recording and retrieval of information. Alternatively, a well-designed template printed on paper may be used but its cost-effectiveness must be assessed, along with issues such as the need for consistently placing the paper at the proper section in each patient's file.

Non-attendance for review could be due to not been given an appointment date, patient's decision not to turn up despite been given an appointment date, incorrect diagnosis, or that review had taken place elsewhere but not stated in their record files. A possible reason for not turning up was absence of symptoms while not on regular medication, especially in children who had 'grown out of it', and needed infrequent or none usage of asthma medication. Such children, and patients incorrectly diagnosed with asthma should have been excluded in data analysis, but they were not identifiable. To improve attendance, doctors need to be proactive in arranging reviews, and highlighting the need for regular reviews. Specialist opinion should be sought on the proper and practical way of diagnosing asthma in the community.

Figures III and IV show that the majority of patients did not have their inhaler-technique check nor PEFR assessment recorded, whether within the 12-month period or ever. For both measurements, there were more patients who had them recorded in the 'ever' analysis than during the 12-month peri-

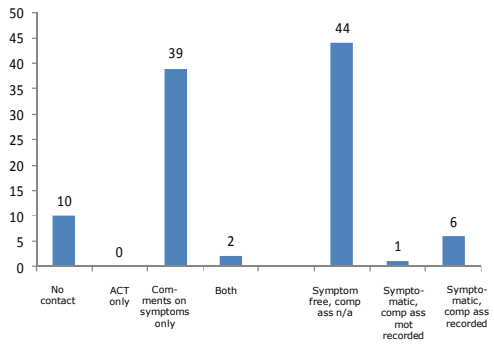

Fig. 4: Documentations of symptoms assessment.

od, but some patients had had an inhaler-technique check recorded opportunistically, as well as, during reviews in the 'ever' analysis. The finding was the same for PEFR assessment. These findings suggest another shift in the trend such that doctors no longer routinely check inhaler techniques or assess the PEFR both opportunistically and during reviews: once one had been recorded opportunistically, it was not subsequently recorded during reviews, and vice-versa.

There were more patients who had their PEFR assessment recorded than their inhaler-technique check recorded, whether within the 12-month period or ever. This could be due to the fact that peak-flow meters for PEFR assessment had always been available in the clinic ready to be used, but patients often had not brought their inhalers to demonstrate their usage technique. Demonstration inhalers should not be used in multiple patients for hygienic reasons. Appointment cards should state advice to bring own inhalers at each review. Patients who turn up without their inhalers at reviews should be asked at triage to return later with their inhalers. Users of spacer devices should also demonstrate their usage technique, and be screened for incorrect care practices of the devices.

Most (89%) of the patients in the asthma registry did not have their smoking status recorded within the 12-month period. A possible explanation was perceived necessity of re-recording, especially in patients who had been labelled as non-smokers. Periodic enquiring, however, is the only means of determining the updated smoking status to allow targeted giving of smoking-cessation advice. Whether it leads to any positive change in health-related behaviour is open to question.

None of the patients had a written action plan given and recorded within the 12-month study period. Explanations could include lack of knowledge on the doctors' part on how to make one, and its unpopularity amongst patients. Patients probably lacked confidence in self-management, especially that treatment could be obtained easily at various health facilities in the country on a walk-in basis, at nil or minimal charges, and round the clock. Opinions from specialist services on the efficacy and acceptability of action plans would be useful when deciding whether to incorporate the use of action plans in the long-term management of asthma, and if so, how it should it be done.

Out of the 46 asthmatic patients aged 18 years or older, only 33% had their occupation status recorded at least once within the 12-month study period. Some doctors could have presumed that patients of working-age that were consulted at the clinic were members of the police force, because the clinic had been dedicated to the force, without appreciating that their family members who were not in the force were also entitled to seek treatment there. The disinclination to re-enquire might also explained the finding.

The use of ACT was less frequent compared to subjective assessment of symptoms, perhaps because of the relatively time constraint, resources and effort-consuming nature of using the ACT. It is not known which is the best tool for assessment of symptom-control in asthma. The options should therefore remain open for doctors doing asthma reviews.

The majority (71%) of the asthmatics did not have a recorded prescription of any inhaler within the study period possibly because of incorrect diagnosis, non-requirement of any inhaler, or that they had been getting their inhaler at other health institutions.

In conclusion, care given to asthmatic patients in the clinic was of suboptimal quality in several aspects, due to suspected issues centred around patients' behaviour, doctors' practice, recording system, and accuracy of diagnosis. These issues need to be addressed to enable improvement in the quality of care.

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